

3Z INSPECTIONS

SERVICES – SPRING



3Z Inspections Order Form

Please complete this form and email it to the address web@3zinspections.ca.

Base Rate

Select one of the following options:

A written report, and discussion is included with all options.

Apartment/Condominium (\$375) House, Semi-detached, etc. (See Formula A) Specialist Work (See Formula B)

I wish to make this a CSA A770:16 (R2021) compliant inspection and report. (+\$50)

Formula A: \$300 + \$0.15/sq ft. + (\$25 within Ottawa's urban area *or* \$100 outside the urban area) + \$1.25/each built year before 2000.

Example: 1,000sq ft., downtown, built in 1978 = \$300 + \$25 + \$0.15×1000 + \$1.25×22 = \$300 + \$25 + \$150 + \$27.50 = \$502.50

Formula B: For a list of 3 or less items on preceding pages, add \$50. For 3 or more items on the preceding pages, add \$100.

Example: Thermal Imaging + Indoor Air Quality + Basic City Water Test = \$100 + \$100 + \$50 + \$100 = \$350

Personal Information

All information is handled in a secure manner, and is **never** sold or transferred to 3rd parties without your permission.

First Name:

Last Name:

Email Address:

Phone (Primary):

Phone (Secondary):

Preferred contact method:

Property Information

Country, Province/State, City:

Street Name:

Street Number/Unit Number(s):

Square footage of property:

Year property was built:

Property is located: Within Ottawa's urban area Outside Ottawa's urban area

Date/time of inspection: at or about

I am either the property owner, or authorized to be acting on behalf of them.

Additional people will be in attendance besides the agent, owner, and/or purchaser.

Pets or animals are kept on the property, or might be present during the inspection.

I understand that certain addendums are time sensitive, and may impact the inspection time slot.

Payment Details

Payment Method: Credit (Major Card) Debit (Interac) Cash

I will be paying: Before Inspection After Inspection

Prices are all inclusive, please indicate if you were referred before payment so a discount can be applied.

What a Certified Home Inspection Covers

3Z Inspections offers a comprehensive home inspection for most dwellings, even outside of real estate transactions. As a member of InterNACHI, your home inspection will adhere to [InterNACHI's Residential Home Inspection Standards of Practice](#) which meets or exceeds other standards used by home inspectors in Canada, USA, and other parts of the world. Below is a list of common areas inspected and a *non-exhaustive list* of inspection points:

Roof

- roof-covering materials
- gutters and downspouts
- flashing, vents, chimneys, and other roof penetrations

Exterior

- wall covering materials
- eaves, soffits, fascia
- doors and a representative number of windows and their frames
- walkways and driveways
- stairs, ramps, landings, and their railings or handrails
- porches, decks, balconies, carports, and their railings or guards
- vegetation, surface draining, retaining walls, and grading of property

Basement, Foundation, Crawlspace & Structure

- foundation type
- soil contact points
- cracks, out-of-square frames
- unlevel floors
- notching/boring of framing members

Heating/Cooling

- functionality of heating and cooling equipment

Plumbing

- shutoff valves for fuel/water
- water heating equipment
- fixtures, faucets, toilets, tubs, sinks, showers
- drain, vent, and waste systems
- sump pumps

Electrical

- service drop, disconnect, head, mast, conduit, raceway, gooseneck, and drip loops
- overhead conductors and their possible attachment point(s)
- electric meter and base
- panel-boards, and their circuit breakers/fuses/grounding

- a representative number of switches, fixtures, and receptacles
- arc-fault circuit interrupters (AFCI) and ground-fault circuit interrupters (GFCI)
- smoke and carbon monoxide detectors

Fireplace

- visible and accessible fireplaces/chimneys
- lintels, damper doors, and cleanouts

Attic, Insulation & Ventilation

- unfinished spaces such as attics, crawlspaces, and foundation areas
- ventilation of the aforementioned spaces
- mechanical exhaust systems in the kitchen, bathrooms, and laundry area

Doors, Windows, Interior

- functionality of a representative number of doors and windows
- floors, walls, and ceilings
- stairs, steps, ramps, landings, and their railings or handrails
- functionality of garage vehicle doors, and of vehicle door openers
- garage door photo-electric sensor and other safety sensors

What a CSA-A770 Home Inspection Covers

With the high degree of variability in home inspections, clients ask if there's a Canadian standard that can be followed. The Canadian Standards Association (CSA) known for creating and administrating mechanical and safety standards in Canada, has published such a document for home inspections. The A770:16 (R2021) version being the most current standard, published in 2016, was reaffirmed by CSA in 2021 for use by consumers and inspectors.

There isn't a vast difference between CSA's and InterNACHI's standards, but does include stipulations in some listed inspection areas:

- safety in and around swimming pools
- automatic irrigation systems
- cabinetry, counter-tops, built-in or attached furnishings
- grey water systems
- heat detectors
- fire separation
- fencing
- accessibility equipment

If you are first time buyer or seller, InterNACHI's SOP represents a great starting point. With my background and additional tools and equipment, the SOP can be modified to fit your needs. Some individuals or organizations may wish to use A770 for comparing properties or inspectors across provinces.

Addendums

A home inspection is typically considered a *non-invasive inspection*, where the inspector identifies observed and deemed material defects. However purchasers, real estate agents, sellers, and home owners may choose additional and entirely optional additions.

CSA-A770 (R2021) states that the fence, irrigation system, and more are part of a home inspection. The standard also states that items outside a typical home inspection must be clearly identified and separated. InterNACHI also recommends separating work done outside of the Standards of Practice.

Imaging

Infrared Thermography

Using the latest technology available from FLIR and other recognized industry leaders, thermal imaging can help identify anomalies the naked eye may not normally see. If additional sensitivity is required, additional costs results from using higher-end equipment. The images will be included with the report.

- Infrared thermography, thermal imaging. (+\$100)

Test may require special scheduling, to ensure adequate temperature differences.

- Advanced Infrared thermography, higher sensitivity thermal imaging. (+\$200)

Additional lead time required, same conditions as above.



Borescope/Videoscope Examination

Using a dual camera apparatus, the tiny and hard to examine becomes easy to see and apparent. With an 8.5mm diameter, the borescope can enter many small spaces such as bath water jets, air conditioners, and under appliances. The borescope is dual camera, one forward and the other set at 90°, allowing more comprehensive analysis. Images will be included in the report, and video can be sent by email/USB drive.

- Borescope/Videoscope. (+\$75)

Scoping of ducts, surfaces, or sources of portable water (taps, water jets, etc.).

- Drain Borescope/Videoscope. (+\$75)

Determine the state of drains for showers, bathtubs, and sinks. A separate 33ft apparatus with similar functionality is used.

Air, Mold & Water

Indoor Air Quality (IAQ)

With my additional training from InterNACHI®, I can analyze the quality of indoor air on a room by room basis and provide PM2.5, PM10 (estimated), and Air Quality Index (AQI) values using a laser based sensor. An additional report will be provided.

- Indoor air quality inspection. (+\$100)

An on-site test which will sample air for about 10 minutes per room.



Particulates – NEW

Air in simple terms is a composition of argon, nitrogen, and oxygen. However, there's also suspended particulates that can make their way into our lungs. Particulates are typically defined by PM (Particulate Matter) followed by a size in microns (μm). Two examples are PM10 (dust, pollen, mold) and PM2.5 (combustion products). To give you an idea, human hair is about 50-70 μm in diameter whereas table salt is about 100 μm . Laboratory "L" will perform the NIOSH 0600 testing and is AIHA-LAP, LLC accredited.

Thoracic Particulates ($\leq 30\mu\text{m}$) (\$386)

Two samples will be taken at the property. Tests for particles up to 30 microns. Lab will typically take up to 8 days to analyze and report their findings. Shipping is typically 1 business day each way.

Particulates PM1, PM2.5, PM10, "Respirable" ($\leq 10\mu\text{m}$), "Thoracic" ($\leq 30\mu\text{m}$) (\$649)

Two samples of each 5 different types will be taken at the property. Lab will typically take up to 8 or 10 days to analyze and report their findings. Shipping is typically 1 business day to the lab.

VOC Characterization – NEW

By sampling the air, various unknown airborne organics that impact air quality can be determined. Commonly used for odour or health problems, but other topics can be addressed. These topics include unknown emission sources, detection of dead animals, smoke odour after a fire remediation, fugitive emissions, and microbial emission. Many industries use VOC characterization for process characterization, transportation, unknown emission from a known source, and many other scenarios. The AIHA-LAP, LLC accredited laboratory ("C") also offers their own interpretation of results at additional cost and time.

Single quantitative sample. (+\$1,192)

Two samples, (one actual sample and one blank), will be taken at the property. Lab will take between 5 to 7 days to analyze and report their findings. Shipping is typically 1 business day each way. EPA Method TO-17.

Single quantitative sample, laboratory interpretation report. (+\$2,103)

Two samples, (one actual sample and one blank), will be taken at the property. Lab will take between 8 to 10 days to analyze, report, and then interpret their findings. Shipping is typically 1 business day each way. EPA Method TO-17.

Water Quality – City & Rural

The city tests water provided to households, but is generally limited in scope. Did you know additional hazards that may impact health in your household are *not* run by the city? These include PFASs, lead levels at your faucets, VOCs, and many other heavy metals. In fact, a particular VOC was the subject of a [recent compensation order](#) confirmed by the Supreme Court of Canada. Even beyond your health, household equipment might lose longevity if subjected to excessively hard water. Quick and simple tests can be performed on site within 10 minutes to 24 hours and included in the report. Laboratory testing requires tight time frames to ensure high quality results, and requires additional scheduling/reports. The added benefit of lab tests will generally be accurate quantities, where on-sites will give ranges. Lab is ISO/IEC 17025 compliant.

Rapid city water inspection. (+\$25)

Tests for: Chlorine (Free & Total), Copper, Iron, pH Level, Hardness, Lead, Nitrate, Nitrite, Cyanuric Acid, Alkalinity, Mercury, Fluoride, Bromine, Chromium, Carbonate. Performed on-site, within 10 minutes.

- Basic city water inspection, lead tests included. (+\$50)

Tests for: Total hardness, total chlorine, free chlorine, total alkalinity, Iron Bacteria, Hydrogen Sulfide, pH, Iron, Copper, Nitrates, Nitrites. Performed on-site, within 10 minutes (most) to 24 hours (bacteria).

- Advanced city water inspection, lead and laboratory testing. (+\$295)

47 Tests for: Properties (alkalinity, pH, TDS, conductivity), Fertilizer (nitrate), 23 Heavy Metals, 6 calculated parameters (CSMR, hardness, sodium adsorption ratio, langelier saturation index etc.), free chlorine, total chlorine.

- Comprehensive city water inspection, laboratory testing. (+\$675)

109 Tests for: Properties (alkalinity, pH, TDS, conductivity), 7 Disinfection Byproducts (4x chloromethanes, chloroform, etc.), Fertilizers (nitrate, nitrite), Heavy Metals (23 in total), 12 "Non-Metal Inorganic" (boron, calcium, fluoride, lithium, etc.), Oil/Gas/BTEX (benzene, toluene, and 5 more), 46 VOCs, 6 calculated parameters (CSMR, hardness, sodium adsorption ratio, langelier saturation index, etc.), free chlorine, total chlorine.

- Drugs and pharmaceuticals water inspection, laboratory testing. (+\$380)

Tests for: 17 alpha ethynyl estradiol, 17 beta estradiol, Acetaminophen, Bisphenol A, Caffeine, Carbamazepine, Ciprofloxacin, Diclofenac Sodium, Erythromycin, Estrone, Fluoxetine, Gemfibrozil, Ibuprofen, Naproxen, Primidone, Progesterone, Sulfamethoxazole, Testosterone, Triclosan, and Trimethoprim.

- I'd like to discuss other types of water inspections, including well water with laboratory testing. (+\$?)

It is possible to test for particular and isolated concerns (Arsenic, Nickel, Fluoride, bacteria, etc.) for lower prices. The province (through regulated labs) will perform *some* tests for free on well water but these can be limited.



Radon Inspection

Approximately 1 in 10 households in Ottawa will have some problem with Radon. It's the number 1 cause of lung cancer in non-smokers, and the 2nd most common cause of lung cancer. Radon testing should be considered if you live at or below grade. Longer term tests will be more reliable, and don't require the "closed test conditions" a short term test requires. While it is possible to sample under 3.8 days, it is generally avoided and not recommended to perform sub half-life testing. Labs are either ISO/IEC 17025 or AIHA-LAP, LCC accredited.

- Short term test, >2 half-lives, 8+ days recommended (\$120)

Short term test includes lab analysis fee, closed test conditions required. Radon half life is about 3.8 days.

- Long term test, >23 half-lives, 90+ days recommended (\$170)

Long term test includes lab analysis fee, closed test conditions *not* required. Ideally over the "heating season".

- Alpha/beta radiation water test, laboratory "T" testing (\$260)

While this does not test for "safe" radon ranges (300 to 10,000 pCi/L in the USA), it can identify the amount of activity present.



Mold Inspection

Mold is one of the few visible and potentially smelly hazards in a household. However, there's a major difference between apparent mold, and actual mold confirmed by testing. Both labs are AIHA-LAP, LCC accredited.

- Mold inspection. (+\$100)

Determines if there are signs of apparent mold present, regardless of size. No samples collected or sent to a laboratory.

- Mold inspection, testing by laboratory "P". (+\$225)

Checks for apparent mold. On the chance house contains apparent mold, they will be collected, and sent immediately. Price includes limited samples. This is generally intended for small to medium potential mold inspections. Large/multiple areas will require additional time and resources, increasing costs.

- Mold air or surface testing, sent to laboratory "L". (+\$558)

If apparent mold is known to be in the air or on a surface, collection can be performed and sent immediately. Price includes 4 samples, of either air and/or surface. Each additional sample is \$52. The reporting limit for air samples is 100-300 spores/m³, and surfaces at 250 spores/m³. Large/multiple areas will require additional time and resources, increasing costs.



Miscellaneous

Sound Transmission Testing – NEW

One of the more common complaints in a home is noise, or technically “sound transmission”. This is especially true in a building with multiple people either under the same roof or living side-by-side. While a home might be constructed to meet local or IBC standards for sound transmission on paper (the “STC” rating), the apparent experience might prove vastly different (the “ASTC” rating). This can be due to additional modifications or renovations, aging materials, or even untested initial construction. By using standards like ASTM E336-20 as a guide, an on-site test can be performed quickly and with minimal expense. Additional costs arise with additional rooms/surfaces, stricter ASTM standard adherence, additional sampling time, or determining sounds below 35dBa.

Single wall between rooms. (+\$75)

Determines if the apparent sound transmission class (ASTC) rating falls near the expected technical sound transmission class (STC). A single flat wall will be tested from a client’s specified distance, using 21 different sine wave frequencies. Approximately 5 minutes.

Room to room transmission. (+\$150)

Checks two rooms separated by a partition. Several directions and orientations will be selected based on room geometry, with E336 advised placement minimum of 3.1ft. 21 different sine wave frequencies will be used, with additional White, Pink, and Brownian noise samples. Approximately 20 minutes.

Multiple room to room transmission. (+\$?)

Checks multiple rooms separated by one or more partitions. Several directions and orientations will be selected based on room geometry, with E336 advised placement minimum of 3.1ft. 21 different sine wave frequencies will be used, with additional White, Pink, and Brownian noise samples. Approximately 20 minutes per room pair, but can vary based on room grouping location.

Custom transmission testing. (+\$?)

As a client, you can specify strict standards compliance or custom non-E336 binding parameters. Examples include: “green” noise to represent “normal world background noise”, “grey” noise to match human ear profile, “blue” noise for simulating water running, certain music genres, or even client provided sources like speakers/musical instruments.

Cellular/Wifi Analysis & Testing – NEW

A common afterthought in today’s wireless world – ensuring adequate connectivity throughout the whole house. By using on site testing, the unseen world of electromagnetic spectrum becomes clear advice. For a buyer this could result in less frustration knowing there aren’t cellular dead zones inside your future purchase. A seller can offer proactive reporting, going beyond a normal home inspection. Even a current home owner can receive knowledgeable advice about where and why dead zones exist in their home, with tips for remediation.

Single room such as an office. (+\$50)

Determines if a given room would be suitable for office use. Tests common cellular frequencies (bands) with a spectrum analyzer. WiFi will be tested with example consumer devices and spectrum analyzer up to 6Ghz. Approximately 30 minutes.

Whole condo or apartment. (+\$75)

Determines if there will be poor cellular reception or WiFi coverage. Tests common cellular frequencies (bands) with a spectrum analyzer. WiFi will be tested with example consumer devices and spectrum analyzer up to 6Ghz. Approximately 1 hour.

Whole house including outbuildings. (+\$125)

Determines if there will be poor cellular reception or WiFi coverage. Tests common cellular frequencies (bands) with a spectrum analyzer. WiFi will be tested with example consumer devices and spectrum analyzer up to 6Ghz. Approximately 1 to 2 hours.

Lead Analysis – NEW

Lead paint samples will be analyzed in a laboratory. This is typically used to determine if interior or exterior paint contains lead. Houses built before the 1960's probably have some lead paint somewhere, whereas the exterior of properties between 1960 and 1990 might contain lead. Samples are generally easy to handle and ship, reducing costs. Both labs are AIHA-LAP, LCC accredited.

Single Sample & Laboratory "C" Testing (+\$165)

A sample of material (interior or exterior) will be collected and sent. Once the lab receives the sample, they will take between 8 to 10 days to analyze and report their findings. Shipping is typically 1 business day. \$80 for each additional sample up to 1lbs.

Single Sample & Laboratory "L" Testing (+\$142)

A sample of material (interior or exterior) will be collected and sent. Once the lab receives the sample, they will take around 10 days to analyze and report their findings. Shipping is typically 1 business day. \$63 for each additional sample up to 1lbs.

Urea Formaldehyde Foam Insulation (UFFI) Identification – NEW

Urea Formaldehyde Foam Insulation (UFFI) was introduced as a way to save energy where installing other forms of insulation wasn't practical. Between the 1950's and 1980's, this "affordable" low-density home insulation was injected into interior and exterior wall cavities. Initially there were government incentives to use the foam, but ultimately UFFI was banned in the 1980's due to formaldehyde off-gassing. Both laboratories are AIHA-LAP, LLC accredited.

Testing by Laboratory "L" (\$138)

A single sample will be taken at the property. Lab will typically take around 10 days to report yes or no. Shipping is typically 1 business day to the lab.

Testing by Laboratory "C" (\$566)

A single sample will be taken at the property. Lab will take between 8 to 10 days to report yes or no. Shipping is typically 1 business day to the lab.