The Corporation of the Municipality of Wawa
Report

Office of the CAO /Clerk-Treasurer
Chris Wray

Prepared For: Planning Committee	**Report No.: CAO-2017-05**
Agenda Date: March 28, 2016	**Report Date: March 13, 2017**

Subject

The subject of this report relates to the consideration of a Community Hub for the purposes of a combined public services building including; municipal office, OPP, courthouse and fire department.

List of Stakeholders

The list of Stakeholders includes:

The Municipality of Wawa
Volunteer Firefighters
Municipal residents and ratepayers
Ontario Provincial Police
Provincial Court

Summary of Recommendation

To adopt Option 3 of this report and proceed with the following recommendations contained in the Kresin Report:

1. Construct[1] a Community Hub development integrating the operations of the municipal administration, public library, fire department, provincial court and police services on a single site. If feasible, construct a single building to house all services.

2. Confirm the suitability of the preliminary preferred site, Site B – Michipicoten Memorial Community Centre.

[1] Any approval on construction will be dependent upon final cost, financing and a full business case.

Respectfully Submitted By:
Chris Wray **CAO / Clerk-Treasurer**

3. Initiate discussion with the Province of Ontario to identify available funding and financing sources to proceed with the project. The preliminary project budget estimate is $12 million.

4. Pursue additional project partners, such as Ontario Mine Rescue, which may be willing to participate in the project.

5. Review the presented alternative sites and eliminate undesirable sites if possible and identify additional sites, if any, to be included in a more detailed review.

Background

In 2015, it was identified that the present Municipal Office at 40 Broadway would require almost well over $1 million in improvements to correct identified deficiencies. Such deficiencies included mould abetment, asbestos abetment and work to both the interior and exterior, including a new HVAC to make the building safe and ergonomically friendly. The report which was prepared by Kresin Engineering, did not include the necessary adjustments in order to comply with the *Accessibility for Ontarians with Disabilities Act* (AODA); which include a possible elevator and remodelling of the front foyer among others things. Compliance with the AODA is expected to increase the required building changes by an additional $1 million.

It should be noted that issues with respect to other buildings owned by the Municipality of Wawa have also been identified. The Fire Hall has been the subject of significant work in the past several years with more work required in the next budget year or so – some of it excessive in cost. The Technology Facility at 3 Maple Street has also been the subject of major renovations with the majority of the funds coming from both the Federal and Provincial Government. Lastly, the MMCC and TIC have been noted as deficient in their appearance and function both requiring significant work and both the subject of funding applications to FedNor and NOHFC.

In 2012, the Municipality became aware that the local OPP Detachment had been placed on a list for replacement due to the condition of that facility. This combined with the pressures already identified by municipal staff on municipal facilities and an announcement by the Province of Ontario that it had developed a Community Hub program, led to the development of some very real possible synergies.

To that end, and after some initial preliminary discussions with the Province of Ontario and the OPP, staff prepared and presented to Council, Report CAO-

2016-01[2] that recommended funds be set aside in the 2016 Budget to conduct a needs / feasibility study on a joint Municipal / OPP Building based on the concepts contained within the report. Council agreed and the funds were included in the 2016 Budget.

In the late summer, an RFP for the above noted project was developed and advertised. Kresin Engineering, who is very familiar with Wawa and with the needs of the Municipality, was selected as the proponent that would conduct the necessary analysis and write the report.

The resulting report entitled; Preliminary Feasibility: Community Hub and its appendices has been attached. It is from this report that Committee will garner the vast majority of information necessary to consider along with the options presented herein.

Policies and Plans Affecting Proposal

Community Strategic Plan

The *Community Strategic Plan* contains five (5) themes upon which the plan was built. Among them was a theme that stated; *"Increase Community Capacity and Economic Development"*. The theme goes on to say; *"The community's future will be strengthened through collaborative effort by business, the municipality and its residents"*. There is also a local interest in partnering with neighbouring communities to build a stronger region. The tactics for this strategic direction relate to partnerships and strategies with a regional focus, and capacity building at the local level.

The Mission Statement of the Community Strategic Plan contains three components; Purpose Statement, Operations and Values.

The Mission Statement itself states; *"Residents, Businesses and Government work in partnership to deliver services, preserve, and enhance our community lifestyle, and plan for a sustainable future."*

The sub-statements on purpose, operations and values state as follows:

- Purpose Statement – Enhance community life and services
- Operations – Develop partnerships, plan for the long term.
- Values – Sustainability, cooperation.

While the plan itself has no specific direction or action item with respect to the establishment of a new municipal building or a public services community hub, the overarching principles such as partnerships, regional cooperation, sustainability and capacity building certainly support the concept.

[2] Report CAO -2016-01 attached

Municipal Business Plan
The Vision, Mission and Values of the Municipal Business Plan call for a *"well-managed community that delivers efficient municipal services through planning while maintaining fiscal responsibility, transparency and collaboration"* – among other things.

More specifically, the plan also has five (5) specific directions each with its own action items. The recommendations in this report relate to four (4) of the Strategic Directions being:

1. **Strategic Direction from Council**
    a. Provide direction on program and service levels
    b. Identify key infrastructure priorities
    c. Build and maintain key relationships

2. **Renewal of Key Infrastructure & Services**
    a. Update and implement the Asset Management Plan

3. **Community Strategic Plan Support**
    a. Provide leadership to support the Community Strategic Plan

Asset Management Plan
The Asset Management Plan identifies the current Municipal Building as having a condition index[3] of 6.7% which is on the lower end of "fair" while the Fire Hall is rated a bit better at 7.1%. Each of these facilities is defined in the plan as having significant maintenance costs attached to them over the next few years.

The *Asset Management Plan* requires that these buildings be replaced in the next five (5) years but the plan (2013) did not have the benefit of the intense studies that have been conducted over the past three years. The replacement dates for any given asset within the plan is based on an accounting calculation and not based on factors that can attribute to any change in the life expectancy of the building.

Recommendation

Option 1 would see a status quo situation. This would mean that the report would be received by Council and none of the recommendations would be acted upon. This would also mean that only small amounts of money dedicated through the annual municipal budget process would be dedicated to the maintenance of these buildings. The Municipality would also be required, as a bare minimum to address the matters with respect to any issues related to Health and Safety or the AODA. The result of accepting this option would be

[3] Condition indexes are established by insurance companies to assess value

maintaining buildings that are deficient, costly and at the end of their life. The eventual replacement would not embrace the opportunities for partnership and would cost more to construct. For these reasons, **Option 1 is not recommended.**

The Kresin Report presented four (4) alternatives for the consideration of Council. If Council was not satisfied with the final recommendation in the report, Council could agree to exercise one of the other options. While this may satisfy some of the requirements with respect to the various municipal plans it may not take full advantage of what the other options can offer. For these reasons, **Option 2 is not recommended.**

Option 3 would result in the acceptance of the recommendation in the Kresin Report and move to the business plan process and include funds necessary for that purpose.

The specific recommendations contained within the report are as follows:

1. Construct[4] a Community Hub development integrating the operations of the municipal administration, public library, fire department, provincial court and police services on a single site. If feasible, construct a single building to house all services.

2. Confirm the suitability of the preliminary preferred site, Site B – Michipicoten Memorial Community Centre.

3. Initiate discussion with the Province of Ontario to identify available funding and financing sources to proceed with the project. The preliminary project budget estimate is $12 million.

4. Pursue additional project partners, such as Ontario Mine Rescue, which may be willing to participate in the project.

5. Review the presented alternative sites and eliminate undesirable sites if possible and identify additional sites, if any, to be included in a more detailed review.

Given the information contained within the report, the relationship to the various municipal plans and the drawbacks of the other options, **Option 3 is recommended.**

[4] Any approval on construction will be dependent upon final cost, financing and a full business case.

PRELIMINARY FEASIBILITY: COMMUNITY HUB

Municipality of Wawa

Review of the Feasibility of Co-locating:
Wawa Municipal Administration Offices, Wawa Public Library,
Wawa Fire Department, Ontario Provincial Police (Superior East Detachment)
and Ontario Provincial Court (Wawa)

Report prepared by:

KRESIN
Engineering Corporation

Sault Ste. Marie, Ontario
www.kresinengineering.ca

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Introduction

The Ontario Provincial Policy Statement (PPS) 2014 states the following:

> *"Public service facilities should be co-located in community hubs, where appropriate, to promote cost-effectiveness and facilitate service integration, access to transit and active transportation." (Policy 1.6.5)*

Some of the typical benefits of community hub developments include construction and operational cost savings through facility sharing, improved accessibility for service customers, and enhanced sense of community through a "one stop shop" for public services.

In mid-June 2016, the Municipality of Wawa issued a Request for Proposal (RFP) for the completion of a feasibility study for a new Community Hub facility to accommodate various Municipal services as well as the Ontario Provincial Police (OPP) Superior East Detachment. The RFP was prompted largely by the realization that the existing facilities housing these uses are aged and in need of significant investment – both for basic maintenance needs as well as functional improvements and upgrades required to comply with the provincial Accessibility for Ontarians with Disabilities Act (AODA).

The services being considered for incorporation in a Community Hub include the following:

1. Municipal Administration offices
2. Council Chambers (suitable for use as a courtroom)
3. Public Library
4. Fire Hall
5. OPP Superior East Detachment

Background

Currently, the Municipality of Wawa operates a Municipal office complex at 40 Broadway Avenue. This building houses the Wawa Public Library, administrative offices for the Municipality of Wawa, a community OPP policing facility, and the Wawa Municipal Council Chambers which also serve as a venue for provincial court proceedings. 40 Broadway Avenue has been the subject of a recent review which concluded that significant investment is required in order to maintain the building's integrity and to improve accessibility as required by the AODA.

The Wawa Municipal Fire Hall, located adjacent to and on the same property as the Municipal office complex, while not the subject of an independent review, is reportedly in similar condition and in need of continued investment for repairs and upgrades as well. In addition to accessibility shortcomings, the facility also lacks sufficient space for adequate storage of firefighting equipment, training, record keeping and other operations requirements.

What Community Hubs Offer

Some of the amenities hubs can offer to meet the unique needs of a community include:

- A convenient location to access a broad range of services, such as recreation and sport, library, education, community health, legal, employment, newcomer settlement, addiction, counselling, and affordable housing services
- A gathering place or meeting place for community members
- A place for social interaction and sharing of skills and knowledge
- A place where people of different ages, cultures, and backgrounds can come together to learn and grow
- A place to connect newcomers and existing community members to available services
- A place to host events or showcase local talent, culture, art, food, etc.

source: Municipal Affairs and Housing

The Superior East OPP Detachment, located on Pinewood Drive, has been identified by the Province as being in need of upgrades and/or expansion to address AODA and other operational requirements. The facility is also apparently in need of general repairs and maintenance.

In August 2015, the Province of Ontario published the report "Community Hubs in Ontario: A Strategic Framework and Action Plan" which encourages the co-location of compatible service outlets in order to provide a central access point for users, provide a focal point for community activity, as well as to realize operational benefits of shared facilities. In addition to the services noted above, a potential Community Hub could also provide space for additional commercial, educational, cultural uses, etc.

The Province of Ontario is moving ahead with implementing recommendations presented in the August 2015 report and the potential for a Community Hub in Wawa, as outlined in the RFP, is in line with this Provincial initiative.

Task 1: Identify Current Facility Conditions and Deficiencies

KEC has undertaken a review of available documents for the noted OPP facility, the Fire Hall and the municipal building. Site visits and interviews with key staff have also been carried out in order to identify current facility conditions and deficiencies. Findings of the review process are summarized below.

Existing Police Facilities

Policing, including both municipal and provincial oriented services, in the Wawa area are provided by the Ontario Provincial Police (OPP), Superior East Detachment. The detachment operates in Wawa out of two separate police stations – one located on Pinewood Drive and one located on Broadway Avenue. The Broadway Avenue facility is the former Wawa municipal police station, co-located in the municipal building with administrative offices, the library and other uses, while the Pinewood Drive location is the original OPP detachment location in use since the 1960s for highway patrol and other provincial policing services.

OPP operations in Wawa currently employ approximately 26 uniformed officers and 4 civilian support staff. Support staff and administrative duties are split between the two locations

A KEC representative met with local OPP staff to review the existing facilities. The intent of the review was to obtain an understanding of the current physical condition of the facilities and to identify operational constraints experienced due to accommodation shortfalls. The following is a summary of the observations made.

Pinewood Drive Police Station– Physical condition and operational constraints:

1. The structure was originally built in the 1960s and is approximately 400 square metres in size (including the garage), on two levels. When constructed, it was a combined residence and police station.
2. Through the years, the facility has undergone various renovations, including converting the residence into office space.
3. Renovations to fully accommodate best practices for barrier free access (for both public and employees) will likely require significant investment.
4. The property is serviced with municipal water; however sanitary sewage is accommodated through an on-site septic system.

5. The building is heated primarily via an oil-fired boiler system.
6. Certain features of the facility do not align with current OPP requirements (i.e. lack of dedicated public washrooms and staff change rooms with showers, etc.)
7. Asbestos was noted to be present in the crawlspace area. This must be accommodated when tradespeople need to enter the crawlspace to carry out maintenance/upgrade work.
8. The emergency generator is believed to be undersized for the current demands of the facility.
9. Occupants have experienced difficulties with the heating, cooling and ventilation systems in the building, especially maintaining interior temperatures during weather extremes.
10. There are plumbing issues with the drains in the garage.
11. Video court facilities are lacking.
12. Facilities for handling detainees present challenges to officers. There is no secure sally-port, dedicated intake and interview rooms are not available, holding cells and monitoring facilities may not align with current OPP preferences.
13. The layout of the facility requires that in order to access their workspaces, civilian employees must walk through cell areas when entering and exiting the building.
14. Office space is lacking and work stations/spaces are ill-accommodated.
15. File storage is currently divided between the two locations; additional capacity is required at the Pinewood Drive location.
16. Storage facilities for special equipment (tactical, technical traffic investigation, occasional/seasonal use gear) as well as property maintenance equipment is lacking.
17. There is no secure impound lot for storage of evidence and occasional/seasonal use equipment (boat, snowmobiles, etc.)
18. There is insufficient on-site parking for staff, public and patrol vehicles.
19. There is no meeting/training room and no work-out facility.

Broadway Avenue Police Station – Physical condition and operational constraints:

1. The facility is located in the municipal office complex at 40 Broadway Avenue.
2. In addition to the police station, the building also provides accommodation for the municipal administrative offices and public library. The council chambers also serve as a provincial court facility.
3. The police station occupies approximately 500 square metres of floor space (including garage), on two levels.
4. Renovations to fully accommodate best practices for barrier free access (for both public and employees) will likely require significant investment and may not be possible without major structural changes.
5. There are documented issues with plumbing leaks rendering some areas essentially un-useable.
6. The presence of mould in the lower level of the police station has been confirmed through recent testing. A report on air quality is included in Appendix 1.
7. Asbestos containing materials have reportedly been confirmed at the Broadway Avenue facility. A report on the presence of asbestos containing materials is included in Appendix 2.
8. Certain features of the facility do not align with current OPP requirements (i.e. lack of dedicated public washrooms and staff change rooms with showers, etc.)
9. Office space is lacking and work stations/spaces are ill-accommodated (i.e. at the time of the site visit a workstation/desk was in use in the exercise room).

10. Facilities for handling detainees present challenges to officers. Dedicated intake and interview rooms are not available, the layout of rooms and hallways is not conducive to proper procedures, holding cells and monitoring facilities may not align with current OPP preferences.
11. The layout of the facility requires that in order to access their workspaces, civilian employees must walk through cell areas when entering and exiting the building.
12. There is no secure yard area for patrol vehicle parking, impounding property or storing evidence.

A significant concern noted by both OPP and the Municipality is that operating out of two locations introduces operational challenges and inefficiencies, as well as potential risks associated with prisoner handling.

Overall, it is apparent that the existing facilities for providing police services in Wawa are lacking in many ways. Although the officers and civilian staff currently work together to ensure the highest possible standards are achieved, improvements to the facilities would definitely be beneficial for the efficiency and efficacy of the operations as well as for the safety of employees and public.

Existing Fire Station

Fire protection services in the Municipality of Wawa are provided by the Wawa Fire Department, a 100% volunteer service with approximately 25 members (including a volunteer Chief). The department is based out of a station fronting on Ontario Street in the Wawa town core. The station is approximately 275 square metres and is located on the same property as the municipal office complex.

The existing building has three truck bays, change facilities, one office, and small training spaces. There is very limited storage and the station lacks laundry and shower facilities. Currently, the fire department stores some rescue equipment off-site at other municipal properties.

The Chief of the department indicates that the building is in serviceable condition; however maintenance work is required to rectify deficiencies with the sewer servicing and floor drains. The need for a new roof in the next five to seven years is also anticipated.

Functional deficiencies noted by the Chief include the following:

1. The truck bays are not “pull-through” as per the industry standard. This requires that response vehicles must be backed into place which introduces risks of injury to personnel and damage to equipment and the premises.
2. The existing truck bays are not large enough for modern rescue vehicles. At least one larger bay is required to accommodate the existing vehicles.
3. There are not enough truck bays. Currently there are three bays, whereas the Chief states that five are required to properly accommodate operational needs.
4. Training facilities are too small to accommodate more than 6 people at a time. Larger training spaces would allow more efficient delivery of instruction to the volunteers.
5. Storage is required for operational equipment as well as for public education materials.
6. There is insufficient office space to accommodate the administration of the Fire Department. Additional office space is required to house records, filing and to provide workspace for firefighters completing reports and other administrative tasks.
7. There are no laundry facilities for cleaning firefighting bunker gear.
8. Locker room facilities do not have showers for firefighters.

In addition to the comments from the Chief, the presence of asbestos containing materials at the fire hall has been confirmed through previous studies. A report on the presence of asbestos containing materials is included in Appendix 3.

Based on the above, the existing fire station at Ontario Street does not currently meet the full requirements of the Wawa Fire Department. The volunteer firefighters are dedicated and work hard to provide first rate services; however improved facilities are necessary in order to accommodate the ongoing operational needs of the department.

Existing Public Library

The Wawa Public Library is located in the municipal building at 40 Broadway Avenue and occupies approximately 165 square metres. Services provided by the library include after school educational programs, summer programs, book and media loans, printer/copier use, and other typical library related services. Typically the library services approximately 200 patrons each week and currently employs one full-time and five part time staff.

In a discussion with the library CEO, the following was noted:

1. Library staff are not able to effectively control the temperatures within the space, making it uncomfortable. (A report on HVAC systems is included in Appendix 4)
2. The current space is cramped for the services which are being provided.
3. The Library has had cases of mould and insect infestation in the recent past.
4. A dedicated program space is not available, therefore programs are held in the main library area potentially disturbing other patrons.
5. There is a lack of staff facilities such as a lunch area and a cloakroom.
6. Storage space for program supplies is lacking.
7. Existing shelves are not in compliance with current requirements for accessibility and need to be replaced.

Although the space is currently serviceable, the existing Wawa Public Library facility was noted as lacking in some operational areas. Improvements, such as the provision of dedicated program space and accessible shelving, will enhance the ability of the library to meet the requirements of its patrons.

Existing Municipal Office

Administrative offices for the Municipality of Wawa are located at 40 Broadway Avenue. As noted in the previous sections of this document, these offices are located in the same building as the library and the OPP; the building is also located on the same parcel of land as the Wawa Fire Department fire station.

Municipal offices and council chambers occupy approximately 530 square metres on the ground and second floors of the building as well as portions of the basement. Approximately 10 staff at this location manage the corporation's administrative requirements including corporate services, finance and planning/building.

In 2015 a review of the building at 40 Broadway Avenue – focussing on building envelope and mechanical systems – was completed. The review identified numerous building components which have reached the end of their serviceable life and recommended maintenance actions with an estimated cost of approximately $1 million. A copy of the report is provided in the Appendix 4.

Previous studies have identified that asbestos containing materials are present at this facility. Extensive renovation of the building will likely require costly abatement measures be undertaken prior to the materials being disturbed. A report on the presence of asbestos containing materials is included in Appendix 2.

Operational constraints identified by the administrative staff are generally limited to a lack of space and an inefficient layout of office space, spanning three building levels. Staff have also had to routinely deal with roof leaks and ill-functioning HVAC systems. Also, although the offices occupy more than one level in the building, there is no elevator or lift device; thus portions of the offices as well as the council chambers are not accessible for those with mobility impairments.

Existing Court Facilities

In addition to regularly hosting council, committee and municipal business meetings, the Wawa council chamber also sees use as a provincial court room. The use of this facility for provincial court matters imposes additional special requirements which are lacking with the existing arrangement.

The court room/council chambers is located on the upper level of the building at 40 Broadway, and is not equipped with an elevator or lift; thus the facilities are not accessible to people who cannot climb stairs.

Dedicated facilities for secure handling of prisoners into and out of the court has been noted as lacking. Transferring prisoners routinely requires their movement through the municipal office space while staff are working, and also through public areas where other court attendees (i.e. general public, victims of crime and/or witnesses) are present. This deficiency poses a significant risk to the safety and security of workers, prisoners and others.

The provision of dedicated space for judicial staff, prosecution and defence counsel is also required. Improvements to accommodate this use of the space will result in enhanced accessibility, security and functionality.

Task 2: Program Needs Assessment

Discussion

Discussions with key staff included identifying the current and predicted program space requirements for each of the facilities in order to obtain a sense of the overall anticipated size of development which would be required to co-locate all of the uses. Preliminary dialogues regarding integration of additional potential community hub tenants/participants were also held.

Each of the five existing facilities/users indicated that additional space is required for their operations:

- Municipal administrators indicated that more space is needed to accommodate staff and records storage.
- Provincial court use of the municipal council facilities requires dedicated space for legal counsel and judicial use as well as for secure prisoner movement.
- The Wawa Public Library requires additional space for running educational programs and to upgrade library stack accessibility.
- The Wawa Fire Department requires additional space for proper storage of emergency response vehicles and equipment as well as for training, administration and firefighter showers/laundry.

- OPP needs to consolidate the two existing locations and add additional space to properly accommodate the services currently being provided.

In addition to the above, there was a common complaint of lack of storage space, ranging from space for office supplies, to records storage/filing, to the storage of specialized operational supplies and equipment. Currently, the use of offsite storage is required by the various services in order to maintain operations.

The following table summarizes the physical space currently occupied by the facilities discussed:

Table 1: Approximate existing program space

Facility	Size (m^2)
Municipal Offices (includes council chamber)	530
Wawa Public Library	165
Wawa Fire Department	275
Provincial Court	0*
OPP (includes both locations)	900
Total	1,870

**There are currently no existing dedicated court facilities.*

The existing municipal offices and the court facilities are not accessible to people with limited mobility die to the lack of an elevator or lift. Although staff work hard to accommodate everyone, and to-date there have been no insurmountable issues with this, it is a serious deficiency that must be addressed. The installation of a lift, meeting the requirements in 40 Broadway Avenue is anticipated to involve a costly renovation.

As well as the five facilities discussed above, it was noted that the Municipality also operates satellite office space for various departments/uses. This includes the information technology and geomatics centre at 3 Maple Street, infrastructure services at Montreal Avenue and the community services offices located in the Michipicoten Memorial Community Centre. A review of these facilities was not included; however co-locating one or more of them in a community hub can also be considered.

Other public service providers can also be included in a community hub. These may include such organizations as the Health Unit, Service Ontario and similar organizations. Canada Post has been contacted and confirmed that they are not interested in participating in the potential community hub at this time.

In addition to public services, additional community oriented groups may be included. For example, municipal staff have been approached by Ontario Mine Rescue with an expressed interest in locating a regional office in Wawa, potentially in a community hub. Incorporating community groups in this manner will have the potential to further enhance the amenities realized through the development of a community hub.

Functional deficiencies identified with each of the facilities are largely related to a lack of space, however the following are specifically noted:

- Police facilities are currently split between two locations. This arrangement introduces challenges for officers and civilian staff in completing their every day assignments, and may introduce risks related to the additional movement of prisoners required.

- The Provincial Court facilities are not integrated with facilities for the proper secure handling of prisoners segregated from public areas. This adds complications to the movement of prisoners and introduces related risks for escape, injury or exposure to interaction with public.
- Fire services is currently forced to store some equipment off-site. This may increase response times for certain emergencies, thus introducing risks to public health and safety.
- People with limited mobility are required to use a wheelchair lift when accessing the Municipal offices and the court facility.

Task 2 Conclusion

Based on the review of the existing sites and the users' functional requirements, it is apparent that neither a simple renovation to, nor expansion of, the existing facilities will provide a suitable solution to all of the functional and space requirements.

In order to wholly address the identified deficiencies, complete redevelopment of the facilities is required.

Task 3: Community Hub Initiative Assessment and Options

Discussion

The PPS 2014 encourages co-location of public service providers with the goals of realizing potential cost savings while providing improved access, integrated service delivery, enhanced amenities and healthier communities.

The current conditions and needs in Wawa are very conducive to implementing some type of community hub development meeting the intent of the PPS. The existing facilities for municipal offices, provincial court, public library, fire department and police services are all in need of attention to address the operational deficiencies being experienced as well as the significant capital investment required to maintain/upgrade the existing buildings. The current split accommodation of the policing facilities, as well as a lack of integration with the provincial court facilities, are also far from ideal and likely detrimental to their operations.

In order to accommodate the five primary uses reviewed under one roof, including allowance for the stated additional space required, it is anticipated that a new community hub will need to have a useable floor space (including garage bays) of at least 3000 square metres. A new community hub will also require a similar amount of yard space to accommodate police and fire operational requirements, plus additional space for parking, setbacks, etc. as required to meet zoning stipulations. Subject to the final layout of the building and yard, the minimum feasible site size for a single integrated facility is anticipated to be approximately 6000 square metres (1.5 acres).

Alternatively, a community hub could be developed with more than one building. For example, police and fire could be housed in one building on a parcel of land adjacent to a structure housing the municipal offices, library, etc.

Financial Assessment

A review of costs for similar developments in other jurisdictions reveals that the cost to construct a facility housing the uses discussed, including property acquisition, and professional fees are anticipated to average approximately $4000 per square metre ($370 per square foot). This estimate includes allowances

for specialized construction required to meet OPP standards, as well as to ensure that the facility meets the building code requirements for a post-disaster building.

With a building area of 3000 square metres, the resulting estimated community hub project cost is $12 million.

Costs to separately develop suitable accommodation for each of the facilities individually is anticipated to cost substantially more. This is due to many factors including the following:

- The need for individual mechanical and electrical systems.
- Increased overall square footage to accommodate common spaces (restrooms, mechanical areas, etc.).
- Increased building envelope size (i.e. will need more: outside walls, roof area, exterior doors, etc.).
- Individual site servicing for water, sewer and other utilities.
- Additional site development requirements such as sidewalks, parking lots, etc.

It is anticipated that these additional costs would add 25 to 30 percent to the cost of providing accommodation, resulting in total project costs in the range of $15 million to $16 million.

Although detailed dollar cost estimates cannot be developed at this stage of the review, the anticipated annual operations and maintenance costs for individual facilities is anticipated to demand a premium of close to 100% over that of an integrated community hub. This is due to additional utility costs, mechanical system maintenance, janitorial, yard maintenance, etc.

An in-depth review of costs for operating and maintaining the existing facilities was not considered since the current facilities are not adequately accommodating the demands of the users. However; it has been identified that capital investment is required to maintain the status quo. For the Municipal office alone, costs for needed repairs to roofing and HVAC as well as mould abatement have been estimated at more than $1 million. It is possible that some of these costs can be deferred long enough to allow for a new facility to be constructed.

Preliminary Site Assessment

A preliminary review for candidate site selection has identified the following potential community hub sites:

Site A: Existing Municipal office/Fire hall property (40 Broadway Avenue)

The existing municipal office/fire hall property at 40 Broadway Avenue, with an area of approximately 3000 square metres, does not appear large enough on its own to accommodate the anticipated size of the required community hub building and yard. Although the parcel, as it is now, appears too small, the location of the existing municipal office is thought to be ideal for purposes of public access, infrastructure availability and community visibility. The site may be useable with the possible acquisition of adjacent property. This may include: acquiring private property; closing abutting roads and utilizing road allowances; or a combination of the two.

Development of this site will incur costs related to temporary housing of the municipal administration, public library, provincial court, fire department and police. Added costs for demolition of the existing buildings will also be incurred.

Site B: Michipicoten Memorial Community Centre (3 Chris Simon Drive)

The Michipicoten Memorial Community Centre (MMCC) site was identified as a potential location for a community hub. This site has adequate space and could reasonably accommodate the proposed development. The site, approximately 6 hectares in size, currently hosts a multi-plex sports and community centre consisting of hockey and curling arenas, gymnasium facilities a hall as well as outdoor athletic fields.

The MMCC site may be slightly less preferred for a service oriented community hub than 40 Broadway Avenue as it is bordering more of a residential area; however, combining with the existing community centre may increase the overall appeal of the site as a community hub.

In addition, the site will not require costly demolition of existing buildings and development at the site will allow continued operation at the existing facilities without interruption or costly temporary accommodation.

Site C: Sir James Dunn Public School (36 McKinley Ave)

Sir James Dunn Public School, 36 McKinley Ave, has been identified for potential closure by the Algoma District School Board. This site is immediately west of the existing municipal office and is large enough to accommodate all of the reviewed facilities. The location is also in keeping with the community hub philosophy, providing public services with enhanced accessibility.

The Municipality is currently working on an initiative which may utilize this site for future transitional housing.

Site D: Centennial Park

A fourth potential site identified is Centennial Park on Mission Road at Klondike Street. This site is currently a passive park with a playground facility and is large enough to accommodate the potential community hub. The Mission Road location offers good access and visibility and would keep the

community hub fronting on a commercial corridor while developing a site which may currently be under-utilized.

Anecdotal reports suggest that this site may be the location of historical landfilling activities, thus an environmental investigation will be required should the site be considered further.

Site E: Tourist Information Centre (26 Mission Road)

The Municipality owns approximately 5.2 hectares (13 acres) of land at the existing tourist information centre on Mission Road. Only a small portion of the property has been developed, leaving ample space for a potential community hub. While still feasible, this location was found to be slightly less desirable due to its distance from the urban core of Wawa and the resulting difficulty of access for residents without automobiles. However this site is adjacent to the` provincial "Service Ontario" location, which enhances the diversity of services offered in the area should a community hub be located here.

Task 3 Conclusion

There are anticipated capital as well as operation and maintenance cost advantages to consolidating the subject facilities into one community hub development.

An estimated project budget for a community hub integrating the municipal office, public library, fire department, OPP and Provincial Court is $12 million.

There are numerous sites in Wawa which are available and potentially viable for the development of a community hub, Site B, the Michipicoten Memorial Community Centre site, is the preliminary preferred site due to its size, location and availability.

Task 4: Evaluation of Alternatives

Discussion

A comparative evaluation of the alternatives identified for potential community hub development is multi-faceted and must include both quantitative and qualitative considerations. For example, although the anticipated costs related to one alternative may be less than another, if it does not provide comparable service, then it may not be preferred. Evaluation criteria have been developed in order to assist with the preliminary screening of alternatives.

Alternatives

The alternatives for development of a community hub have been identified as follows:

1. Maintain the status quo (i.e. no community hub)
2. Fully integrated community hub
3. Semi-integrated community hub (two facilities on the same site)
4. Dual shared use community hubs (two facilities at separate sites)

Alternative 1: Maintain Status Quo

The alternative of not proceeding with a community hub and staying with the status quo will require significant capital investment since the existing facilities have reached the end of their useful lives. OPP will need to construct a new facility, and the municipality will need to renew their facilities. As discussed in Task 3, the cost of maintaining the status quo is expected to exceed the cost of an integrated community hub.

It is also noted that the opportunity to gain operational synergies will be lost if the status quo is maintained. For example, with an integrated facility, there is the opportunity for shared use space such as training and meeting facilities.

Alternative 2: Fully Integrated Community Hub

A fully integrated community hub would include the development of a single building housing all of the services discussed, potentially along with additional compatible uses. This option is expected to provide excellent integration of services, the best use of shared spaces, consolidated access for users and reduced overall operations and maintenance costs. The projected capital costs is also less than other alternatives.

Alternative 3: Semi-Integrated Community Hub

Alternative 3 would consist of accommodating all of the services on a single site, but in more than one structure. This option could see police and fire services (and possibly Mine Rescue) in one building, with the municipal office, library and court facilities in a second building. This option may provide a benefit of flexibility for site development and site access. Use of shared space between the two buildings may also still be viable with them being in close proximity.

Alternative 4: Dual Shared Use Community Hubs

The dual shared use community hubs option would see two separate buildings on two separate sites. For example, police and fire services (and possibly Mine Rescue) may be housed in a shared use building at one site while the municipal office, library and court facilities share a second building at a different location.

This alternative is expected to provide some benefits of co-located services; however the full potential of shared use synergies will not be attained.

Evaluation

While all of the alternatives are viable, it is Alternative 1 is the least preferred as it presents the highest costs and does not provide the level of integration which would be realized through the other options.

Alternative 2: Fully Integrated Community Hub, in theory, provides the highest level of integration and results in the most accessible option for members of the public accessing services. However, depending on the specific site chosen, a single structure housing all uses may not be feasible due to the site geometry.

Alternative 3 may offer a greater flexibility in the layout of the buildings to suit a specific site. While this option may include some additional costs for duplication of mechanical systems between the two structures, synergies can be attained through shared use and maintenance of yard space such as parking as well as shared use of building facilities such as meeting rooms and training rooms.

Dual shared use community hubs, as contemplated in Alternative 4, will require additional costs in construction and operation/maintenance of site works (parking lots, sidewalks, utilities, etc.) and will result in a loss of opportunity for using shared space. The option also reduces the accessibility aspect which is part of the community hub advantage.

Task 4 Conclusion

The benefits of shared use of space and ease of access for service users is best obtained through the co-location of all services at a single site. Alternatives 2 and 3 best provide the synergies desired in a

community hub. Alternative 2 may have a slight cost advantage; however Alternative 3 may offer functional advantages.

Recommendations

The following recommendations are presented for the Municipality's consideration:

1. Construct a Community Hub development integrating the operations of the municipal administration, public library, fire department, provincial court and police services on a single site. If feasible, construct a single building to house all services.
2. Confirm the suitability of the preliminary preferred site, Site B – Michipicoten Memorial Community Centre.
3. Initiate discussion with the Province of Ontario to identify available funding and financing sources to proceed with the project. The preliminary project budget estimate is $12 million.
4. Pursue additional project partners, such as Ontario Mine Rescue, which may be willing to participate in the project.
5. Review the presented alternative sites and eliminate undesirable sites if possible and identify additional sites, if any, to be included in a more detailed review.

Closure

We trust the above meets your requirements at this time. Kresin Engineering is available to discuss this report at your convenience should you have any questions.

We would be pleased to continue working with the Municipality and other stakeholders in implementing the recommendations.

Respectfully submitted,
Kresin Engineering Corporation

Original signed by:

Michael Kresin, P. Eng.
Consulting Engineer

Appendix 1

Mould Investigation and Assessment

40 Broadway Avenue

October 28, 2016

Alex Patterson
Assistant Director of Community Services & Tourism
Municipality of Wawa
40 Broadway Avenue, Box 500
Wawa, Ontario, P0S 1K0

sent via email: apatterson@wawa.cc

Project No: **37115-600055**
Regarding: **Mould Investigation and Assessment**
Wawa Town Hall and OPP Detachment, 40 Broadway Avenue, Wawa, Ontario

Introduction

Pario Engineering and Environmental Sciences (Pario) was commissioned by the Town of Wawa (the Client) to provide consulting services with respect to completing a limited intrusive investigation and assessment to investigate for the presence of mould growth and the potential source of moisture intrusion within the Wawa Town Hall and OPP Detachment building located at 40 Broadway Avenue in Wawa, Ontario (the Site). It is Pario's understanding that the property is owned and operated by the Client.

The scope of work included the following:

- A limited intrusive visual assessment of accessible building materials located within the building that were suspect of supporting mould growth;
- Interview Site representatives to capture Site and building history;
- Collect bulk samples of building materials that appear to support mould growth, to determine types of mould;
- Collect non-viable air samples to assess airborne indoor fungal spore conditions; and,
- A report summarizing the assessment, results of sampling and air testing, and recommendations of any further action, if required.

Background

Discussions with Client representatives revealed that the building has been regularly occupied by both employees and the public. Recently, due to employee concerns associated with potential exposure to mould growth, the Town requested that a mould investigation and assessment be completed to determine whether mould-related concerns exist within the building. Subsequently, the Client retained Pario to conduct a mould investigation and assessment to review building conditions and whether an indoor mould growth problem exists.

On October 11, 2016, Pario attended the Site and conducted a non-intrusive visual assessment of the condition of the building materials and contents located within visibly accessible areas and areas of concern (AOC) of the building. The purpose of the assessment was to investigate for

concerns associated with the potential presence of mould growth and assess whether indoor environmental conditions were conducive for mould development.

Environmental Conditions

The following environmental conditions were present at the time of the assessment:

Location	Relative Humidity %	Temperature, (°C) & Dew Point (°C)
First Floor – general office space corridor	48.0	15.3, 10.8
First Floor - Library	48.7	14.2, 9.7
First Floor – OPP reception area	47.1	14.6, 9.9
Basement – OPP training area	46.8	14.1, 13.8
Basement – Furnace Room	46.8	14.6, 9.9
Basement – Town Hall file storage room	52.8	14.4, 10.3

Visual Assessment

Using information gathered from initial investigation and interviews with occupants, Pario performed a limited intrusive investigation of the building to investigate for the presence of mould growth and for potential source of moisture intrusion. Based on our investigation Pario identified the following:

- Wall finishes observed in the basement and first floor areas generally consist of ½" drywall sheathing over wood studs;
- Floor finishes observed on the first floor generally consists of vinyl tiles and carpeting, and the basement was mostly carpeted;
- Standing water was not identified within visibly accessible areas of the building;
- Historic moisture and water intrusion issues were observed in the former file storage room, located adjacent to the basement furnace room;
- Visible water damage was limited to staining on suspended ceiling tiles and carpeting materials; and,
- Mould growth was observed on the surface of wood pallets in the former file storage room, located adjacent to the basement furnace room, and on the surface of document binders that had been moved from the former file storage room, to a former Town Hall office space located in the basement of the building.

As a result of the visual assessment, Pario determined that there is mould growth on the surfaces of wood pallets and document binders that were located in the basement of the building. An existing interior source of water intrusion was not identified; therefore, Pario investigated the exterior building envelope in an effort to identify water intrusion points. Pario's exterior investigation did not identify concerns for potential water intrusion issues.

Refer to **Appendix A** for Client Supplied Site Photographs.

Non-Viable Air Sampling – Spore Trap Cassettes

Pario collected seven indoor 'assessment' non-viable air samples from the following locations:

- MW-A1, collected from the Library, centrally, near main entrance;
- MW-A2, collected from the Town Hall main office space, first floor corridor;
- MW-A3, collected from the OPP reception area (General Office 002), centrally;
- MW-A4, collected from the OPP training room located in the basement;
- MW-A5, collected from the furnace room located in the basement (Room 024);
- MW-A6, collected from the Town Hall basement office (new file storage room); and,
- MW-A7, collected from the Town Hall basement, corridor located between former and current file storage rooms.

In addition, two 'reference' non-viable air samples (MW-REF1 and MW-REF2) were collected outdoors, for comparative purposes.

Review of the laboratory report for samples revealed that *Aspergillus/Penicillium-type, Cladosporium, Ascospores and Basidiospores and Colorless* spores were identified in all seven indoor air samples; however, when compared to the concentrations of the reference samples, the concentrations of these fungal spore were not elevated except for *Aspergillus/Penicillium-type* spores identified in the current basement file storage room. In addition, *Alternaria* spores were also detected on samples MW-A3. MW-A4, MW-A5 and MW-A7, *Cercospora* spores were detected on samples MW-A3. MW-A4 and MW-A5; however, when compared to the type and concentrations found on the reference samples, the concentrations of these particular mould spores were not elevated.

Moreover, review of the laboratory report revealed that *Smuts, Periconia, Myxomycetes* spores were identified in all indoor air samples except sample MW-A1, collected from the Library. When comparing *Smuts, Periconia, Myxomycetes* spore concentrations to the reference samples, the concentrations were not elevated. *Epicoccum, Fusarium and Torula* spores were detected on sample MW-A5, however, the concentrations were not elevated when compared to the reference samples.

The laboratory report also revealed the presence of *Trichoderma-like* spores in air samples MW-A2, MW-A5, MW-A6 and MW-A7 (mainly obtained from the basement level); whereas *Trichoderma-like* spores were not identified on either reference sample. *Trichoderma-like* spore concentrations may be related to visibly mouldy wood pallets located in the basement level as this mould spore type can be associated with decaying wood or wood products. Additionally, some fungicides can use a certain *Trichoderma* species. *Pithomyces* spores were also identified in air sample MW-A6 and the concentrations were slightly elevated when compared to the

outdoor reference samples; however, the concentrations are fairly low and do not suggest concerns for occupant exposure to indoor growth of *Pithomyces* moulds.

For the purposes of assessing whether a mould growth problem exists, assessment samples are compared to reference samples. Generally, the 'fungal ecology' is considered normal when the presence and concentrations of mould species within assessment samples are similar to those present in reference samples. The 'fungal ecology' is considered problematic when a significant presence of mould species within assessment samples is not present in reference samples, or when the concentrations of mould spores within assessment samples are significantly elevated in comparison to reference samples. Moreover, the 'fungal ecology' is considered problematic when *"[1]the total mold spore concentration per cubic metre is above 10,000"*, and "[2]*one should be concerned about concentrations of mold* (specific species) *detected in indoor ambient air that are greater than 100 to 200 CFU/m[3] or greater than 1000 spores/m[3]*". Furthermore, the National Allergy Bureau (NAB™) a section of the American Academy of Allergy, Asthma and Immunology's (AAAAI™) considers *'mold counts in outdoor air of 0-6499 spores per cubic meter of air as low, to 6500 to 12,999 spores per cubic meter of air as moderate, to 13,000 to 49,999 spores per cubic meter of air as high, and above 50,000 as very high'.*

The following table is also referred to when concluding whether a mould problem exists in an indoor environment:

[3]Table – Indoor Mould Classifications: Residential Buildings

	Clean Environment	**Mouldy Environment**
Total Spores	Less than 1,200	Greater than 1,300
Aspergillus/Penicillium	Less than 750	Greater than 900
Ascospores/Basidiospores	Less than 1,200	Greater than 1,300

As referenced in the aforementioned table, a mouldy environment consisting of A*spergillus/Penicillium* spores in residential buildings can be classified as having a total spore count greater than 900 spores per m^3. The concentrations of *Aspergillus/Penicillium-type* spores identified within the building were not greater than the outdoor reference sample or 900 spores per m^3. However, results of non-viable air samples, when compared to the reference sample concentrations, revealed elevated airborne *Aspergillus/Penicillium-type* spore concentrations within the Town Hall office located in the basement, where the mould impacted file document binders have been stored.

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[1] *Baxter, D.M. 1998. "Fungi Spore Concentrations Inside 'Clean' and 'Water-damaged' Commercial and Residential Buildings." Environmental Testing Associates, San Diego, CA. Centers for Disease Control and Prevention (CDC). 2000. Update: pulmonary hemorrhage/hemosiderosis among Cleveland, Ohio, 1993–1996. MMWR 49:180-184*

[2] Ronald E. Gots, M.D., Ph.D. "Principal, International Center for Toxicology and Medicine (ICTM) *"CORRECTING MOLD MISINFORMATION"* http://www.wmmic.com/infodocs/mold.htm

[3] *numbers are in spores per cubic meter Source: Baxter et al. Journal of Occupational Environmental Hygiene, 2005*

The concentrations of *Ascospores and Basidiospores* spores, and total spore counts identified in samples collected from the OPP reception area located on the first floor (MW-A3), OPP training room (MW-A4) and furnace room (MW-A5) located in the basement, exceeded the recommended concentration of 1,300 spores per m^3, for mouldy environments and therefore suggests that these three areas may present concerns for occupant exposure to a current or historic indoor mould growth issue.

Refer to **Appendix B** for EMC Scientific Laboratory Analysis Reports.

Lift-Tape Sampling

Pario collected four lift-tape samples from the surface of building material samples and or items from areas of suspect mould growth, as follows:

- MW-B1 was collected from the surface of the concrete block foundation wall, located in the former file storage room (basement), where a whiteish crystal-like substance was observed and a concern for possible mould;
- MW-B2 was collected from the surface of a hardwood pallet, located in the former file storage room (basement), where a mouldy-like substance was observed;
- MW-B3 was collected from the surface of the concrete floor, located in the former file storage room (basement), where a whiteish/grey crystal-like substance was observed and a concern for possible mould; and,
- MW-B4 was collected from the surface of a file document binder located in the Town Hall basement office (current file storage room), where mould growth was present.

Review of the laboratory report for the samples revealed that sparse growth of *Aspergillus* moulds was identified on the surface of the hardwood pallet, and sparse growth of *Cladosporium* growth was identified growing on the surface of the concrete floor located in the former file storage room. In addition, the laboratory identified moderate growth of *Aspergillus and Cladosporium* moulds on the surface of the file document binder. The presence of Aspergillus spores on the surfaces sampled indicates that mould amplification sites are present in the areas assessed. *Cladosporium* is a mould spore typically associated with the decay of organic materials, such as wood. These results agree with the site conditions identified by Pario.

Refer to **Appendix B** for EMC Scientific Laboratory Analysis Reports.

Conclusion and Recommendations

As a result of the visual assessment, and results of non-viable air and lift-tape samples, Pario determined that there is mould growth on some items and building materials located in the former file storage room, and mould growth has impacted file document binders that have been moved to the Town Hall office, located in the basement of the building.

Based on the results of non-viable air samples collected at the time, exposure to potential elevated indoor mould spore concentrations is of concern in OPP occupied areas, first floor and basement.

Based on this mould investigation and assessment, it is in the opinion of Pario that further action is required to address the mould growth identified on water-damaged building materials, and elevated spore concentrations identified in the following four areas:

1) OPP Reception area located on the first floor;

2) OPP Training Room located in the basement;

3) Former file storage room located adjacent to the furnace room (located in the basement of the building), and access from the OPP portion of the building; and,

4) Existing file storage room located in the Town Hall office, in the basement of the building.

Based on the observed area of mould growth Pario would recommend that the remediation of mould contaminated building materials and contents, along with a general cleaning of the entire Site should generally follow "Level II Mould Abatement" in accordance with the Canadian Construction Association standard CCA 82 *"Mould guidelines for the Canadian Construction Industry – February 2004".* Additionally, due to the historic moisture-related issues associated with the basement level, and further to our assessment, Pario recommends that intrusive investigations of the exterior weeping tile systems and drainage be completed to identify potential sources of water retention against the basement foundation walls. The presence of efflorescence on the concrete wall finishes indicates the presence of a hydrostatic pressure (water accumulation) in the areas along the exterior of these foundation walls. This moisture source is expected to have raised the basement's relative humidity and is considered a contributing factor in the mould presence identified. Intrusive excavations may be needed along the exterior in these areas to check the condition of damp proofing equipment installed along the foundation walls of concern. It is strongly recommended that any moisture sources be addressed prior to any abatement work being conducted.

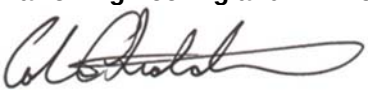
Furthermore, the presence of efflorescence indicates a hydrostatic force pushing the calcium out of the concrete so there might be a foundation leakage, drainage, or damp proofing issue, which should be further investigated and addressed.

Closure

Should you have questions, concerns or wish to discuss, please contact the undersigned at your convenience.

Sincerely,

Pario Engineering and Environmental Sciences



Colin Liddiard, CET, EP
Senior Environmental Consultant
Sault Ste. Marie, Ontario
colin.liddiard@pariosccciences..ca

Oliver U. Gonzalez, P.Eng., QP, EP, CESA, CMI, CMR
Civil Engineer, Manager Environmental Services
oliver.gonzalez@pario.ca

Limitations

This preliminary mould investigation and assessment is limited to the review and assessment for mould growth and potential spore impacts solely associated with areas of concern in the building located at 40 Broadway Avenue, and identified by the Client. Pario's findings, conclusions and recommended remediation procedures are based upon visual observations and results of laboratory analyses. Furthermore, Pario cannot provide a guarantee as to the presence or absence of microbiological contamination or any other compounds, which may exist, other than those that were surveyed in specific locations that were investigated. Other areas of concern may exist (i.e. wall cavities and inaccessible areas). The degree of mould growth noted may change with time or may develop at other locations, if water intrusion continues. Any sources of water infiltration or high humidity levels must be corrected to prevent further mould growth.

The possibility remains that unexpected environmental conditions may be encountered at the Site in locations not specifically observed or investigated. In addition, the investigation and assessment did not include areas of the unfinished basement, for which observations of the area revealed evidence suggesting that the basement has a historical water intrusion problem, and endured high relative humidity levels. As this project proceeds, it may be necessary to address other potential environmental concerns associated with unforeseen water intrusion problems and/or evidence of mould proliferation that may arise. Limitations, complexities, complications and conflicts may arise during remediation proceedings and therefore may require a change in the scope of work.

Pario makes no other evaluations whatsoever, including those concerning the legal significance of designated substances, or exposures to mould growth. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with one's own legal counsel.

All occupant health inquiries should be referred to a physician knowledgeable in the health effects of environmental mould exposures. Any use which a third party makes of this report, or any reliance on or decisions to be made based upon it, are the responsibility of such third parties.

In addition, friable and non-friable asbestos containing materials (ACM), including but not limited to, drywall joint compound, plaster, stucco, flooring materials, and insulation, may be encountered during the removal of mould contaminated materials. Therefore, management of ACM must be conducted in accordance with the Occupational Health and Safety Regulation 278/05, *"Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations"* (O. Reg. 278/05), which came into force on November 1, 2005.

References

Environmental Abatement Council of Ontario (EACO): ***Mould Abatement Guidelines:*** **Second Edition: 2010**

Institute for Assessment, Cleaning, Restoration Certification (IICRC): ***S520 Standard and Reference Guide for Professional Mold Remediation:*** **Second Edition: 2008**

Health Canada: ***Fungal Contamination in Public Buildings: Health Effects and Investigation Methods:*** **Health Canada, 2004**

Canadian Construction Association (CCA 82): ***Mould Guidelines for the Canadian Construction Industry.*** **February 2004**

National Air Duct Cleaners Association (NADCA): ***ACR 2002 Assessment, Cleaning and Restoration of HVAC Systems***

Health Canada: ***Construction-related Nosocomial Infections in Patients in Health Care Facilities – Decreasing the Risk of Aspergillus, Legionella and Other Infections:*** **Health Canada, 2001**

American Conference of Governmental Industrial Hygienists**:** ***Bioaerosols Assessment and Control.*** **Cincinnati, Ohio: American Conference of Governmental Industrial Hygienists, 1999**

Manitoba Department of Labour: ***Guidelines for the Investigation, Assessment and Remediation of Mould in Workplaces.*** **Workplace Safety and Health Division Manitoba Department of Labour, March 2001**

New York City Department of Health: ***The New York City Guidelines, Guidelines on Assessment and Remediation of Fungi in Indoor Environments.*** **New York, New York: New York City Department of Health, 2000**

Health Canada: ***Fungal Contamination in Public Buildings: A Guide to Recognition and Management:*** **Federal-Provincial Committee on Environmental and Occupational Health: Ottawa, Ontario. Health Canada, 1995**

Health Canada**:** ***Indoor Air Quality in Office Buildings: A Technical Guide: Federal-Provincial Committee on Environmental and Occupational Health: Ottawa, Ontario. Health Canada, 1995"***

Canadian Standards Association**:** ***CSA Z317.13-12 Infection control during construction, renovation, and maintenance of health care facilities:*** **CSA 2012**

APPENDIX A
CLIENT SUPPLIED PHOTOGRAPHS

Photograph 1 ↑
Looking at concrete ceiling (and patch) located in former file storage room, in basement, where historic water intrusion events have occurred from.

Photograph 2 ↑
Looking at concrete block wall located in the former file storage room, in basement, where mould growth concerns existed (sample MW-B1).

Photograph 3 ↑
Looking water damaged and mould growth on surface of file document binders

Photograph 4 ↑
Looking at mould growth on the surface of paper files, located in document binders.

APPENDIX B
EMC SCIENTIFIC LABORATORY ANALYSIS REPORTS

emcscientific INCORPORATED

Laboratory Analysis Report

To:

Colin Liddiard
Pario Engineering &
Environmental Sciences
32-1 Cedar Street
Sault Ste. Marie, Ontario
P6B 2J2

EMC LAB REPORT NUMBER: 59765
Job/Project Name: Wawa Town Hall Mould
Job/Project No: 37115-600055 **No. of Samples:** 10
Sample Type: Air-O-Cell **Date Received:** Oct 17/16
Analysis Method(s): Fungal Spore Counting
Date Analyzed: Oct 17/16 **Date Reported:** Oct 17/16
Analyst: Lalita Sarlashkar, Ph.D., *Microbiologist*
Approved By: Fajun Chen, Ph.D., *Principal Mycologist*

Client's Sample ID	**MW-A1**			**MW-A2**			**MW-A3**			**MW-A4**			**MW-A5**		
EMC Lab Sample No.	264638			264639			264640			264641			264642		
Sampling Date	Oct 11/16			Oct 11/16			Oct 11/16			Oct 11/16			Oct 11/16		
Description/Location	Library			Town Hall main office corridor			OPP reception area			OPP training room			OPP furnace room		
Air Volume (m^3)	0.150			0.150			0.150			0.150			0.150		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria							1	0	7	1	0	7	2	0	13
Arthrinium															
Ascospores				2	3	13	10	2	67	20	3	133	17	4	113
Aspergillus/Penicillium type	2	10	13	8	10	53	22	4	147	15	2	100	24	5	160
Basidiospores	3	14	20	19	24	127	400	73	2667	350	55	2333	210	46	1400
Cercospora							2	0	13	1	0	7	1	0	7
Chaetomium															
Cladosporium	7	33	47	14	18	93	57	10	380	76	12	507	59	13	393
Colorless	9	43	60	15	19	100	55	10	367	170	27	1133	120	26	800
Curvularia															
Drechslera/Bipolaris group															
Epicoccum													1	0	7
Fusarium													1	0	7
Pithomyces															
Rusts															
Smuts, *Periconia*, Myxomycetes				3	4	20	1	0	7	2	0	13	1	0	7
Stachybotrys															
Torula													1	0	7
Trichoderma-like				19	24	127							17	4	113
Ulocladium															
Unidentified spores															
Number of spores/sample	21			80			548			635			454		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	1+			2+			2+			2+			2+		
TOTAL SPORES/M^3	**140**			**533**			**3,653**			**4,233**			**3,027**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

emcscientific INCORPORATED

Laboratory Analysis Report

EMC LAB REPORT NUMBER: 59765
Client's Job/Project No.: 37115-600055
Analyst: Lalita Sarlashkar, Ph.D., *Microbiologist*

Client's Sample ID	**MW-A6**			**MW-A7**			**MW-REF1**			**MW-REF2**			**MW-Blank**		
EMC Lab Sample No.	264643			264644			264645			264646			264647		
Sampling Date	Oct 11/16			Oct 11/16			Oct 11/16			Oct 11/16			Oct 11/16		
Description/Location	Town Hall basement office			Town Hall basement corridor			West side of building - air intake			East side of building - OPP entrance			QA/QC		
Air Volume (m^3)	0.150			0.150			0.150			0.150			N/A		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria				1	1	7	5	0	33	6	0	40			
Arthrinium															
Ascospores	7	4	47	8	5	53	32	2	213	34	2	227			
Aspergillus/Penicillium type	40	22	267	27	18	180	22	1	147	30	1	200			
Basidiospores	60	33	400	50	33	333	1000	48	6667	800	40	5333			
Cercospora							2	0	13	7	0	47			
Chaetomium															
Cladosporium	23	13	153	16	11	107	226	11	1507	350	17	2333			
Colorless	40	22	267	42	28	280	800	38	5333	750	37	5000			
Curvularia							1	0	7	1	0	7			
Drechslera/Bipolaris group															
Epicoccum							2	0	13	1	0	7			
Fusarium							1	0	7	1	0	7			
Pithomyces	2	1	13							1	0	7			
Rusts										2	0	13			
Smuts, *Periconia*, Myxomycetes	2	1	13	3	2	20	3	0	20	18	1	120			
Stachybotrys															
Torula							1	0	7	2	0	13			
Trichoderma-like	6	3	40	5	3	33									
Ulocladium															
Unidentified spores															
Number of spores/sample	180			152			2095			2003			0		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	2+			2+			1+			1+			0+		
TOTAL SPORES/M^3	**1,200**			**1,013**			**13,967**			**13,353**			**No fungal spores**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

emcscientific
INCORPORATED

Laboratory Analysis Report

To:

Colin Liddiard
Pario Engineering &
Environmental Sciences
32-1 Cedar Street
Sault Ste. Marie, Ontario
P6B 2J2

EMC LAB REPORT NUMBER: 59766
Job/Project Name: Wawa Town Hall Mould
Job/Project No: 37115-600055 **No. of Samples:** 4
Sample Type: Tape Lift **Date Received:** Oct 17/16
Analysis Method(s): Direct Microscopic Examination
Date Analyzed: Oct 17/16 **Date Reported:** Oct 17/16
Analyst: Fajun Chen, Ph.D., *Principal Mycologist*

Client's Sample ID	Lab Sample No.	Date Sampled	Description/Location	Mould Identified, in Rank Order	Mould Growth
MW-B1	264648	Oct 11/16	Surface of conc block wall	Fungal hyphal fragments (a few) *Alternaria* (a few spores)	None
MW-B2	264649	Oct 11/16	Surface of wood pallet	*Aspergillus* *Cladosporium* (a few spores)	Sparse
MW-B3	264650	Oct 11/16	Surface of conc floor	*Cladosporium* *Aspergillus/Penicillium* (a few spores) *Alternaria* (a few spores) Basidiospores (a few)	Sparse
MW-B4	264651	Oct 11/16	Surface of document binder	*Aspergillus* *Cladosporium* Basidiospores (a few) Smut-like (a few spores)	Moderate

Note:
1. Mould growth is subjectively assessed with description terms sparse, moderate and abundant.
2. The presence of spores (lacking other fungal structures associated) is assessed as following: a few spores (< 10 spores average per microscopic field at 400X), some spores (10 - 100 spores average per microscopic field at 400X), many spores (> 100 spores average per microscopic field at 400X).
3. The presence of a few spores generally represents settled spores on the surface of the sample rather than indicating mould growth.
4. The results are only related to the samples analyzed.

Appendix 2

Asbestos Survey Report

40 Broadway Avenue

Asbestos Survey of Wawa Municipal Offices

40 Broadway Avenue,
Wawa, Ontario

December 16, 2016

Prepared for:
Mr. James Neufeld
Director of Infrastructure Services
Municipality of Wawa
40 Broadway Ave Box 500
Wawa ON P0S 1K0

Prepared by:
Colin Liddiard, CET, EP
Senior Environmental Consultant
Pario Engineering & Environmental Sciences

Pario File No.: 37115-600019

pario
553 Basaltic Road
Unit B
Concord, Ontario
L4K 4W8

T: 905.857.7979
TF: 1.888.762.4667
F: 905.857.9196

PARIO ENGINEERING &
ENVIRONMENTAL SCIENCES
pariosciences.ca

EXECUTIVE SUMMARY

Pario Engineering & Environmental Sciences. (Pario) was commissioned by the Municipality of Wawa, through Mr. James Neufeld (Client) to complete an asbestos survey of the building encompassing the Municipal Offices at 40 Broadway Avenue, in Wawa, Ontario (Site).

The terms of reference for this project are based on Pario's proposal, prepared for the Client dated January 30, 2016. Approval to proceed was received on April 7, 2016.

The objective of this Asbestos Survey was to provide a summary of asbestos-containing materials (ACMs) at the Site, as well as recommendations based on the findings of intrusive sampling. The Asbestos Survey included the collection of building material samples suspected of containing asbestos fibres.

Based on Pario's Asbestos Survey, the following asbestos-containing materials were identified within the Site:

- Brown insulation found to be installed in block fill along the ceiling cavity located centrally along the building. Three samples (S-0005A through S-0005C) showed levels of Tremolite asbestos varying from trace to 0.25 percent. The material was noted to contain vermiculite minerals and must be considered ACM, unless further tests prove otherwise.

No remedial action is necessary at this time; however, should disruption of the material or the materials around the ACM, a Type 2 or 3 (depending of quantity being removed/disturbed) asbestos abatement operation must be completed for its proper removal, as per Ontario Regulation 278/05.

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Appendices

1. INTRODUCTION

1.1 Terms of Reference

Pario Engineering & Environmental Sciences. (Pario) was commissioned by the Municipality of Wawa, through Mr. James Neufeld (Client) to complete an asbestos survey of the building encompassing the Municipal Offices at 40 Broadway Avenue, in Wawa, Ontario (Site). Refer to **Figure 1** for Site Location.

The terms of reference for this project are based on Pario's proposal, prepared for the Client dated January 30, 2016. Approval to proceed was received on April 7, 2016.

1.2 Objective

The objective of this Asbestos Survey was to document the presence of any asbestos-containing materials (ACMs) throughout the Site. This report will include:

- Location of ACM
- Building system
- Type of asbestos
- Asbestos concentration (%)
- Description of ACM
- Approximate quantity of ACM
- Friability of ACM
- Condition of ACM
- Exposure risk related to specific ACM
- Recommendation for action (immediate or future)
- Locations and building materials not accessible or not sampled during the assessment
- Recommendations for remedial action based on condition of ACM (deteriorated, damaged etc…)

1.3 Applicable Regulations and Guidelines

The Asbestos Survey was completed to address the requirements under Ontario Regulation 278/05 - *Designated Substances – Asbestos on Construction Projects and in Buildings and Repair Operations.* The asbestos survey was conducted in accordance with general industry-standard sampling protocols and based on a review of the building's age and construction materials. Sampling was not conducted in areas that were not accessible during the survey; or where noticeable damage to interior finishes would take place; or where building materials are known to not fall within the category of ACM, based on the assessor's experience.

1.4 Site Description

The Site consisted of a one-storey structure (north side) attached to a two-storey section (south). The Ontario Provincial Police (OPP) headquarters and Public Library are located within the building. The exact date of construction is unknown. The following description of the structure relates only to those portions of the site and structures that were available for direct observation at the time of inspection.

Building Component	Description
Exterior Cladding	Brick
Foundation	Poured concrete
Roof	Flat
Flooring	Vinyl sheet flooring, carpet, concrete, ceramic tile, vinyl tile
Interior walls	Concrete block, drywall
Ceilings	Drywall, acoustic ceiling tiles

1.5 Scope of Work

In order to satisfy the objectives for the management of ACM at the Site, the scope of work included:

1) A survey of building infrastructure (accessible areas) to identify and quantify potential ACM. The survey was non-non-intrusive in nature and it was limited to accessible areas including wall and ceiling cavities.

2) Collection of samples of suspected ACM and submission to an accredited laboratory for analysis.

3) A report summarizing the Asbestos Survey, identifying materials considered ACM and providing recommendations to protect occupants and contractor personnel conducting work in the vicinity of the materials.

1.6 Safety, Health and the Environment

Prior to commencing the field component of this Asbestos Survey, Pario reviewed safety, health and environmental concerns relevant to the Site, as well as the tasks involved with completing the work that would expose workers, the public or the environment to any hazards. At the time the field work began, Pario identified health concerns associated with exposure to asbestos fibres during the sampling process; therefore, Pario implemented safe

working practices that included the wearing of a full-face respirator equipped with P100 cartridges during the sampling period, as a minimum.

No other health and safety concerns were identified that would pose unsafe or hazardous working conditions. Safe work practices were implemented throughout the project, and no injuries or impairment to the environment was recorded.

1.7 Survey and Reporting Limitations

The possibility remains that unexpected environmental conditions may be encountered at the Site in locations not specifically observed, investigated or accessible.

Pario makes no other evaluations whatsoever, including those concerning the legal significance of asbestos. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with one's own legal counsel.

2. METHODOLOGY

2.1 Asbestos Survey

The review of on Site structures was non-non-intrusive in nature to document the general composition of building materials. A non-non-intrusive investigation of potential ACMs was completed in accordance with general industry-standard sampling protocols and based on a review of the building's age and construction materials. Sampling was not conducted in areas that weren't accessible during the survey; where noticeable damage to interior finishes would take place; or, where building materials were known to not fall within the category of ACM.

The non-intrusive investigation means that holes were not advanced into the walls for localized inspections to identify hidden building materials. ACM surveys generally include the assumption, accepted as industry standard practice that various building materials are known to contain asbestos fibres, and are not sampled if they cannot be accessed and sampled safely.

Bulk samples were collected from building materials suspected to contain asbestos fibres. Sufficient sample was collected for laboratory analytical requirements, which includes multi-layered building materials (plaster on plaster), for which each layer was analysed separately. The laboratory was instructed to discontinue analysis (stop-positive) on subsequent samples in the same series when asbestos was identified in one of the samples.

Sampling and analysis of suspect ACMs was completed in accordance with Ontario Regulation 278/05, *U.S. Environmental Protection Agency Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, June 1993*.

2.2 Asbestos

On June 7, 2016 Pario completed the survey and identified numerous building materials suspected of containing asbestos fibres. In total, 46 samples were collected and forwarded to International Asbestos Testing Laboratories (IATL) for analysis. The following building materials were classified as ACM, with greater than 0.5% chrysotile asbestos;

- Brown insulation found to be installed in block fill along the ceiling cavity located centrally along the building. Three samples (S-0005A through S-0005C) showed levels of Tremolite asbestos varying from trace to 0.25 percent. The material was noted to contain vermiculite minerals and must be considered ACM, unless further tests prove otherwise.

Refer to **Appendix A** for IATL analytical reports.

2.2.1 Asbestos Cement Products (Non-friable)

Asbestos cement board was not found.

2.2.2 Sheet Vinyl Flooring/Mastic (Non-friable)

Asbestos in sheet vinyl flooring is known to be in the paper backing only. Accordingly, sheet vinyl flooring that did not have a paper backing was not sampled. Grey-coloured vinyl sheet flooring materials with paper backing were identified at the Site and six samples were obtained (samples S-0001A through S-0001C, and S-0004A through S-0004C). The samples were obtained from the vestibule area, near the Town Hall reception, the hallway, and mechanical rooms, and wherever visible. The material looked to be in generally good condition and was not identified as ACM.

2.2.3 Vinyl Floor Tiles/Mastic (Non-friable)

Vinyl floor tiles and mastic were identified at the Site and nine samples were obtained. Three samples of black floor tiles (samples S-0002A through S-0002C) and six samples of tan floor tile (samples S-0008A through S-0008C, and S-0009A through S-0009C) were not identified as ACM.

Mastic was identified at the Site and thirteen samples were obtained. Black/yellow mastic (samples S-0001A through S-0001C), black mastic (samples S-0002A through S-0002C,

and S-0008A through S-0008C), tan mastic (samples S-0004A through S-0004C), and yellow mastic (sample S-0009A) were not identified as ACM.

2.2.4 Drywall Joint Compound (Non-friable)

Joint compound was identified on walls throughout the Site of either white colour (sample S-0007A), off-white colour (samples S-0007B, S-0007D, and S-0007E), and tan colour (sample (S-0007C). The joint compound present at the site was not identified as ACM.

2.2.5 Plaster (Friable)

Plaster was not found at the Site. However, grey mortar was identified at the site and three samples were obtained (S-0005A through S-0005C). The mortar was not identified as ACM.

Sheetrock (off-white) was also identified at the Site and one sample was obtained (S-0007B). The sheetrock material was not identified as ACM.

2.2.6 Duct Insulation and Insulation Board Materials (Friable)

Duct insulation was not found.

2.2.7 Textured Finishing Materials (Friable)

Textured finish materials were not found.

2.2.8 Acoustic Ceiling Tiles (Friable)

Acoustic ceiling tiles were found. Suspect ACM ceiling tiles were identified and six samples were obtained (samples S-0003A through S-0003C, and S-0006A through S-0006C). The ceiling tiles present at the Site were not identified as ACM.

2.2.9 Vermiculite Insulation (Friable)

Vermiculite insulation materials were found mixed into the brown insulation found in concrete block voids located in the ceiling cavity along the centre of the building. Three samples of this material were obtained (samples S-0005A through S-0005C). **The brown insulation was identified to possess Tremolite asbestos ranging from a trace to 0.25 percent.** Since the material was noted to contain vermiculite minerals, the vermiculite and any other materials contaminated with vermiculite must be considered ACM until further tests confirms otherwise. The material looked to be in generally good condition.

2.2.10 Pipe Insulation Materials (Friable)

Pipe insulation materials were not found; however, may be present in areas not accessible during our assessment. Where materials cannot be identified as not being ACM they must be considered ACM until sampling is possible and prior to disturbance of the materials. Sampling must follow Ontario Regulation 278/05.

2.2.11 Caulking Materials (Non-Friable)

Caulking materials in substantial quantities were not found. Minor quantities of caulking, known not to contain asbestos, was found along the exterior of the building.

2.2.12 Roofing/Siding and Black Tar Based Mastics

Roofing/siding and black tar-based mastics were not encountered or could not be sampled at the Site. Where materials cannot be identified as not being ACM they must be considered ACM until sampling is possible and prior to disturbance of the materials. Sampling must follow Ontario Regulation 278/05.

2.2.13 Mechanical Insulation

Insulated mechanical equipment was not found.

3. RECOMMENDATIONS FOR THE REMOVAL, MANAGEMENT, AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS

3.1 Asbestos

Non-friable ACMs have been identified at the Site. Management of ACMs must be completed in accordance with O. Reg. 278/05 and O. Reg. 347, as amended. If the materials or the area around the materials is to be disturbed in any manner a Type 2 or 3 (depending of quantity being removed/disturbed) asbestos abatement operation must be conducted. Additional guidance is available in the following documents provided by the Ministry of the Environment:

- *Guideline C-6 for the Handling, Transportation and Disposal of Asbestos Waste in Bulk*
- *Guideline C-10 for Removal Procedures at Site Containing Substantial Quantities of Asbestos Waste*

Pario would be pleased to provide engineering support and/or inspection services during the removal of ACMs, if required.

Statement of Qualifications and Limitations

The attached Report (the "Report") has been prepared by Pario Engineering & Environmental Sciences. ("Consultant") for the benefit of the client ("Client") in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations")
- represents Consultant's professional judgement in light of the Limitations and industry standards for the preparation of similar reports
- may be based on information provided to Consultant which has not been independently verified
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued
- must be read as a whole and sections thereof should not be read out of such context
- was prepared for the specific purposes described in the Report and the Agreement
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time

Consultant shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. Consultant accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

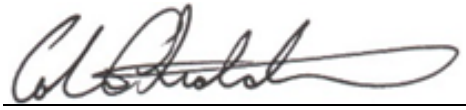
The Report is to be treated as confidential and may not be used or relied upon by third parties, except: as agreed in writing by Consultant and Client

- as required by law
- for use by governmental reviewing agencies

Consultant accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of Consultant to use and rely upon the Report and the Information. Any damages arising from improper use of the Report or parts thereof shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report and any use of the Report is subject to the terms hereof.

Report Prepared By:



Colin Liddiard, CET, EP
Senior Environmental Consultant
Sault Ste. Marie, Ontario
colin.liddiard@pario.ca

Report Reviewed By:

Brian W. Merrick, BA, BComm, CTech, EP
Director

Figures

Scale: NTS
Source: Google Maps

Figure 1
Site Location

Appendix A

IATL Certificate of Analysis

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5990087
Client No.: S-0001A
Description: Grey Vinyl Sheet Flooring
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
5 Fibrous Glass
5 Cellulose

Percent Non-Fibrous Material:
90

Lab No.: 5990087(L2)
Client No.: S-0001A
Description: Black/Yellow Mastic
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990088
Client No.: S-0001B
Description: Grey Vinyl Sheet Flooring
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
5 Fibrous Glass
5 Cellulose

Percent Non-Fibrous Material:
90

Lab No.: 5990088(L2)
Client No.: S-0001B
Description: Black/Yellow Mastic
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990089
Client No.: S-0001C
Description: Grey Vinyl Sheet Flooring
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
5 Fibrous Glass
5 Cellulose

Percent Non-Fibrous Material:
90

Lab No.: 5990089(L2)
Client No.: S-0001C
Description: Black/Yellow Mastic
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Fibrous Material:
100

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/28/2016
Signature:
Analyst: Rodney Redman

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
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CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5990090 **Description:** Black Floor Tile **Location:**
Client No.: S-0002A **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990090(L2) **Description:** Black Mastic **Location:**
Client No.: S-0002A **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990091 **Description:** Black Floor Tile **Location:**
Client No.: S-0002B **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990091(L2) **Description:** Black Mastic **Location:**
Client No.: S-0002B **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990092 **Description:** Black Floor Tile **Location:**
Client No.: S-0002C **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990092(L2) **Description:** Black Mastic **Location:**
Client No.: S-0002C **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/28/2016
Signature:
Analyst: Rodney Redman

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
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CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5990093
Client No.: S-0003A
Description: Tan Ceiling Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
30 Mineral Wool
30 Cellulose

Percent Non-Fibrous Material:
40

Lab No.: 5990094
Client No.: S-0003B
Description: Tan Ceiling Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
30 Mineral Wool
30 Cellulose

Percent Non-Fibrous Material:
40

Lab No.: 5990095
Client No.: S-0003C
Description: Tan Ceiling Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
30 Mineral Wool
30 Cellulose

Percent Non-Fibrous Material:
40

Lab No.: 5990096
Client No.: S-0004A
Description: Grey Vinyl Sheet Flooring
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
10 Mineral Wool
20 Cellulose

Percent Non-Fibrous Material:
70

Lab No.: 5990096(L2)
Client No.: S-0004A
Description: Tan Mastic
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/28/2016
Signature:
Analyst: Rodney Redman

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5990097
Client No.: S-0004B
Description: Grey Vinyl Sheet Flooring
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
10 Mineral Wool
20 Cellulose

Percent Non-Fibrous Material:
70

Lab No.: 5990097(L2)
Client No.: S-0004B
Description: Tan Mastic
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990098
Client No.: S-0004C
Description: Grey Vinyl Sheet Flooring
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
10 Mineral Wool
20 Cellulose

Percent Non-Fibrous Material:
70

Lab No.: 5990098(L2)
Client No.: S-0004C
Description: Tan Mastic
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990099
Client No.: S-0005A
Description: Brown Insulation
Facility:
Location:

Percent Asbestos:
PC 0.25 *Tremolite*

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
99.75

This sample contains vermiculite mineral and may be a candidate for additional analytical procedures. Please see the sections following your report titled Recommendations for Vermiculite Analysis. (EPA 600/R-04/004)

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/28/2016
Signature:
Analyst: Rodney Redman

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5990099(L2) **Description:** Grey Mortar **Location:**
Client No.: S-0005A **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990100 **Description:** Brown Insulation **Location:**
Client No.: S-0005B **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
PC Trace *Tremolite*	None Detected	100

This sample contains vermiculite mineral and may be a candidate for additional analytical procedures. Please see the sections following your report titled Recommendations for Vermiculite Analysis. (EPA 600/R-04/004)

Lab No.: 5990100(L2) **Description:** Grey Mortar **Location:**
Client No.: S-0005B **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990101 **Description:** Brown Insulation **Location:**
Client No.: S-0005C **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
PC 0.25 *Tremolite*	None Detected	99.75

This sample contains vermiculite mineral and may be a candidate for additional analytical procedures. Please see the sections following your report titled Recommendations for Vermiculite Analysis. (EPA 600/R-04/004)

Lab No.: 5990101(L2) **Description:** Grey Mortar **Location:**
Client No.: S-0005C **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/28/2016
Signature:
Analyst: Rodney Redman

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5990102
Client No.: S-0006A
Description: Tan Ceiling Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
1 Wollastonite
30 Mineral Wool
20 Cellulose

Percent Non-Fibrous Material:
49

Lab No.: 5990103
Client No.: S-0006B
Description: Tan Ceiling Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
1 Wollastonite
30 Mineral Wool
20 Cellulose

Percent Non-Fibrous Material:
49

Lab No.: 5990104
Client No.: S-0006C
Description: Tan Ceiling Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
1 Wollastonite
30 Mineral Wool
20 Cellulose

Percent Non-Fibrous Material:
49

Lab No.: 5990105
Client No.: S-0007A
Description: White Joint Compound
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990106
Client No.: S-0007B
Description: Off-White Sheetrock
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
3 Cellulose

Percent Non-Fibrous Material:
97

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/28/2016
Signature:
Analyst: Rodney Redman

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5990106(L2) **Description:** Off-White Joint Compound **Location:**
Client No.: S-0007B **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990107 **Description:** Tan Joint Compound **Location:**
Client No.: S-0007C **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990108 **Description:** Off-White Joint Compound **Location:**
Client No.: S-0007D **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990109 **Description:** Off-White Joint Compound **Location:**
Client No.: S-0007E **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990110 **Description:** Tan Floor Tile **Location:**
Client No.: S-0008A **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 5990110(L2) **Description:** Black Mastic **Location:**
Client No.: S-0008A **Facility:**

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/28/2016
Signature:
Analyst: Rodney Redman

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

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ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5990111
Client No.: S-0008B
Description: Tan Floor Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990111(L2)
Client No.: S-0008B
Description: Black Mastic
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990112
Client No.: S-0008C
Description: Tan Floor Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990112(L2)
Client No.: S-0008C
Description: Black Mastic
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990113
Client No.: S-0009A
Description: Tan Floor Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990113(L2)
Client No.: S-0009A
Description: Yellow Mastic
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/28/2016
Signature:
Analyst: Rodney Redman

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5990114
Client No.: S-0009B
Description: Tan Floor Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 5990115
Client No.: S-0009C
Description: Tan Floor Tile
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/28/2016
Signature:
Analyst: Rodney Redman

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

iATL INTERNATIONAL
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CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

Appendix to Analytical Report

Customer Contact: Colin Liddiard
Analysis: US EPA 600, R93-116

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com
iATL Office Manager: cdavis@iatl.com
iATL Account Representative: Shirley Clark
Sample Login Notes: See Batch Sheet Attached
Sample Matrix: Bulk Building Materials
Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

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This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

Certifications:

- NIST-NVLAP No. 101165-0
- NY-DOH No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)>

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

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CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/28/2016
Report No.: 515512 - PLM
Project: Township Offices
Project No.: 37115-600019

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at **customerservice@iatl.com**.

1) Note: No mastic provided for analysis.
2) Note: Insufficient mastic provided for analysis.
3) Note: Insufficient material provided for analysis.
4) Note: Insufficient sample provided for QC reanalysis.
5) Note: Different material than indicated on Sample Log / Description.
6) Note: Sample not submitted.
7) Note: Attached to asbestos containing material.
8) Note: Received wet.
9) Note: Possible surface contamination.
10) Note: Not building material. 1% threshold may not apply.
11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
12) Note: Asbestos detected but not quantifiable.
13) Note: Multiple identical samples submitted, only one analyzed.
14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional.

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

1)**Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116
Requirements/Comments: Minimum of 0.1 g of sample. ~0.25% LOQ for most samples.

2)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

3)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Floats" only.

4)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

5)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Suspension" only.

LOQ, Limit of Quantitation estimates for mass and volume analyses.
*With advance notice and confirmation by the laboratory.
**Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

Appendix 3

Asbestos Survey Report

Wawa Fire Hall

Asbestos Survey of Wawa Volunteer Fire Department, Wawa, Ontario

29 Government Road,
Wawa, Ontario

December 16, 2016

Prepared for:
Mr. James Neufeld
Director of Infrastructure Services
Municipality of Wawa
40 Broadway Ave Box 500
Wawa ON P0S 1K0

Prepared by:
Colin Liddiard, CET, EP
Senior Environmental Consultant
Pario Engineering & Environmental Sciences

Pario File No.: 37115-600019

EXECUTIVE SUMMARY

Pario Engineering & Environmental Sciences. (Pario) was commissioned by the Municipality of Wawa, through Mr. James Neufeld (Client) to complete an asbestos survey of the building occupied as the Wawa Volunteer Fire Department located at 29 Government Road, in Wawa, Ontario (Site).

The terms of reference for this project are based on Pario's proposal, prepared for the Client dated January 30, 2016. Approval to proceed was received on April 7, 2016.

The objective of this Asbestos Survey was to provide a summary of asbestos-containing materials (ACMs) at the Site, as well as recommendations based on the findings of non-intrusive sampling. The Asbestos Survey included the collection of building material samples suspected of containing asbestos fibres.

Based on Pario's Asbestos Survey, the following asbestos-containing materials were identified within the Site:

- Tan-coloured drywall joint compound located throughout the walls of the structure containing from 0.25 to 0.75 percent Chrysotile asbestos. The ACM was identified in drywall joint compound present along the walls of the building (identified in S-002A through S-002C).

No remedial action is necessary at this time; however, should disruption of the material be a possibility during renovations or demolition activities, a Type 1 or 2 (depending on quantity removed and/or disturbed) asbestos abatement operation must be completed for its proper removal, as per Ontario Regulation 278/05.

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List of Figures

Appendices

1. INTRODUCTION

1.1 Terms of Reference

Pario Engineering & Environmental Sciences. (Pario) was commissioned by the Municipality of Wawa, through Mr. James Neufeld (Client) to complete an asbestos survey of the building occupied as the Wawa Volunteer Fire Department located at 29 Government Road in Wawa, Ontario (Site). Refer to **Figure 1** for Site Location.

The terms of reference for this project are based on Pario's proposal, prepared for the Client dated January 30, 2016. Approval to proceed was received on April 7, 2016.

1.2 Objective

The objective of this Asbestos Survey was to document the presence of any potential asbestos-containing materials observed (ACMs) throughout the Site. This report includes:

- Location of ACM
- Building system
- Type of asbestos
- Asbestos concentration (%)
- Description of ACM
- Approximate quantity of ACM
- Friability of ACM
- Condition of ACM
- Exposure risk related to specific ACM
- Recommendation for action (immediate or future)
- Locations and building materials not accessible or not sampled during the assessment
- Recommendations for remedial action based on condition of ACM (deteriorated, damaged etc…)

1.3 Applicable Regulations and Guidelines

The Asbestos Survey was completed to address the requirements under Ontario Regulation 278/05 - *Designated Substances – Asbestos on Construction Projects and in Buildings and Repair Operations.* The asbestos survey was conducted in accordance with general industry-standard sampling protocols and based on a review of the building's age and construction materials. Sampling was not conducted in areas that were not accessible during the survey; or where noticeable damage to interior finishes would take place; or where building materials are known to not fall within the category of ACM, based on the assessor's experience.

1.4 Site Description

The Site consisted of a one-storey structure with metal siding and a poured concrete foundation. The exact date of construction is unknown. The following description of the structure relates only to those portions of the site and structures that were available for direct observation at the time of inspection.

Building Component	Description
Exterior Cladding	Metal siding
Foundation	Poured concrete
Roof	3 tab asphalt roof
Flooring	Painted concrete, carpet, laminate
Interior walls	Concrete block, drywall, plaster, panelling
Ceilings	Drywall, acoustic ceiling tiles, plaster

1.5 Scope of Work

In order to satisfy the objectives for the management of ACM at the Site, the scope of work included:

1) A survey of building infrastructure (accessible areas) to identify and quantify potential ACM. The survey was non-non-intrusive in nature and it was limited to accessible areas including wall and ceiling cavities.

2) Collection of samples of suspected ACM and submission to an accredited laboratory for analysis.

3) A report summarizing the Asbestos Survey, identifying materials considered ACM and providing recommendations to protect occupants and contractor personnel conducting work in the vicinity of the materials.

1.6 Safety, Health and the Environment

Prior to commencing the field component of this Asbestos Survey, Pario reviewed safety, health and environmental concerns relevant to the Site, as well as the tasks involved with completing the work that would expose workers, the public or the environment to any hazards. At the time the field work began, Pario identified health concerns associated with exposure to asbestos fibres during the sampling process; therefore, Pario implemented safe working practices that included the wearing of a full-face respirator equipped with P100 cartridges during the sampling period, as a minimum.

No other health and safety concerns were identified that would pose unsafe or hazardous working conditions. Safe work practices were implemented throughout the project, and no injuries or impairment to the environment was recorded.

1.7 Survey and Reporting Limitations

The possibility remains that unexpected environmental conditions may be encountered at the Site in locations not specifically observed, investigated or accessible.

Pario makes no other evaluations whatsoever, including those concerning the legal significance of asbestos. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with one's own legal counsel.

2. METHODOLOGY

2.1 Asbestos Survey

The review of on Site structures was non-non-intrusive in nature to document the general composition of building materials. A non-non-intrusive investigation of potential ACMs was completed in accordance with general industry-standard sampling protocols and based on a review of the building's age and construction materials. Sampling was not conducted in areas that weren't accessible during the survey; where noticeable damage to interior finishes would take place; or, where building materials were known to not fall within the category of ACM.

The non-intrusive investigation means that holes were not advanced into the walls for localized inspections to identify hidden building materials. ACM surveys generally include the assumption, accepted as industry standard practice that various building materials are known to contain asbestos fibres, and are not sampled if they cannot be accessed and sampled safely.

Bulk samples were collected from building materials suspected to contain asbestos fibres. Sufficient sample was collected for laboratory analytical requirements, which includes multi-layered building materials (plaster on plaster), for which each layer was analysed separately. The laboratory was instructed to discontinue analysis (stop-positive) on subsequent samples in the same series when asbestos was identified in one of the samples.

Sampling and analysis of suspect ACMs was completed in accordance with Ontario Regulation 278/05, *U.S. Environmental Protection Agency Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, June 1993*.

2.2 Asbestos

On June 7, 2016 Pario completed the survey and identified numerous building materials suspected of containing asbestos fibres. In total, 9 samples were collected and forwarded to International Asbestos Testing Laboratories (IATL) for analysis. The following building materials were classified as ACM, with greater than 0.5% chrysotile asbestos;

- Only tan-coloured joint compound located throughout the walls of the structure containing from 0.25 to 0.75 percent Chrysotile asbestos. The ACM was identified in joint compound present along the walls of the building, as identified in samples S-002A through S-002C.

Refer to **Appendix A** for IATL analytical reports.

2.2.1 Asbestos Cement Products (Non-friable)

Asbestos cement board was not found.

2.2.2 Sheet Vinyl Flooring/Mastic (Non-friable)

Asbestos in sheet vinyl flooring is known to be in the paper backing only. Accordingly, sheet vinyl flooring that did not have a paper backing was not sampled. No sheet vinyl flooring or mastic was identified as ACM.

2.2.3 Vinyl Floor Tiles/Mastic (Non-friable)

Vinyl floor tiles or mastic were not identified at the Site.

2.2.4 Drywall Joint Compound (Non-friable)

Joint compound was identified on walls throughout the Site of either white (sample S-002D) or tan colour (samples S-002A through S-002C). Only tan-coloured joint compound obtained from the building **contains from 0.25 to 0.75 percent Chrysotile asbestos**. Approximately over 100 ft^2 of wall finishes possess this type of joint compound. White joint compound was not identified as ACM.

2.2.5 Plaster (Friable)

Plaster was found. Grey plaster was sampled accordingly and five samples were obtained (S-001A through S-001E). The plaster was not identified as ACM.

2.2.6 Duct Insulation and Insulation Board Materials (Friable)

Duct insulation was not found.

2.2.7 Textured Finishing Materials (Friable)

Textured finish materials were not found.

2.2.8 Acoustic Ceiling Tiles (Friable)

Acoustic ceiling tiles were found but were identified as constructed post 1995 and the assessor considers these to not be ACM and as such, no samples were obtained.

2.2.9 Vermiculite Insulation (Friable)

Vermiculite insulation materials were not found.

2.2.10 Pipe Insulation Materials (Friable)

Pipe insulation materials were not found; however, may be present in areas not accessible during our assessment. Where materials cannot be identified as not being ACM they must be considered ACM until sampling is possible and prior to disturbance of the materials. Sampling must follow Ontario Regulation 278/05.

2.2.11 Caulking Materials (Non-Friable)

Caulking materials in substantial quantities were not found. Minor quantities of caulking, known not to contain asbestos, was found along the exterior of the building.

2.2.12 Roofing/Siding and Black Tar Based Mastics

Roofing/siding and black tar-based mastics were not encountered or could not be sampled at the Site. Where materials cannot be identified as not being ACM they must be considered ACM until sampling is possible and prior to disturbance of the materials. Sampling must follow Ontario Regulation 278/05.

2.2.13 Mechanical Insulation

Insulated mechanical equipment was not found.

3. RECOMMENDATIONS FOR THE REMOVAL, MANAGEMENT, AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS

3.1 Asbestos

Non-friable ACMs have been identified at the Site. Management of ACMs must be completed in accordance with O. Reg. 278/05 and O. Reg. 347, as amended. If the materials or the area around the materials is to be disturbed in any manner a Type 1 or 2 (depending on quantity removed and/or disturbed) asbestos abatement operation must be conducted. Additional guidance is available in the following documents provided by the Ministry of the Environment:

- *Guideline C-6 for the Handling, Transportation and Disposal of Asbestos Waste in Bulk*
- *Guideline C-10 for Removal Procedures at Site Containing Substantial Quantities of Asbestos Waste*

Pario would be pleased to provide engineering support and/or inspection services during the removal of ACMs, if required.

Statement of Qualifications and Limitations

The attached Report (the "Report") has been prepared by Pario Engineering & Environmental Sciences. ("Consultant") for the benefit of the client ("Client") in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations")
- represents Consultant's professional judgement in light of the Limitations and industry standards for the preparation of similar reports
- may be based on information provided to Consultant which has not been independently verified
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued
- must be read as a whole and sections thereof should not be read out of such context

- was prepared for the specific purposes described in the Report and the Agreement
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time

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Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

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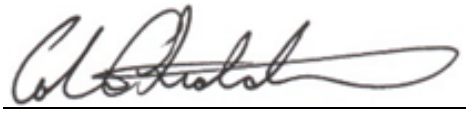
Report Prepared By:



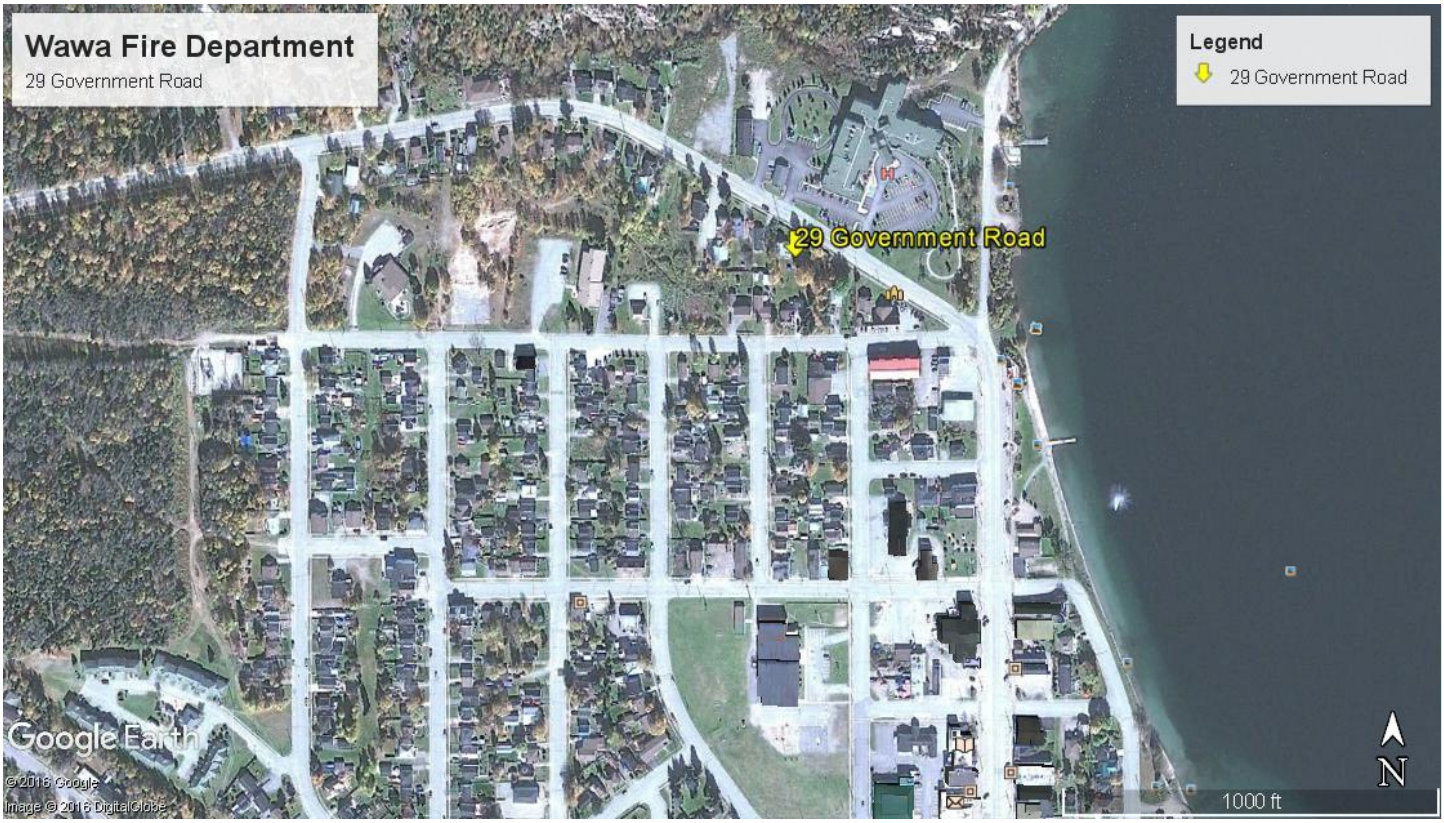
Colin Liddiard, CET, EP
Senior Environmental Consultant
Sault Ste. Marie, Ontario
colin.liddiard@pario.ca

Report Reviewed By:

Brian W. Merrick, BA, BComm, CTech, EP
Director

Figures

Figure 1: Location of Site



Scale: NTS
Source: Google Maps

Figure 1
Site Location

Appendix A

IATL Certificate of Analysis

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Pario Engineering
553 Basaltic Rd., Unit B
Concord ON L4K4W8

Client: PAR809

Report Date: 7/29/2016
Report No.: 515519 - PLM
Project: Fire Hall
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5989301 **Client No.:** S-001A	**Description:** Grey Plaster **Facility:**	**Location:**
Percent Asbestos: *None Detected*	Percent Non-Asbestos Fibrous Material: None Detected	Percent Non-Fibrous Material: 100
Lab No.: 5989302 **Client No.:** S-001B	**Description:** Grey Plaster **Facility:**	**Location:**
Percent Asbestos: *None Detected*	Percent Non-Asbestos Fibrous Material: None Detected	Percent Non-Fibrous Material: 100
Lab No.: 5989303 **Client No.:** S-001C	**Description:** Grey Plaster **Facility:**	**Location:**
Percent Asbestos: *None Detected*	Percent Non-Asbestos Fibrous Material: None Detected	Percent Non-Fibrous Material: 100
Lab No.: 5989304 **Client No.:** S-001D	**Description:** Grey Plaster **Facility:**	**Location:**
Percent Asbestos: *None Detected*	Percent Non-Asbestos Fibrous Material: None Detected	Percent Non-Fibrous Material: 100
Lab No.: 5989305 **Client No.:** S-001E	**Description:** Grey Plaster **Facility:**	**Location:**
Percent Asbestos: *None Detected*	Percent Non-Asbestos Fibrous Material: None Detected	Percent Non-Fibrous Material: 100
Lab No.: 5989306 **Client No.:** S-002A	**Description:** Tan Joint Compound **Facility:**	**Location:**
Percent Asbestos: ***PC 0.5*** *Chrysotile*	Percent Non-Asbestos Fibrous Material: None Detected	Percent Non-Fibrous Material: 99.5

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/29/2016
Signature: Becky Hargrove
Analyst: Rebecca Hargrove

Approved By: Frank Ehrenfeld
Frank E. Ehrenfeld, III
Laboratory Director

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Client: PAR809

Report Date: 7/29/2016
Report No.: 515519 - PLM
Project: Fire Hall
Project No.: 37115-600019

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5989307
Client No.: S-002B
Description: Tan Joint Compound
Facility:
Location:

Percent Asbestos:
PC 0.75 *Chrysotile*

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
99.25

Lab No.: 5989308
Client No.: S-002C
Description: Tan Joint Compound
Facility:
Location:

Percent Asbestos:
PC 0.25 *Chrysotile*

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
99.75

Lab No.: 5989309
Client No.: S-002D
Description: White/Grey Joint Compound
Facility:
Location:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Analytical Method -**US EPA 600, R93-116**. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/22/2016
Date Analyzed: 07/29/2016
Signature: Becky Hargrove
Analyst: Rebecca Hargrove

Approved By: Frank Ehrenfeld
Frank E. Ehrenfeld, III
Laboratory Director

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Report Date: 7/29/2016
Report No.: 515519 - PLM
Project: Fire Hall
Project No.: 37115-600019

Appendix to Analytical Report

Customer Contact: Colin Liddiard
Analysis: US EPA 600, R93-116

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com
iATL Office Manager: cdavis@iatl.com
iATL Account Representative: Shirley Clark
Sample Login Notes: See Batch Sheet Attached
Sample Matrix: Bulk Building Materials
Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

Certifications:

- NIST-NVLAP No. 101165-0
- NY-DOH No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)>

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

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Client: PAR809

Report Date: 7/29/2016
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Project No.: 37115-600019

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at **customerservice@iatl.com**.

1) Note: No mastic provided for analysis.
2) Note: Insufficient mastic provided for analysis.
3) Note: Insufficient material provided for analysis.
4) Note: Insufficient sample provided for QC reanalysis.
5) Note: Different material than indicated on Sample Log / Description.
6) Note: Sample not submitted.
7) Note: Attached to asbestos containing material.
8) Note: Received wet.
9) Note: Possible surface contamination.
10) Note: Not building material. 1% threshold may not apply.
11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
12) Note: Asbestos detected but not quantifiable.
13) Note: Multiple identical samples submitted, only one analyzed.
14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional.

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

1)**Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116
Requirements/Comments: Minimum of 0.1 g of sample. ~0.25% LOQ for most samples.

2)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

3)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Floats" only.

4)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

5)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Suspension" only.

LOQ, Limit of Quantitation estimates for mass and volume analyses.
*With advance notice and confirmation by the laboratory.
**Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

Appendix 4

Report on Building Exterior and HVAC Components

40 Broadway Avenue

KRESIN
Engineering Corporation

536 Fourth Line East
Sault Ste. Marie, ON P6A 6J8
tel: 705-949-4900
fax: 705-949-9965
email: info@kresinengineering.ca

sustainable, practical solutions

October 27, 2015
KEC Ref. 1543.02
By Email

Attention: Mr. James Neufeld, Assistant Director of Infrastructure Services
The Municipality of Wawa
40 Broadway Avenue
P.O. Box 500
Wawa, ON P0S 1K0
Canada

Dear Mr. Neufeld:

Re: Municipality of Wawa – Municipal Office Building

On Thursday September 10th 2015, the Kresin Engineering Corporation (KEC) and NorMech Engineering Inc. (NME) attended at the Wawa Municipal Office Building, located at 40 Broadway Avenue, to carry out a visual overview of the building's exterior façade, roofing system and HVAC system. The review was initiated at the request of the Municipality to provide comment on their concerns related to the condition of the above noted building components.

The following is based on our onsite visual observations, interviews with Municipal staff and review of available drawings.

1. Background

The building located at 40 Broadway Avenue currently houses the Municipality of Wawa offices, the Municipal Library and the Ontario Provincial Police Wawa detachment.

Our review of the information made available to us suggests that the building was constructed in two phases with a major renovation in 1977 and some minor renovations in or about 1995. A set of drawings dated 1964, and detailing the construction of municipal offices, a nurse station, a police station and a library, are the earliest drawings available. Several drawing notes suggest that the current building, constructed in 1964, was built on what appeared to be the basement/foundation of an older structure. The extent of the utilization of the existing building/structure in the 1964 construction is unclear.

Drawings dated 1977 show a major renovation and the construction of an addition which included a police station on the ground floor and basement, and municipal offices and council chambers on the second floor. Another major renovation was designed in 1995, however it appears that the majority of the design was not constructed as the available drawings do not match the current conditions observed during our site visit.

2. Site Visit Observations

During our September 10th site visit a visual overview of the following building components was conducted:

1. The building's exterior facade (exterior walls), specifically the portion of the building constructed in 1977, which includes the police station and council chambers;
2. The roof of the entire building (high roof and low roof); and,
3. The HVAC systems.

2.1. Building Exterior Facade

The area of primary concern identified by the Municipality is the exterior façade of the 2 story (police station and council chambers) portion of the building which was constructed in 1977. The drawings indicate that these walls are constructed as follows (from the exterior): stucco on wire lath; 4" concrete block; cavity insulation; 6" concrete block; and, 5/8" gypsum board.

While onsite we observed what appeared to be deterioration and cracking of the stucco and concrete blocks as well as delamination of paint on the stucco on the 2 story portion of the building. The most severe deterioration and cracking was observed at the southwest and southeast corners of the building, on the sloped surface directly below the second story widows at the same corners of the building, and above the police station overhead garage door on the west side of the building. It is suspected that water has/is penetrating through the walls and freeze/thaw cycles are deteriorating the façade.

We observed evidence of water damage on the interior wall in the west stairwell which appears to be caused by water penetrating through the wall at the west police station entrance overhang. Evidence of water penetration was also observed in the glazing of the fixed panel of the police station west entrance door.

Evidence of water damage was observed on the west wall of the police station garage and staff reported issues with closing the man-door located adjacent to the overhead garage door. It is suspected that water has/is penetrating through the walls and freeze/thaw cycles are deteriorating the concrete block. Further investigation is required to determine if settlement or structural issues (with lintels/beams) are the cause of the door-closing issue. The lintel fastening details shown on the drawings at this door are not clear.

2.2. Roofing

The roof of the building consists of a single storey portion (over the original one story portion of the building – library and municipal offices) and a two storey portion (over the 1977 addition – council chambers and police station).

According to Municipal staff, at the time of the site visit there were no leaks in either roof. Municipal staff indicated that they were aware of historical roof leaks in the low roof but were not aware of any leaks in the high roof.

2.2.1. Low Roof:

The roof membrane of the low roof was observed to be a single ply PVC membrane which is in agreement with the 1995 design drawings. Thus we have assumed that the PVC membrane on the low

roof was installed as part of the 1995 renovation. The 1995 drawings indicate that the roofing system is a mechanically fastened system consisting of PVC membrane on 4" (2 layers of 2" insulation) rigid insulation (R=31) on vapour barrier over ½" gypsum board on the wood roof deck. A PVC walkway, fixed to the roof membrane, is present and extends from the roof access point to each of the two roof top HVAC units (RTU) on the low roof as well as to the high roof access ladder.

Approximately 60mm deep ponding was observed around the central RTU which suggests some structural settlement/movement has occurred in that area. Other areas of ponding were observed on the low roof, mainly at the south end. Water is drained from the low roof by two roof drains located at the south side of the roof and two scuppers located at the northwest edge of the roof What appears to be organic algae type material (debris) is present in the ponded water. This debris had collected around the cage of the west-most roof drain and was preventing water from entering the drain. When the debris was cleared from around the roof drain the ponded water began to drain until debris built up again around the cage and prevented water from entering the roof drain.

A small lower roof area (also PVC membrane), over the west municipal office entrance, is drained by a single scupper. This roof area appeared to be in fair condition.

The typical expected life of a PVC roofing membrane is approximately 20-25 years. Although the roofing membrane appeared to be in fair condition, it is approaching the end of its expected useful life.

2.2.2. High Roof:

The Council chambers and police station roofing was observed to be an inverted roofing system which is in agreement with the drawings for the 1977 construction. The 1977 drawings indicate that the roofing system is constructed of crushed stone ballast on rigid insulation on roofing membrane over 5/8" sheathing on metal roof deck.

Concrete screeding noted on the drawings provides high points in the middle, east and west center portions of the roof sloping toward 2 roof drains. Evidence of the concrete screeding high points was observed onsite.

Various pitch pockets were observed, one of which was not sealed and appeared to be filled with water. The pitch pockets associated with the one A/C condenser located on the high roof appeared to have been recently re-sealed.

The membrane flashing which extends up the parapet walls around the perimeter of the high roof is in very poor condition. Membrane flashing seams were observed to be delaminated with numerous cuts and tears. All metal flashings and capping, although securely fastened, appeared to be aged and weathered.

Rigid roof insulation is exposed in various locations and showed signs of degradation due to ultraviolet (UV) radiation exposure. This has likely increased heat loss through the roof.

Generally the high roof is in poor condition and past its expected useful life.

2.3. HVAC

The heating, ventilating and air condition (HVAC) system was investigated by NME. NME's Overview and Engineering Report is attached with this letter. The following is a summary of their report.

The building's HVAC system consists of the following main components:

1. One combination electric heat/electric cooling roof top unit which services the Library (installed in approximately 1995).
2. One combination electric heat/electric cooling roof top unit which services the municipal offices/administration area (installed in approximately 1989).
3. An air handling unit (AHU) located in the basement of the police station which services the police station, council chambers, and adjacent offices (installed in approximately 1977).
4. An air conditioning condenser located on the roof of the police station and council chambers portion of the building which is associated with the AHU (installed in approximately 1977).
5. An inline exhaust fan, located in the same room as the AHU, services the police station holding cells as well as the washrooms located on both floors of the south end of the building (installed in approximately 1978).
6. Building management system (BMS) controls (added to the existing HVAC system in approximately 1995).
7. Ductless split air condition system including interior fan coil and external condenser which services the computer LAN room (installed in approximately 2005).

Deficiencies and notable comments in NME's report include:

1. All HVAC system components noted above, with the exception of the computer LAN room system, are past their expected useful life.
2. Municipal staff has reported discomfort relating to lack of heat provided to their office(s) on the second floor of the south portion of the building (serviced by the AHU).
3. The electric baseboard heaters are not interlocked with the AHU and were observed to be on at the time of the site inspection even though the AHU was in cooling mode. This is a case of heating fighting cooling.
4. The existing exhaust air system associated with the inline exhaust fan which services the police station holding cells, and washrooms located on both floors of the south end of the building is inefficient and opposes typical office building HVAC system design with respect to building interior/exterior pressure differential.
5. The exhaust fan in the police department washroom (in the lower basement area) was not functional at the time of the site visit. Sanitary exhaust is a building code requirement.
6. The training/workout area in the police station basement does not have any ventilation provisions. This does not meet ASHRAE standards or building code requirements.
7. The police station garage does not have carbon monoxide monitoring, exhaust or make-up air provisions. This does not meet building code requirements.

3. Recommendations

Many building systems such as roofing, windows, doors, and exterior façade are approximately 38 years old and are at the end of their useful life. With the exception of the computer LAN room system, most components of the HVAC system are also approaching or past the end of their useful life. It is evident that the building is due for a major renovation in the near future.

To address the issues/deficiencies identified in our overview of the building we recommend the following:

Building Exterior Facade

1. The building requires a complete exterior renovation including the replacement of the exterior façade.
2. Given their age, the replacement of the existing doors, windows, etc. should be considered.

A preliminary cost estimate for this work is: $500,000 (HST extra).

Roofing:

1. Replace the existing roofing systems on both the high and low roofs including all insulation, vapour barrier, membrane, and membrane and metal flashings.
2. Remove redundant pitch pockets and roof curbs.

A preliminary cost estimate for this work is $200,000 (HST extra).

HVAC:

1. Replace the existing AHU, zone control dampers, BMS Controls and associated equipment.
2. Replace all non-functioning reheat coils with modulating electric duct heaters.
3. Replace the HVAC RTUs serving the library and administration/municipal offices.
4. Replace the existing roof top condenser associated with the AHU.
5. Interlock the electric baseboard heaters and reheat coils with the zone control dampers and BMS controls.
6. Replace the existing inline exhaust fan with a heat recovery ventilating unit.
7. Add ventilation to the police station basement training/workout area.
8. Add a carbon monoxide monitoring system and exhaust/make-up air system to the police station garage.

A preliminary cost estimate for this work is $250,000 (HST extra).

With proper maintenance, the above noted improvements should provide 25 years of service.

3.1. Potential Interim Solution

The recommended building improvements would be a significant expenditure for the Municipality. Before proceeding with a major building renovation the Municipality should confirm whether or not the existing building meets their current and foreseeable operational needs. Since the last major renovation in 1977, the Municipality has presumably changed the manner in which it operates within the building. Before proceeding with the above noted renovations, the Municipality should therefore consider a detailed review of its current operational needs. A needs assessment would assist the municipality in determining if the existing building should be renovated or if the Municipality should consider other options such as relocating its staff to a different/new building. An approximate cost estimate to conduct a needs assessment is $30,000.

Timing to conduct a needs study, determine a preferred option, and if necessary carry out design, tendering and construction could take upward of a few years. In conjunction with a needs assessment, and due to the current condition of the existing building, it is recommended that the Municipality complete the following interim repair/work:

Building Exterior Facade

1. Repair cracked exterior concrete blocks and stucco.
2. Install a sheet metal cap on the slanted surface below the windows at the southeast and southwest corners of the building to avoid further deterioration.
3. Remove the police station garage man-door frame and investigate the lintel connection to the overhead door frame.
4. Make necessary repairs to the overhang at the west police station entrance to prevent water from penetrating through the wall and into the stairwell.

Roofing

Lower Roof:

1. Clean organic algae type material from the roof.
2. Clean all roof drain cages.
3. Further investigate potential structural settlement at the municipal office/administration area RTU.

High Roof:

1. Replace the existing roofing system including all insulation, vapour barrier, membrane, and flashings.
2. Remove redundant pitch pockets.

HVAC

1. Retain an HVAC service technician to review/verify operation of the old reheat coils and their respective controls associated with the AHU system.
2. Identify and label the electrical circuits supplying all electric baseboard heaters. Record and post in the electrical room a summary of which circuits supply which baseboard heaters. Municipal staff can use the summary as a guide to easily isolate (turn off) these heaters in the summer months. Municipal staff would then have to turn these circuits back on in the winter months. This would address the heating fighting cooling issue associated with the AHU and baseboard heaters in the summer months.

A preliminary cost estimate for the repairs associated with the potential interim solution is $225,000 (HST extra). With the exception of replacing the high roof (which should provide 25 years of service) the interim repair solution should extend the life of the above noted building components an additional 5 years.

3.1. Other Comments

During our review of the drawings we observed notes indicating the presence of asbestos containing materials (ACM) in the building. Although a detailed review was not conducted we noted references to the following on the drawings:

1. Vinyl asbestos floor tile.
2. Asbestos base/trim (at floor).
3. Asbestos board.
4. Asbestos board soffit.
5. Zonolite insulation (a possible ACM) in wall cavities of the original portion of the building (currently the municipal offices, administration and library portions of the building).

Under Section 30 of the Occupational Health and Safety Act, before beginning a project, the owner is required to determine whether any designated substances (ACMs, amongst others) are present at the project site and shall prepare a list of all designated substances that are present at the site. If a designated substance survey has not recently been conducted on the building one will be required before starting any work.

4. Closure

We trust that the above adequately summarizes our overview of the building located at 40 Broadway Avenue as well our recommendations on how to proceed.

We are prepared to assist the Municipality with the recommended next steps, upon receipt of direction from the Municipality confirming the preferred approach.

Should you have any questions or require clarification, please call.

Thank you.

Yours Very Truly,
Kresin Engineering Corporation

Orlan Euale, P. Eng.
1543.02 oe ltr j neufeld re wawa municipal office building.docx

NOR MECH ENGINEERING INC.

Mechanical & Electrical Consulting Engineering

1141 Old Garden River Road, Sault Ste. Marie, Ont. P6A 6J8

Phone: (705) 942-0114 Fax: (705) 942-0181 Email: normech@shaw.ca

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Date: October 9, 2015 Page 1 of: 5

To: Kresin Engineering. Attn: Chris Kresin / Orlan Euale

Project#: P1096 From: David Barban, P.Eng.

Re: **Municipal Office Building,** Wawa, Ontario (KEC #1561).

HVAC and BMS Control Systems: Overview and Engineering Report

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ENGINEERING STUDY - REPORT:

The purpose for this Engineering Study was to conduct a general overview and visual Site Investigation of the existing Heating Ventilating & Air Conditioning (HVAC) and Building Management System (BMS) Controls serving the existing Municipal office building, and identify any miscellaneous deficiencies, code issues, or concerns observed during this site visit. On September 10, 2015 our office attended the site accompanied by Kresin Engineering.

Based upon our visual review of the existing HVAC and BMS Control systems, and review of limited existing drawings that were made available, the following is a summary of our findings c/w some recommendations and/or suggestions as applicable:

Existing Conditions:

1) In 1995, an extensive HVAC and BMS Control upgrade had been proposed for the entire complex, in conjunction with an addition to the Library. Unfortunately due to apparent budget constraints, the project was severely cut back in its scope of work, and most of the proposed HVAC upgrades were never completed. In the end, it appears that only a new rooftop HVAC system was installed to serve the Library, and only BMS Controls modifications were incorporated on an existing aged rooftop unit that serves the centre core Administrative area of Municipal Building. All other areas including the Police Department and the Council Chamber / Court Room areas remained as is with a single interior HVAC system that is located in the Basement Mechanical Room.

2) The 5 Ton combination electric heat / electric cool heat pump rooftop unit that was added to the Library in 1995, is a Carrier #50TJQ006-501 series, c/w auxiliary electric ductheater, and free-cooling economizer provisions. This unit is almost 21 years old, and is approaching the end of its life expectancy, which typically ranges between 20 to 25 years. With continued annual RTU servicing and preventative maintenance, this rooftop unit should be able to last another 4-5 years.

3) The Main administrative area of the Municipal building is conditioned by an aged 5 Ton combination electric heat / electric cool heat pump rooftop unit. We were not able to confirm the year that this unit was manufactured, but the serial number seems to indicate that it may have been built in 1989, suggesting that it over 26 years old. Remarkably this existing old rooftop unit has remained in service well beyond its typical life expectancy. The unit is a Carrier Weathermaker I #50QJ006-300 series, c/w auxiliary

electric ductheater and free-cooling economizer provisions. In 1995, new state-of-the-art computerized Carrier VVT BMS Controls were added onto this existing HVAC system, in order to provide better comfort and control to the various areas that it serves. It appears that approximately c/w six VVT zone control dampers and a dual Bypass control damper arrangement were incorporated onto this existing HVAC system. These zone control dampers are capable of providing variable volume & temperature for each zone, and appear to have supplemental relays interconnected to electric heating. We were unable to confirm if these aux. relays are still functional.

It should be noted that there was quite a bit of standing water noted on the roof around this older HVAC unit. Supplemental roof drainage could be installed to help alleviate this problem, and avoid potential roof leaks.

3) The remainder of the Municipal Building, including the Police Department (basement & lower Ground Floor areas), as well as the upper Council Chamber / Court Room areas, are still be conditioned by an interior heat pump system (AHU#1), with the Fan Coil located in the Basement Mechanical Room, and a remote exterior A/C condenser mounted on the roof. This original HVAC system has a main 22.5 KW-208V-3Ph electric ductheater, and also has a series of electric reheat coils incorporated to service the various areas. Not surprisingly, the original Lennox fan coil blower section appears to have been replaced in recent years (not able to confirm date of manufacture), and is now a Lennox #B3-95-2 series heat pump fan coil. This fan coil appeared to be in moderately good shape and operational. However the electric reheat coils and the 38 year old roof mounted exterior condenser still appear to be the original 1977 vintage. Remarkably this condenser unit is still operational, however it appears that it has had many parts (i.e. Compressor) replaced over the years to keep it operational. The existing A/C refrigerant is R22 which is no longer manufactured, and is currently being phased out.

4) It appears that the original 1977 HVAC design of this interior AHU#1 system, was not designed to be interlocked with the existing electric baseboard heaters located on the perimeter of the building, and it was noted that these perimeter electric heaters were actually ON at the time of this inspection, even though the AHU#1 unit was in cooling mode. Obviously, this is a case of heating fighting cooling, and a waste of energy. Existing electrical panel 'C' seem to have quite a few circuit breakers dedicated to electrical baseboard heating.

5) The building washrooms and holding cells located on both floors, on the south end of the building, are serviced by an existing large inline exhaust fan (Air-Care #129-Tubular) that is located in the Basement Mechanical Room. This exhaust fan itself is from original construction (1978), but it appears the fan motor has been replaced in recent years. This exhaust system appeared to be functional, however with the continuous discharge of exhaust air to the outside, forces the AHU#1 unit to continually bring in fresh air (MUA) to compensate for the pressure differential being created by the exhaust fan. The introduction of fresh air is desired, but there are much better and more energy efficient means to accomplish these provisions. When there is a negative pressure differential in the building, this creates drafts and envelope leakage, as make-up air (MUA) will try to infiltrate into the building through cracks around windows, doors, etc. This can cause comfort issues, and is not energy efficient. Typical office building design would be just the opposite, whereby the building actually has a slight positive pressurization to keep cold (or warm) outside air from infiltrating the building.

6) It was noted that the existing exhaust fan in the Police Department Washroom (lower basement) was not working at time of inspection. Considering sanitary exhaust is a code requirement, this E.F. should be replaced as soon as possible.

7) The lower basement area of the Police Department, which is appears to be used for a Training and Exercise/Workout area, was noted not to have any ventilation provisions, and no exhaust air provisions. Stale air was quite prevalent. These current conditions do not meet ASHRAE or code requirements, and should be addressed.

8) The Office building computer LAN room located in the basement is conditioned by a newer 1 Ton Ductless Split A/C system c/w -40F ultra-low ambient controls & crankcase heater. (Mitsubishi #PUY-A12NHA3 series c/w interior Fan coil and an exterior condenser unit). The serial number on the unit appears to indicate that it was manufactured in 2005, making it a 10 year old system. Typically these units have a 20 year life expectancy, considering that they work all year round. This system appeared to be in good operational condition.

9) The Police Department garage did not appear to have a CO gas monitoring system, nor the associated exhaust air and MUA provisions for this system. This does not meet Code (OBC - 6.2.2.3) ventilation requirements.

Recommendations:

1) It is our opinion that the majority of the Municipal Office building HVAC systems are aged and in need of replacement and upgrade in the short term. Even the existing BMS Control systems that were incorporated in the renovations back in 1995 are of an older version that is now considered outdated, and replacement parts are very difficult to acquire and obtain. The very old AHU#1 system has basic functional problems that appear to be a source of both comfort issues, and poor energy efficiency issues (i.e. heating fighting cooling), and these should be rectified as soon as possible. Both rooftop HVAC units are also at the end of their life cycle, and should be replaced with new more energy efficient units. It is assumed that annual operating costs and ongoing maintenance of these older systems are more than likely quite high, and could be significantly reduced by replacement of newer more energy efficient systems with better controls for increased comfort and energy conservation.

2) At the very least, the AHU#1 system should be upgraded complete with new BMS VVT control dampers to serve the various different zones, and these VVT zone control dampers should be interlocked with the electric reheat coils and electric baseboard heaters serving each respective area/zone. All existing electric reheat coils need to be investigated, and those found to be non-functioning should be replaced as required. We would recommend that modulating SCR type electric ductheaters are used for replacement, as they are more energy efficient. The very old exterior condenser should be replaced with a new more energy efficient multi-staged R410A refrigerant condenser unit c/w new refrigerant lines.

3) We would recommend to replace the large main exhaust fan serving the south end of the building, with a new Heat Recovery Ventilating (HRV) unit, which would not only provide the required exhaust air, but could also provide much needed fresh air (MUA) to this end of the building. The HRV is an energy efficient system, that reclaims heat from the exhaust air before discharging it to the outside, and then preheats the incoming fresh air, significantly reducing heating costs, as well as providing improved the indoor air quality and make up air for the building. This unit could also be sized to also serve the lower basement Training and Exercise/Workout area which currently has no ventilation.

4) The Police Department Garage area requires CO gas monitoring system, and this area should be designed such that the pressure in the garage, is less than the adjoining office and holding cell areas, as required by Code.

The following is a rough estimate of Construction Costs to complete the above recommendations:

Recommendation	Brief Description	Construction Cost Estimate
#1	Replace & upgrade the 2 rooftop heat pump HVAC units and existing older BMS controls.	$56,000
#2	New rooftop Condenser, replace & upgrade electric reheat coils, and add new BMS controls c/w aux heat relay interlocks, etc.	$67,000
#3	Replace main exhaust fan, & upgrade to new HRV c/w new required ventilation to basement areas.	$30,000
#4	Provide new Garage CO gas monitoring and exhaust / ventilation system.	$22,000

In conclusion, we feel the existing Municipal Office building HVAC systems are in poor to moderate condition at best, and will need to be replaced in the short term. Most equipment has or is about to reach the end of their typical life expectancy, and will become increasingly more costly to maintain and keep them operational. The BMS Control system that was partially added to the building in 1995, was a good system in its day, but has also become somewhat outdated, as these BMS controls have been upgraded and changed with several newer generation versions over the last few decades. There are several energy efficiency issues that should be resolved and corrective action implemented to reduce annual operating costs, and improve comfort levels.

There are several code related issues that should be resolved as identified above. In particular the lack of ventilation and exhaust air provisions, and CO gas monitoring ventilation system that should be installed for the Police Garage.

In the short term and as a temporary fix, we would recommend that the municipality hire Service Technicians to review/verify operation of the old reheat coils and their respective controls that are a part of the AHU#1 system, as well as identify and P-Touch label the electrical circuits feeding all the electric baseboard heaters, right on the heater. Even a 'Log Book' with all these circuits and heater locations could be prepared and used as a guide to be able to easily isolate these heaters. The idea behind this logic, is that during the warmer months, the building maintenance staff can physically shutoff the power to these supplemental heaters, to avoid them from working (or being left on) while the building is in Cooling Mode.

If you have any other questions or concerns, or wish to discuss this report further, please do not hesitate to contact our office.

Reported by:

David J. Barban, P.Eng.
Consulting Engineer

The Corporation of the Municipality of Wawa
Report

Office of the CAO /Clerk-Treasurer
Chris Wray

Prepared For: Planning Committee	**Report No.: CAO-2016-01**
Agenda Date: January 12, 2016	**Report Date: January 4, 2016**

Subject

The subject of this report is an opportunity to explore a partnership between the Municipality of Wawa and the Province of Ontario for a new multi-function local government services building.

List of Stakeholders

The list of Stakeholders includes:

Mayor and Council
Municipal Staff
Residential, Commercial and Industrial Ratepayers
The Ontario Provincial Police
Infrastructure Ontario
Wawa Volunteer Fire Department
Wawa Public Library
Sault Ste Marie Courthouse

Summary of Recommendation

Whereas the Municipality of Wawa has identified a number of deficiencies at 40 Broadway Ave, including those related to the Accessibility for Ontarians with Disabilities Act that need to be addressed

Whereas similar deficiencies are present at 12 Ontario Street, the Wawa Volunteer Fire Department

Respectfully Submitted By:
Chris Wray **CAO / Clerk-Treasurer**

Whereas Infrastructure Ontario is working with the Ontario Provincial Police to replace the Superior East Detachment (Wawa) due to noted deficiencies

Whereas Infrastructure Ontario is receptive to a proposal from the Municipality of Wawa on a joint building

Whereas Provincial Policy would appear to be aligned to assist in such a partnership

Therefore Be It Resolved that Planning Committee recommends to the Council of the Corporation of the Municipality of Wawa that it set funds aside in the 2016 Budget to conduct a needs / feasibility study on a joint Municipal / OPP Building based on the concepts included in the staff report CAO – 2016-01.

Background

Introduction

In 2011, after an extensive and detailed costing process and a great amount of work and effort by the OPP, Municipal Staff and Council, the Municipality of Wawa entered into a contract with the OPP for policing services. This came after many decades of proud service by the Wawa (formerly Michipicoten) Police Service.

During the costing process, it was determined that the present OPP Detachment was not capable of handling the increase in staffing and required access to facilities such as a secure location for prisoners. These were facilities that Wawa possessed and had been accessed by the OPP in the past. In order to address the shortcomings of the present OPP structure, the Municipality of Wawa paid for the necessary upgrades in its building to the specifications required by the OPP.

In 2012, the Municipality of Wawa went through an extensive Asset Management Exercise which included reviewing all assets such as fleet vehicles, roads and buildings. This exercise caused municipal staff and Council to review not only the timing of the potential replacement of all assets but also their present condition. At this time, the process identified several key deficiencies with the Municipal Office / Police Services / Library Building.

Municipal Office – 40 Broadway Ave

The above noted building, located at 40 Broadway Ave, was noted as being aged and built in several different decades, some dating back to before the incorporation of the Municipality. While there were several structural issues identified, a key discovery was the non-compliance with the Accessibility for Ontarians with Disabilities Act (AODA). As new requirements come on board respecting this piece of legislation, the building will move further out of compliance.

A recent study[1] of the building at 40 Broadway shows that the Municipality of Wawa will need to spend close to $1 million over the next period of time to address the identified deficiencies and provide for another 25 years of service. This does not include the required changes to comply with the AODA which could easily exceed another $500,000.

The Kresin report however, makes a very astute conclusion as follows:

Before proceeding with a major building renovation the Municipality should confirm whether or not the existing building meets their current and foreseeable operational needs. Since the last major renovation in 1977, the Municipality has presumably changed the manner in which it operates within the building. Before proceeding with the above noted renovations, the Municipality should therefore consider a detailed review of its current operational needs. A needs assessment would assist the municipality in determining if the existing building should be renovated or if the Municipality should consider other options such as relocating its staff to a different / new building."

Wawa Volunteer Fire – 12 Ontario Street

Located beside the Municipal Office is the building that houses the Wawa Volunteer Fire Department. This building is also elderly and we have identified several key issues with respect to this building that will require extensive expenditures in order to ensure its ongoing use – one of which is that any new fire equipment (pumper etc.) will not fit (due to the design of newer vehicles) in the existing building. A list of identified deficiencies provided by the Fire Chief includes:

1. Insufficient garage bays to park apparatus – there are currently three pieces of equipment parked outside; a support vehicle, rescue trailer & snow machine.
2. No storage for equipment and apparatus supplies and parts.
3. Improper facilities to clean equipment properly and as per manufacture recommendations.
4. The office is small and there is no room for proper record keeping and files. The working space is improper for two officers.
5. The training rooms are small and congested and with changes to legislation and standard operating procedures have outgrown their use.
6. The storage for fire prevention and public education supplies is insufficient.
7. Insufficient laundry facilities to wash clothing
8. No showers for firefighters to clean up after incidents
9. No exercise room

While the Municipality has not engaged Kresin Engineering or any other firm to review the actual physical building, Council should be aware that there have

[1] Kresin Engineering Study – October 27, 2015 Attached

been physical issues in the past several years. These issues include funds expended to address problems with the water and sewer system both of which are likely to re-occur in the next several years.

OPP Detachment – Highway 17

With the change in policing services to the OPP and with the identification of several problems associated with both the Municipal Office and Fire Building, municipal staff began to look at potential solutions outside of the identified repairs and costly maintenance.

Staff discussed the issue of the present OPP Detachment on Highway 17 with the Detachment Commander at the time and found that the building did not seem to fit the needs of the OPP. Identified issues included; space, two locations in Wawa, ergonomics, not on municipal sewer, Accessibility (AODA) issues etc. A secondary discussion occurred with Sheryl Bennet of the OPP to discuss the potential for a joint project that would marry a new OPP facility with a new Municipal facility. In the ensuing months, due to staff turnover and volume of work, the matter did not progress.

In July 2014, the matter was again picked up by municipal staff who began a series of discussions with Marc Loranger, Detachment Commander. Emails went back and forth while staff sought ways to move the concept forward to the stage of serious discussions with the OPP. Finally, in May 2015, after the assistance of Rick Philbin, Commander of the Municipal Policing Bureau, municipal staff were able to contact and discuss the matter with Joy Fishpool, Manager of Facilities Section. This discussion was very worthwhile as Ms. Fishpool offered to arrange a meeting between the Municipality of Wawa, the OPP and Infrastructure Ontario.

Joint Meeting

On June 1, 2015, Chris Wray, CAO for the Municipality of Wawa met with both Ms. Fishpool of the OPP and Kendra Moffat of Infrastructure Ontario to discuss the possibilities of a joint building project between the OPP and the Municipality of Wawa.

While both the OPP and Infrastructure Ontario made an excellent presentation[2] on the decision process for joint projects and provided details on the infrastructure planning process[3], the Municipality of Wawa introduced the recent Provincial concept, supported by Premier Kathleen Wynne, of *Community Hubs*. In 2014, the Premier appointed a Special Advisor to report back on *Community Hubs* and what they could mean for many smaller communities in Ontario. While the resulting report is certainly much more thorough, the *"what"* and the *"why"* can be found at the beginning of the report as follows:

[2] Infrastructure Ontario presentation attached
[3] New Detachment – Infrastructure Planning Process attached

What is a "Community Hub"?

Community hubs provide a central access point for a range of needed health and social services, along with cultural, recreational, and green spaces to nourish community life. A community hub can be a school, a neighbourhood centre, an early learning centre, a library, an elderly persons centre, a community health centre, an old government building, a place of worship or another public space. Whether virtual or located in a physical building, whether located in a high-density urban neighbourhood or an isolated rural community, each hub is as unique as the community it serves and is defined by local needs, services and resources.

When people think of community hubs, they think of places where people come together to get services, meet one another and plan together. We've heard that community hubs are gathering places that help communities live, build and grow together. No community hub is like another, as each brings together a variety of different services, programs and/or social and cultural activities to reflect local community needs. It is this diversity of activity that allows community hubs to play a critical role in building economic and social cohesion in the community.

Why a Community Hub?

Community hubs are a concept that both communities and policy-makers agree make sense. There are currently over 13 million Ontarians, a figure that is projected to increase by 31 percent over the next two decades according to the Ministry of Finance. Programs and services offered by the government need to keep pace with the complex needs of our growing and diverse population. In addition, the current fiscal environment requires a disciplined focus on finding smarter, better ways to deliver the best possible value for every dollar spent. The Province is faced with both demographic, economic, social and fiscal challenges.

Community hubs offer a number of benefits to respond to these challenges:

- ***School-community partnerships** – enhance learning opportunities and well-being for students.*

- ***Respond to local needs** – community hubs offer a very concrete way that families can access a range of services. The collaboration between different community agencies and service providers puts residents first and is what makes this model truly unique.*

- ***More efficient and sustainable services** – providing access to local early-intervention programs can also forestall more intensive and costly programs later. Some economies of scale can also be achieved through shared back-office duties. Funders also benefit from co-location of service providers, increasing service access and reducing duplication.*

- ***Improved access to services and better outcomes for people*** *– co-locating and/or providing wrap-around services through a community hub provides individuals with access to a broader range of services through increased connectivity leading to improved results. For example, Public Health initiatives in schools can reach 95 percent of children and youth who attend Ontario's 5,000 publicly funded schools (statistics provided by the Ministry of Education).*

- ***Social return on investment*** *– integrated service delivery models can save money in other sectors and generate a Social Return on Investment (SROI). There is currently a lack of evidence-based research on community hubs; however, SROI is an emerging model for measuring the social value relative to the resources invested. Social Return on Investment is a combination of social, financial and environmental value. It's designed to ensure the perspectives of all stakeholders are taken into account.*

As an AMO Board Member, I was asked to partake in one of the focus groups in this matter. While the resulting report may not specifically identify it, there are a number of *"Community Hubs"* that have already been established in smaller communities that provide better access to a host of public services.

It certainly appeared that this potential project has many of the attributes of a "*Community Hub*". The *"economies of scale"* could be used to jointly house and benefit all the stakeholders; Municipality of Wawa. Ontario Provincial Police, Wawa Volunteer Fire Department, Wawa Public Library, Sault Ste Marie Courthouse and potentially others.

At the conclusion of the meeting, the Municipality of Wawa agreed that the first step would be to obtain the support of Mayor and Council in such an endeavor. If this could be obtained then work could start in earnest on reviewing the protocol or format of a proposal to the OPP and Infrastructure Ontario.

The Present

In August 2015, with the retirement of Sergeant Marc Loranger, Sergeant Megan Cavanagh was hired as the new Detachment Commander. Quickly discussions respecting the concept of a joint OPP / Municipal Facility occurred between Sergeant Cavanagh and the Municipality. The materials that had been accumulated by the Municipality were also provided along with the names of those that had been included in recent discussions and meetings.

Prior to the Christmas break, I was contacted by Sergeant Cavanagh to inquire as to the status of my report to Council on the joint facility opportunity. During that discussion, she informed me that she would be partaking in a meeting that would include a discussion on a new facility for the Wawa Detachment. At this

point, Sergeant Cavanagh requested and was provided with a letter[4] from the Municipality of Wawa on the status of any movement by the Municipality of Wawa in this matter.

Policies Affecting Proposal

None noted

Options

Presented for the consideration of Committee are the following options:

Option 1
The obvious first option is *status quo.* Selecting this option would mean refusing entertaining the idea of any type of joint venture building and providing notice to both the OPP and Infrastructure Ontario.

Option 2
The second option would see the Municipality of Wawa moving ahead with addressing the deficiencies for 40 Broadway Ave and any unknown deficiencies for both 40 Broadway and 12 Ontario Street. Funds to address these deficiencies would come from a combination of Reserves and local taxes. At this time, there are no funds available from ether the Federal or Provincial Government to assist.

Selecting this option would also mean that notification would be provided to both the OPP and Infrastructure Ontario that the Municipality would not seek any joint building partnership with either.

Option 3
Entertaining option 3 would see the Municipality of Wawa conducting a needs/ feasibility study on both the needs for the present municipal facilities (Administration, Fire and Library) and a joint venture involving the Sault Ste Marie Courthouse, OPP and Infrastructure Ontario.

Recommendation

Given the information that was supplied in the Kresin Report on 40 Broadway and the expiring life of this asset in our Asset Management Plan, it would be unwise to select this option.

[4] Letter Wawa to OPP dated December 17, 2015 attached.

The current state of 40 Broadway suggests a combination of ergonomics, workplace safety issues, and AODA and business continuity not to mention the liability that such a position could attract. For these reasons, **Option 1 is not recommended.**

For the obvious reasons stated above, it is imperative that the Municipality of Wawa proceed ahead with a plan to address the deficiencies noted at 40 Broadway. This would become part of the annual budget process.

However, the OPP through Infrastructure Ontario are looking to replace the Wawa Detachment. There are partnership opportunities available to the Municipality, all lining up with the policies of the present government. The time is right to take advantage of this and for these reasons **Option 2 is not recommended.**

The Kresin Report on 40 Broadway stated the following:

Before proceeding with a major building renovation the Municipality should confirm whether or not the existing building meets their current and foreseeable operational needs. Since the last major renovation in 1977, the Municipality has presumably changed the manner in which it operates within the building. Before proceeding with the above noted renovations, the Municipality should therefore consider a detailed review of its current operational needs. A needs assessment would assist the municipality in determining if the existing building should be renovated or if the Municipality should consider other options such as relocating its staff to a different / new building."

While Kresin was not asked to comment on any partnership possibilities, it would be wise to include them in any consideration by Committee.

Committee should also take into consideration the current Provincial Policy of *"Community Hubs"*, the interest of both Infrastructure Ontario and the OPP and the future needs of other municipal departments such as the Public Library and Volunteer Fire Department.

It is important to communicate or reiterate some of the more salient advantages of a proposal for a combined OPP / Municipal facility in Wawa. These include:

1. Addressing the deficiencies with the current OPP Detachment in Wawa
2. Addressing the deficiencies and deteriorating conditions of both the Wawa Municipal Office and Fire Building.
3. Addressing the deficiencies in all three buildings respecting the AODA.
4. Taking advantage of the economies of scale of costs such as maintenance, utilities and technology.

5. Although only one option; reviewing the potential for the Municipality to own the building while others are maintained as long term tenants
6. Embracing Premier Kathleen Wynne's concept of Community Hubs by bringing Policing, Court Facilities, Municipal Offices, Public Library, Fire Services and potentially others under one facility.
7. Taking advantage of municipal utilities and servicing such as water and sewer.
8. Using any new roof to generate a small source of revenue through the installation of a Micro Fit Solar Array while displacing GHG's.
9. Embracing new technology in building design concepts that would be environmentally responsible

For these reasons, **Option 3 is recommended.**