

# Building Permit Process and Code updates

Presented by the Building Services Division

Des Stolz, Chief Building Official

Mike Otway, Senior Plumbing/Mechanical Inspector

# Building Services Division Building Permit Process and Code Updates:

- Building Permit Application Review/ Acceptance Process
- Building Permit Review Process
- Building Inspection Process
- Recent Ontario Building Code Changes



# Residential Checklist

- A complete application package is required
- All relevant items must be submitted
- Full permit fee must be paid at the time of application



## Residential Building Permit Application Checklist

Customer Name:	Telephone No.	Project Address or Legal Description

**IN ORDER TO COMPLETE A REVIEW, THIS FORM AND THE FOLLOWING INFORMATION MUST BE SUBMITTED. PLEASE BE ADVISED THAT UPON ACCEPTANCE, AND DURING THE PERMIT REVIEW PROCESS, THE APPLICANT MAY BE REQUIRED TO PRODUCE ADDITIONAL INFORMATION TO INSURE COMPLIANCE WITH APPLICABLE PROVINCIAL AND MUNICIPAL REGULATIONS.**

- Completed Building Permit Application Form, including Schedule 1\* where applicable  
*\* Schedule 1 is completed by the various project designers and must accompany the permit application.*
- Proof of Ownership (provide either a  Property Deed, or an  Offer to Purchase (Deed to follow))
- Authorization from Owner (if applicant other than owner).
- Three (3) sets of working drawings, including:
 

<input type="checkbox"/> Site Plan	<input type="checkbox"/> Floor Plan(s)
<input type="checkbox"/> Site Drainage Plan	<input type="checkbox"/> Roof Plan
<input type="checkbox"/> Foundation Plan - a P.Eng is required if using a slab or other non-standard construction	<input type="checkbox"/> Building Section(s)
<input type="checkbox"/> Heating Duct Layout ( Two Storey Dwellings Only)	<input type="checkbox"/> Elevations
<input type="checkbox"/> Roof Truss Layout and Certificate	<input type="checkbox"/> Hydronic Heating Information ( In/floor/Underfloor/Geothermal )
<input type="checkbox"/> Floor Truss Layout and Certificate	<input type="checkbox"/> • Heat Loss Calculations
<input type="checkbox"/> Engineered Beam Details (i.e. Parallam, Micro-lam)	<input type="checkbox"/> • Boiler Information
<input type="checkbox"/> Engineered Guard Rail Design Required	<input type="checkbox"/> • Loop/Piping Layouts
<input type="checkbox"/> Fireplace/Woodstove/Chimney Details (provide manufacturer's installation instructions)	<input type="checkbox"/> • Baseboard Radiation Locations
<input type="checkbox"/> Mechanical System Design Form (to be completed by a BCIN certified designer)	<input type="checkbox"/> • Air Handler/ Coil
<input type="checkbox"/> Energy Efficiency Design Review Form	<input type="checkbox"/> • Heat Exchanger
<input type="checkbox"/> Completed Plumbing Information Sheet, including Two (2) sets of isometric Plumbing Drawings	<input type="checkbox"/> • Type of Hot Water Tank
- Permit Fee \$ \_\_\_\_\_

1. Proof of adequate water supply provided?  
- applicable if you are on a well system  
 Yes     No  
 Enclosed     N/A
2. Septic Field Approval from Ministry of Health provided?  
- applicable if you require a private septic system  
 Yes     No  
 Enclosed     N/A
3. Ministry of Transportation Approval provided  
- applicable if within 395m of highway intersections  
- applicable within 46 metres from King's highway  
- other MTO approvals may apply  
 Yes     No  
 Enclosed     N/A
4. Lakehead Regional Conservation Authority Approval  
- is your property in a flood plain or "cut and fill" area?  
- is property located in the 'EP' zone or 'EO' (environmental overlay)?  
 Yes     No  
 Enclosed     N/A
5. Local Heritage Advisory Committee Approval  
- are you in a designated heritage area? Or  
- is it a designated heritage building?  
 Yes     No  
 Enclosed     N/A
6. Noise Exposure Forecast Report (Airport Noise)  
- Transport Canada - See Airport Authority  
- Close proximity to Airport may require noise evaluation  
 Yes     No  
 Enclosed     N/A
7. Demolition Permit Provided?  
 Yes     No  
 Enclosed     N/A
8. Driveway Permit Required?  
- Driveway applications to be submitted to Engineering for review and approval  
- Copy of issued driveway permit is required to be submitted for new and existing driveways before building permit can be issued  
 Yes     No  
 Enclosed     N/A
9. Applicable Law Checklist Attached?  
- Applicable Law Checklist to be completed by Applicant  
 Yes     No

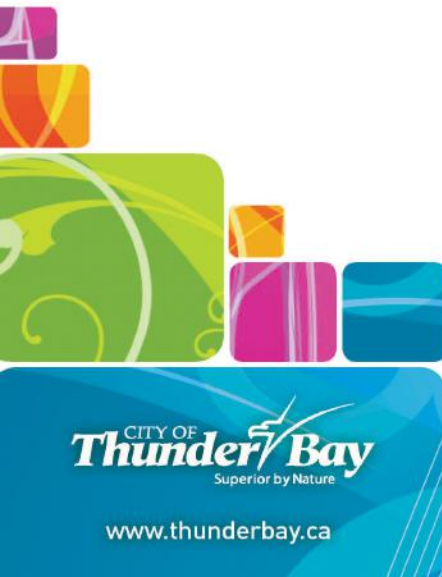
A Building Permit is issued based on information you provide and the accuracy of the information provided affects the processing time involved in (and the possibility of) issuing of a Building Permit. By completing this form and signing below, you understand it is your responsibility to provide this information in a timely fashion in order to efficiently and effectively process your application.

As per OBC Div.C, sentence 1.3.1.3, the submission of an incomplete permit application package will void the prescribed time period within which a permit shall be issued or refused.

CUSTOMER'S SIGNATURE: \_\_\_\_\_

APPLICATION RECEIVED / RETURNED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Recheck: Rev14 - May 2017



# Permit Application Form

## Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the Building Code Act.

For use by Principal Authority			
Application number:		Permit number (if different):	
Date received:		Roll number:	
Application submitted to: <b>CITY OF THUNDER BAY (BUILDING SERVICES DIVISION)</b> (Name of municipality, upper-tier municipality, board of health or conservation authority)			
A. Project information			
Building number, street name		Unit number	Lot/con.
Municipality	Postal code	Plan number/other description	
Project value est. \$		Area of work (m <sup>2</sup> )	
B. Purpose of application			
<input type="checkbox"/> New construction <input type="checkbox"/> Addition to an existing building <input type="checkbox"/> Alteration/repair <input type="checkbox"/> Demolition <input type="checkbox"/> Conditional Permit			
Proposed use of building		Current use of building	
Description of proposed work			
C. Applicant			
Applicant is: <input type="checkbox"/> Owner or <input type="checkbox"/> Authorized agent of owner			
Last name		First name	Corporation or partnership
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number ( )	Fax ( )	Cell number ( )	
D. Owner (if different from applicant)			
Last name		First name	Corporation or partnership
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number ( )	Fax ( )	Cell number ( )	

# 3 Stages of Permit Review

## 1. Applicable Law Review

- Compliance with Zoning By-law setbacks and lot coverage
- Compliance with other Applicable Law
  - LRCA
  - MTO approval
  - Record of Site Condition

# Applicable Law Checklist

- Building Permits cannot be issued until all Applicable Law has been met
- The Applicable Law list comes from OBC Division A 1.4.1.3.

Application No:	Address:	Date:
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The Building Code Act prohibits the issuance of a building permit if the proposed construction or demolition will contravene an applicable law as defined by the building code. The questions below will help you to determine if an applicable law applies to your project. No timeframe for building permit review can be established until all required applicable law approvals are completed and the approval documents are submitted to the Building Services Department.

If the answer is YES to any question, the relevant approval documents must be submitted with this permit application. Where any required approval has not been obtained, the agencies listed on the back of this form must be contacted to obtain approval and the declaration on the bottom of this form must state accordingly.

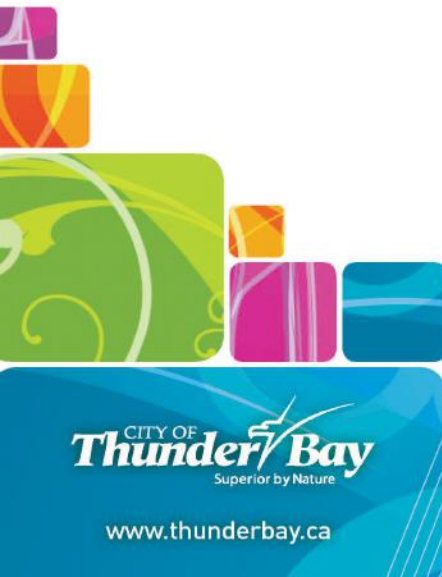
Zoning By-Laws • City Planning Services Division	Yes	No	Other Law City?
Is/was relief required to permit a minor zoning variance in your proposal?	<input type="checkbox"/>	<input type="checkbox"/>	
Is/was rezoning required to permit the proposed building or land use?	<input type="checkbox"/>	<input type="checkbox"/>	
Is a land division or subdivision required and not yet fully completed?	<input type="checkbox"/>	<input type="checkbox"/>	
Are municipal services required but not yet completed or available?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Planning Approval • City Planning Services Division</b>			
Does this development require site plan approval from the Planning Division?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Heritage • City Planning Services Division</b>			
Are you demolishing a building that is listed on the City's heritage inventory?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the building designated or in the process of being designated?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the property located in a heritage district or study area?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Construction &amp; Fill Permits • Lakehead Region Conservation Authority</b>			
Does the property abut a ravine, watercourse, wetland or shoreline?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Building &amp; Land Use Permits • Ontario Ministry of Transportation</b>			
Is the property within 45m of a highway or 180m from any Highway Intersection?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the property within 395m of a controlled highway intersection?	<input type="checkbox"/>	<input type="checkbox"/>	
Is this a major traffic generating project located within 600m of a highway?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Environmental Approvals • Ontario Ministry of Environment</b>			
Is a Record of Site Condition required to be filed because of a change to more sensitive land use?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the property a former waste disposal site?	<input type="checkbox"/>	<input type="checkbox"/>	
Is this project a major industrial, commercial or government project?	<input type="checkbox"/>	<input type="checkbox"/>	
Is this a renewable energy project?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Electrical Conductor Clearances • Electrical Safety Authority</b>			
Are there any overhead electrical conductor wires within 5.5m of the proposed building?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Clean Water Act • Lakehead Region Conservation Authority</b>			
Does a water source protection plan restrict the land use you are proposing?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Agriculture &amp; Farms • Ontario Ministry of Agriculture and Food</b>			
Is this a farm building that will house animals or manure?	<input type="checkbox"/>	<input type="checkbox"/>	
Is this a milk processing plant?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Child Care Centres • Ontario Ministry of Education</b>			
Is a daycare proposed in any part of the building?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Seniors Centres • Ontario Ministry of Community and Social Services</b>			
Is this a seniors project where Ontario Government funding is being sought?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Cemeteries • Ontario Ministry of Consumer Services</b>			
Is work being carried out within a Cemetery?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Public Lands Act • Ontario Ministry of Natural Resources</b>			
Is work being carried out on public land?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Education Act • Ontario Ministry of Education</b>			
Is this project being carried out on the property of an educational facility?	<input type="checkbox"/>	<input type="checkbox"/>	
If so, is any or all buildings on the property being fully or partially demolished?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Fortification of Land • City Licensing and Enforcement Division</b>			
Does this project include fortification of land, or any structure on the property?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Easements • City of Thunder Bay and Other Utilities</b>			
Does your property contain easements used by or under the control of local utilities? (If unsure, contact the Land Registry Office at (807)343-7436 to confirm)	<input type="checkbox"/>	<input type="checkbox"/>	

**DECLARATION**  
I have considered the list of applicable laws in the Ontario Building Code and as described above, and do hereby declare that:

1. None of these applicable law approvals apply to this project.  
 2. Applicable laws checked with a 'yes' apply to this project, and approval documents are submitted with this application.  
 3. Applicable laws checked with a 'yes' apply to this project, however all approval documents have not yet been obtained.

The information provided on this form is true to the best of my knowledge. I have authority to act on behalf of the owner, corporation or partnership with respect to this application (if applicable).

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_



# 3 Stages of Permit Review

## 2. Plans Examination for Building

- Compliance with Ontario Building Code
- Compliance with Applicable Law
- Review engineered design elements
  - Trusses, engineer floor joists, slab on grade, etc.



# 3 Stages of Permit Review

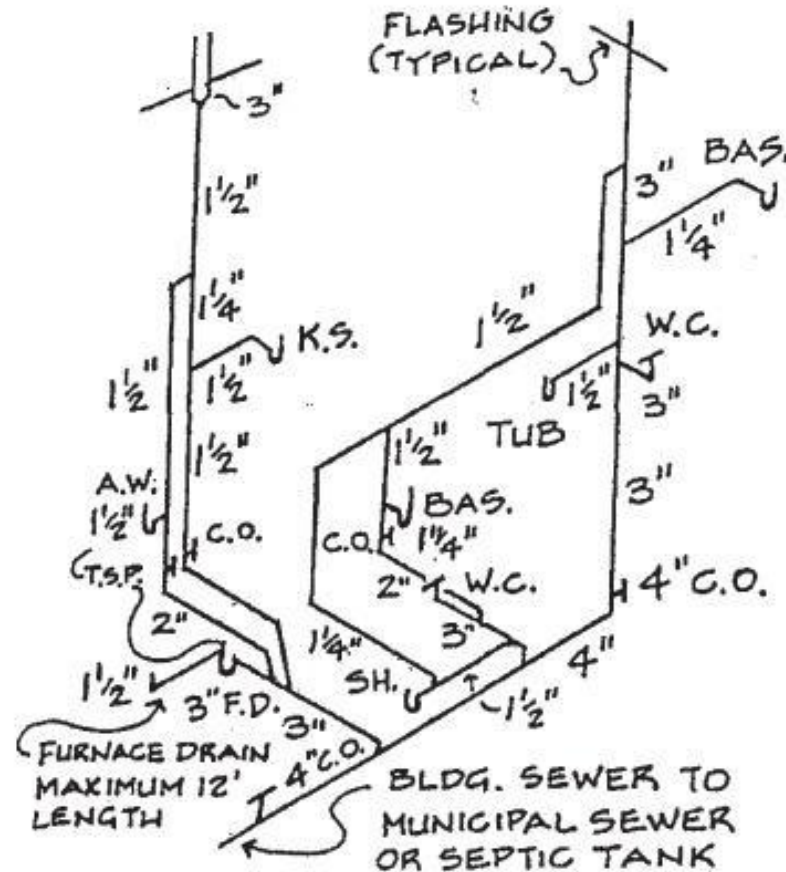
## 3. Plans Examination for Plumbing

- Compliance with the Ontario Building Code
- Water well documentation review
- Septic Approval from TBDHU
- Radiant/Geothermal review

# PLUMBING VIEW

<b>PLANS</b>		<b>WELLS-(more specific info in procedure binder)</b>	
<input type="checkbox"/>	ENSURE PLUMBING INFO SHEET MATCHES DRAWINGS	<input type="checkbox"/>	ENSURE FORMS FILLED OUT COMPLETELY AND ACCURATELY
<input type="checkbox"/>	CHECK FOR PROPER DESIGNER / ENGINEER	<input type="checkbox"/>	ENSURE DATE OF TEST IS WITHIN 3 YRS
<input type="checkbox"/>	LAUNDRY SIZE 2"	<input type="checkbox"/>	ENSURE PROPER ADDRESS AND ACCURATE MAP LOCATION
<input type="checkbox"/>	KITCHEN SINK CLEANOUTS	<input type="checkbox"/>	VERIFY 240 GAL OVER 1 HOUR STORAGE
<input type="checkbox"/>	FLOOR DRAIN IN BASEMENT	<input type="checkbox"/>	VERIFY APPROPRIATE RECOVERY FOR WELL TYPE
<input type="checkbox"/>	PROPER CLEANOUTS FOR STACKS AND BRANCHES	<input type="checkbox"/>	ENSURE TESTING DONE BY LICENSED WELL TECHNICIAN
<input type="checkbox"/>	IS FLOOD ZONE BACKWATER VALVE REQUIRED? SEE FLOOD ZONE MAP	<input type="checkbox"/>	FOR COMMITTEE? START WELL FILE (WHITE) AND PLACE IN CABINET
<input type="checkbox"/>	PROPER VENT TERMINALS		<b>SEPTIC SYSTEM</b>
<input type="checkbox"/>	STORM BACKWATER VALVE SET UP - WILL CAMERA INSPECTION BE NECESSARY	<input type="checkbox"/>	VERIFY THAT THE FIXTURES ON INFO SHEET MATCH THE SEPTIC SUBMITTAL
<input type="checkbox"/>	IS PROPERTY IN BALSAM TRIANGLE? SEE BALSAM TRIANGLE MAP	<input type="checkbox"/>	VERIFY APPROVAL FROM TBDHU
<input type="checkbox"/>	DRAINS IN ATTACHED OR DETACHED GARAGES – SEE BINDER DETAIL	<input type="checkbox"/>	RENOS? ENSURE FIELD IS ADEQUATE TO SUPPORT ADDITIONAL FIXTURES, MAY NEED APPROVAL FROM TBDHU
<input type="checkbox"/>	SEWAGE PIT – IS GRAVITY POSSIBLE		<b>HYDRONIC INFO</b>
<input type="checkbox"/>	IS VENT TO BE 3" OR 4"	<input type="checkbox"/>	DETERMINE IF PRIMARY OR SUPPLEMENTAL HEAT
<input type="checkbox"/>	PROPER DETAIL FOR ISLAND SINK	<input type="checkbox"/>	VERIFY PROPER DESIGNER IF PRIMARY
<input type="checkbox"/>	PUMP DISCHARGE AT LAST POINT OF EXIT ON DRAIN	<input type="checkbox"/>	INSURE HYDRONICS CHECKED OFF ON PLUMBING INFO SHEET
<input type="checkbox"/>	ENSURE BACKWATER VALVES ARE NORMALLY OPEN ON BUILDING DRAIN	<input type="checkbox"/>	REVIEW HEAT LOSS CALCS ENSURE HEATLOSS = HEAT GAIN
<input type="checkbox"/>	HOUSE ON WELL? - SEE RIGHT SIDE COLUMN	<input type="checkbox"/>	REVIEW SUPPLEMENTAL NEEDS IF NECESSARY ie BASEBOARDS FORCED AIR MATCH NECESSARY HEAT NEEDS
<input type="checkbox"/>	HOUSE ON SEPTIC? - SEE RIGHT SIDE COLUMN	<input type="checkbox"/>	IF SUPPLEMENTAL HEAT IS ELECTRIC ENSURE THE COMPLIANCE PACKAGE MEETS THE ELECTRIC REQUIREMENTS –SEE RBT FOR ASISTANCE
<input type="checkbox"/>	HOUSE HAVE HYDRONIC HEAT? - SEE RIGHT SIDE COLUMN	<input type="checkbox"/>	LOOK FOR UNHEATED SPACES SUCH AS STAIRWELLS
<input type="checkbox"/>	IS IT A CAB OVER? - NOTE FOR INSULATION DETAIL FOR RBT		CHECK BOILER OUTPUT MEETS HEAT LOSS
<input type="checkbox"/>	WATER SERVICE ADEQUATE SIZE OR IS IT LEAD	<input type="checkbox"/>	IS GLYCOL OR HEAT EXCHANGER INFORMATION NEEDED
	<b>SMALL MULTI UNIT RESIDENTIAL APARTMENT CREATIONS UP TO 4-PLEX</b>	<input type="checkbox"/>	IS THERE SECONDARY LOOPS FOR ATTACHED GARAGES? ENSURE PROPER GLYCOL /HEAT EXCHANGER /EXPANSION AND PRESSURE RELIEF
<input type="checkbox"/>	IS THE SEWER SIZE APPROPRIATE IS CAMERA INSPECTIONP NEEDED	<input type="checkbox"/>	PIPE SIZE AND SPACING CORRECT?
<input type="checkbox"/>	IS WATER SERVICE APPROPRIATE SIZE ENSURE NO LEAD	<input type="checkbox"/>	LOOPS UNDER 300'?
<input type="checkbox"/>	ENSURE PROPER INDIVIDUAL SUITE SHUT-OFFS	<input type="checkbox"/>	ENSURE PROPRER TUBE USED
<input type="checkbox"/>	ENSURE FULL LAUNDRY ACCESS FOR EACH SUITE	<input type="checkbox"/>	ENSURE PROPER R-VALUE AND THERMAL WALL BREAK
<input type="checkbox"/>	IS CONTRACT WITH ENGINEERING NECESSARY	<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>	

# ISOMETRIC DRAWING SAMPLE





# LAND DEVELOPMENT PROGRAM SEWAGE SYSTEM PERMIT

458

Class: 2  3  4  5



Thunder Bay District  
**Health Unit**

Date MAY 23, 2017

Permit issued in accordance with Application No. 32-2017

Issued to:

Legal Description of Property: R.P. 55R-14003 - Pts 3, 4, 6 & 7, GORHAM TWP-330 MELBOURNE

Conditions of Approval: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CONSTRUCTION SHALL CONFORM TO: THE INFORMATION, PLANS AND SPECIFICATIONS SUBMITTED WITH THE ABOVE NOTED APPLICATION; TO THE PROVISIONS OF THE BUILDING CODE ACT, R.S.O. 1992 CHAPTER 23, AS AMENDED AND THE REGULATIONS MADE THEREUNDER, AS AMENDED; BOARD OF HEALTH BY-LAWS; AND OTHER APPLICABLE STATUTES AND LAWS.

Recommended by: R. KRAEMER Signature: R. Kraemer

WHITE – Owner's Copy    PINK – Building Permit Copy    BUFF – Office Copy



Measurements recorded as:  Metric  Imperial

A177306

Page      of     

**Well Owner's Information**

Well Name:          Last Name / Organization: 2199 1108 INC E-mail Address:           Well Constructed by Well Owner

Building Address (Street Number/Name):          Municipality: Thunder Bay Province: ON Postal Code: P502A1 Telephone No. (inc area code): 807 610 1814

**Well Location**

Address of Well Location (Street Name and Number):          Township:          Lot:          Concession:         

City/Town/Village: Thunder Bay Province: Ontario Postal Code:         

Municipal Plan and Sublot Number: 55R11716 Sec 3 pt 5w 4 File: 15384 40603

**Stratigraphic and Bedrock Materials/Attachment Sealing Record** (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m)	
				From	To
brown	stagnant clay	stones	soft	0'	10'
green	silt		hard packed	10'	20'
grey	silty clay	gravel	hard packed	20'	48'
pink	gneiss	lysed block granite	hard	48'	110'



**Annular Space**

Depth Set at (m)	Type of Sealant Used (Material and Type)		Volume Placed (m <sup>3</sup> )
	From	To	
0	0'	benotite	

**Results of Well Yield Testing**

Any test of well yield, water was:  Clear and sand free  Other, specify:         

If pumping discontinued, give reason:         

Pump intake set at (m)	Pumping rate (flow / CFM)	Duration of pumping	First water level/end of pumping (m)	Flow rate (m <sup>3</sup> /min / GPM)	
				At start	At end
14.0'	4.6 GPM	2 hrs - 0 min	131.2		

Recommended pump depth (m): 135'

Recommended pump rate (flow / GPM): 10 GPM

Well production (flow / GPM): 8 GPM

Discharged:  Yes  No

**Method of Construction**

Casing Test:  Diurnal  Public  Commercial  Not used

Recovery (Conventional):  Jacking  Domestic  Municipal  Disabling

Rigging (Reverse):  Chaining  Livestock  Test Hole  Monitoring

Boring:  Digging  Digging  Cooling & Air Conditioning

Air percussion:  Industrial

Other, specify:         

**Construction Record - Casing**

Inside Diameter (m)	Open Hole OR Material (Substance, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (m)	Depth (m)		Status of Well
			From	To	
3.4'	steel	128'	70'	50'	<input checked="" type="checkbox"/> Water Supply <input type="checkbox"/> Replacement Well <input type="checkbox"/> Test Hole <input type="checkbox"/> Recirculating Well <input type="checkbox"/> Disabling Well <input type="checkbox"/> Observation or Monitoring/Alarm <input type="checkbox"/> Abandonment <input type="checkbox"/> Construction <input type="checkbox"/> Abandoned <input type="checkbox"/> Insufficient Supply <input type="checkbox"/> Altered Use, Poor Water Quality <input checked="" type="checkbox"/> Adhesed, other, specify: <u>        </u> <input type="checkbox"/> Other, specify: <u>        </u>

**Construction Record - Screen**

Depth (m)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m)		Status of Well
			From	To	
					<input type="checkbox"/> Altered Use, Poor Water Quality <input checked="" type="checkbox"/> Adhesed, other, specify: <u>        </u> <input type="checkbox"/> Other, specify: <u>        </u>

**Water Details**

For found at Depth: 0' (m) (ft)  Gas  Other, specify:           Fresh  Unkempt

For found at Depth:          (m) (ft)  Gas  Other, specify:           Fresh  Unkempt

For found at Depth:          (m) (ft)  Gas  Other, specify:           Fresh  Unkempt

**Well Contractor and Well Technician Information**

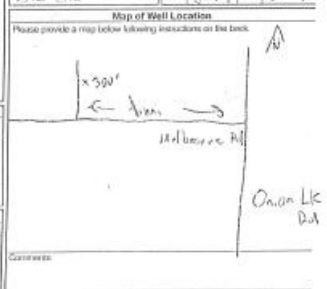
Approx Name of Well Contractor: Amethyst Well Drilling Well Contractor's License No.: 613 18 14

Contract Address (Street Number/Name): 224 Wynn Rd Municipality:         

Phone: 807 610 2021 Business E-mail Address:         

Telephone No. (inc area code): 807 931 5150 Name of Well Technician (Last Name, First Name): Wynn Adam

Technician's License No.: 17219 Signature of Technician (and/or Contractor):          Date Submitted:         



Well owner's information package delivered:  Yes  No

Date Package Delivered: 2015 11 12

Ministry Use Only

Accession No. 2223541

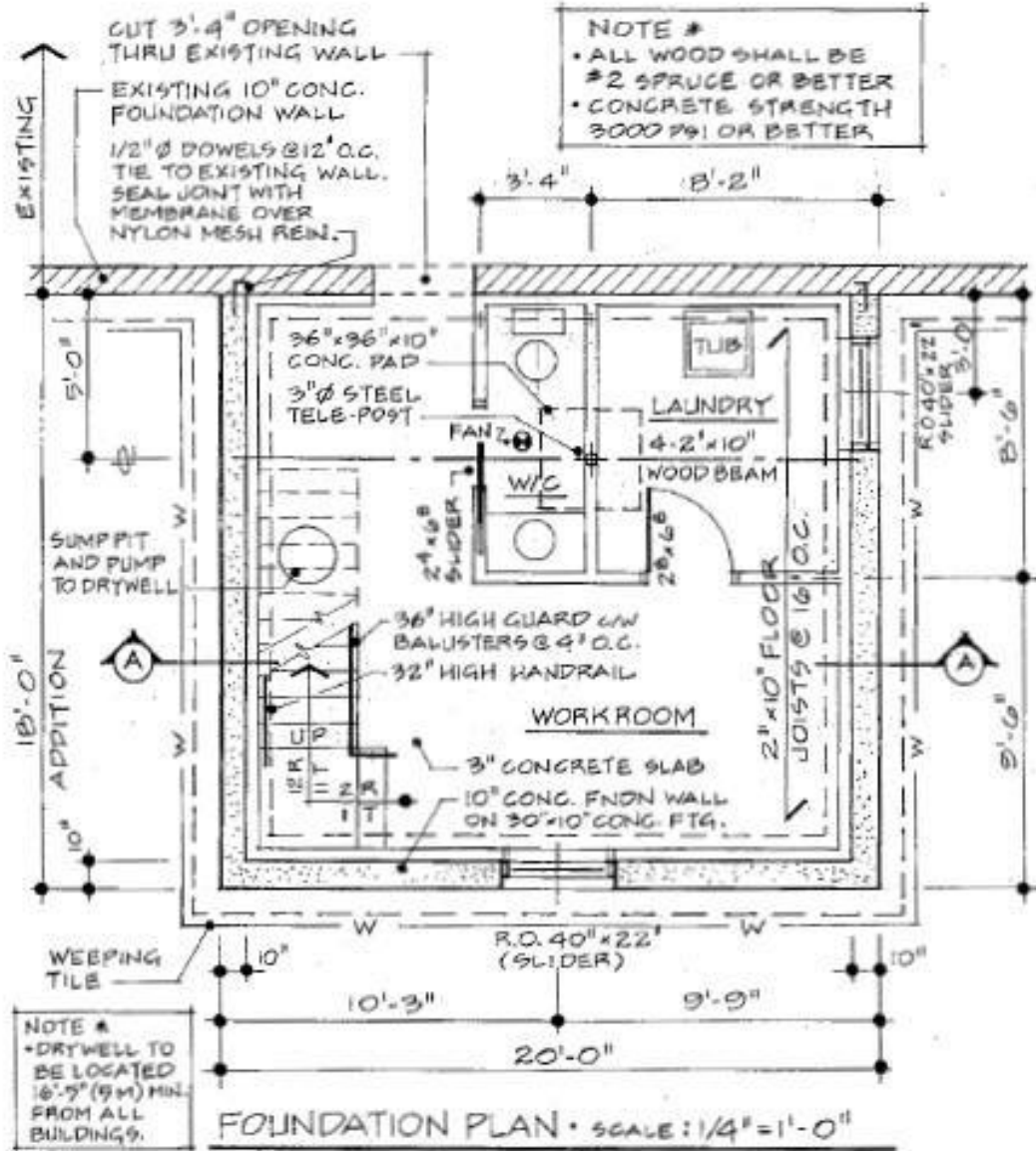
Date Stamp Completed:         

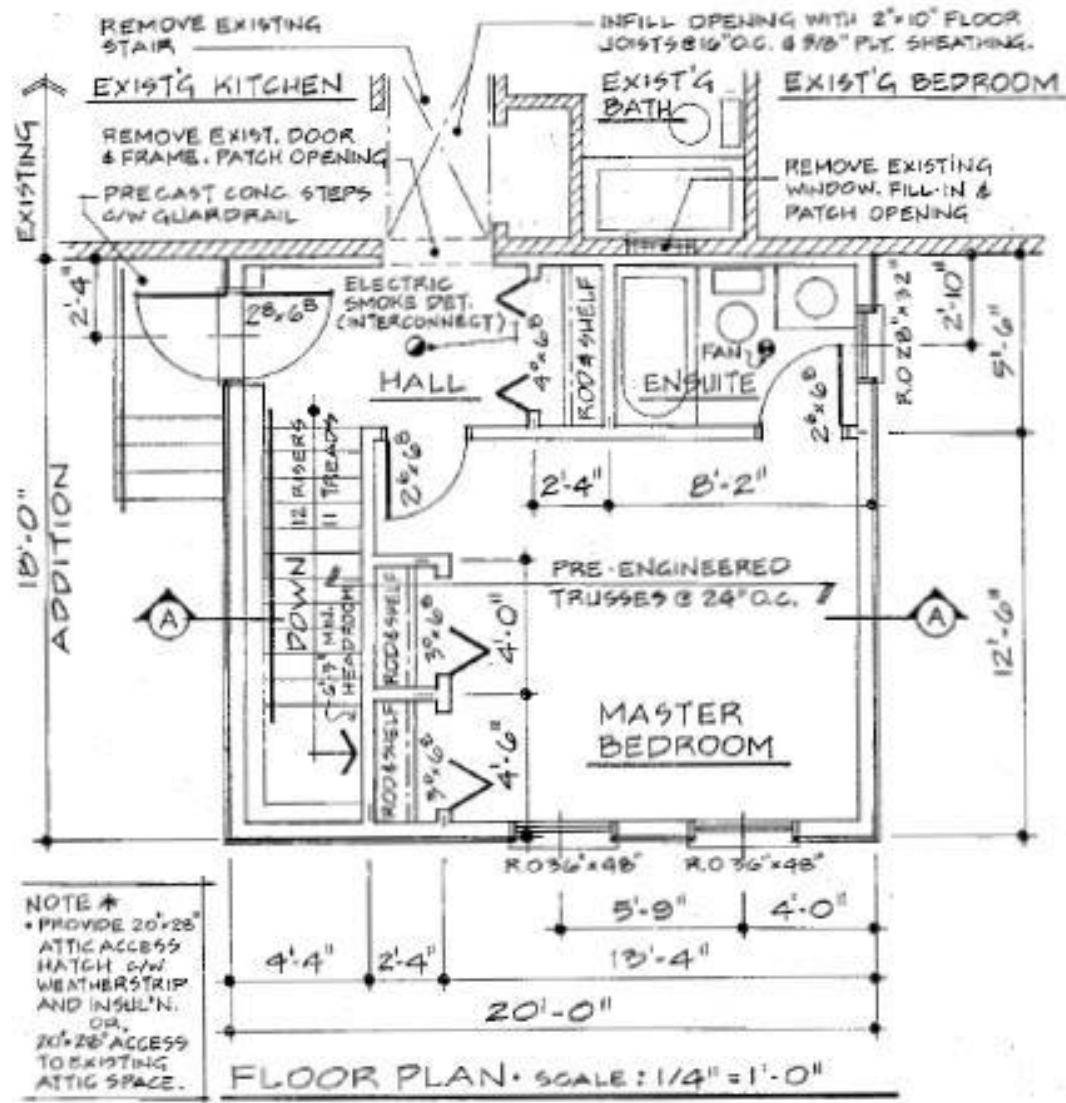


# Building Plan Requirements

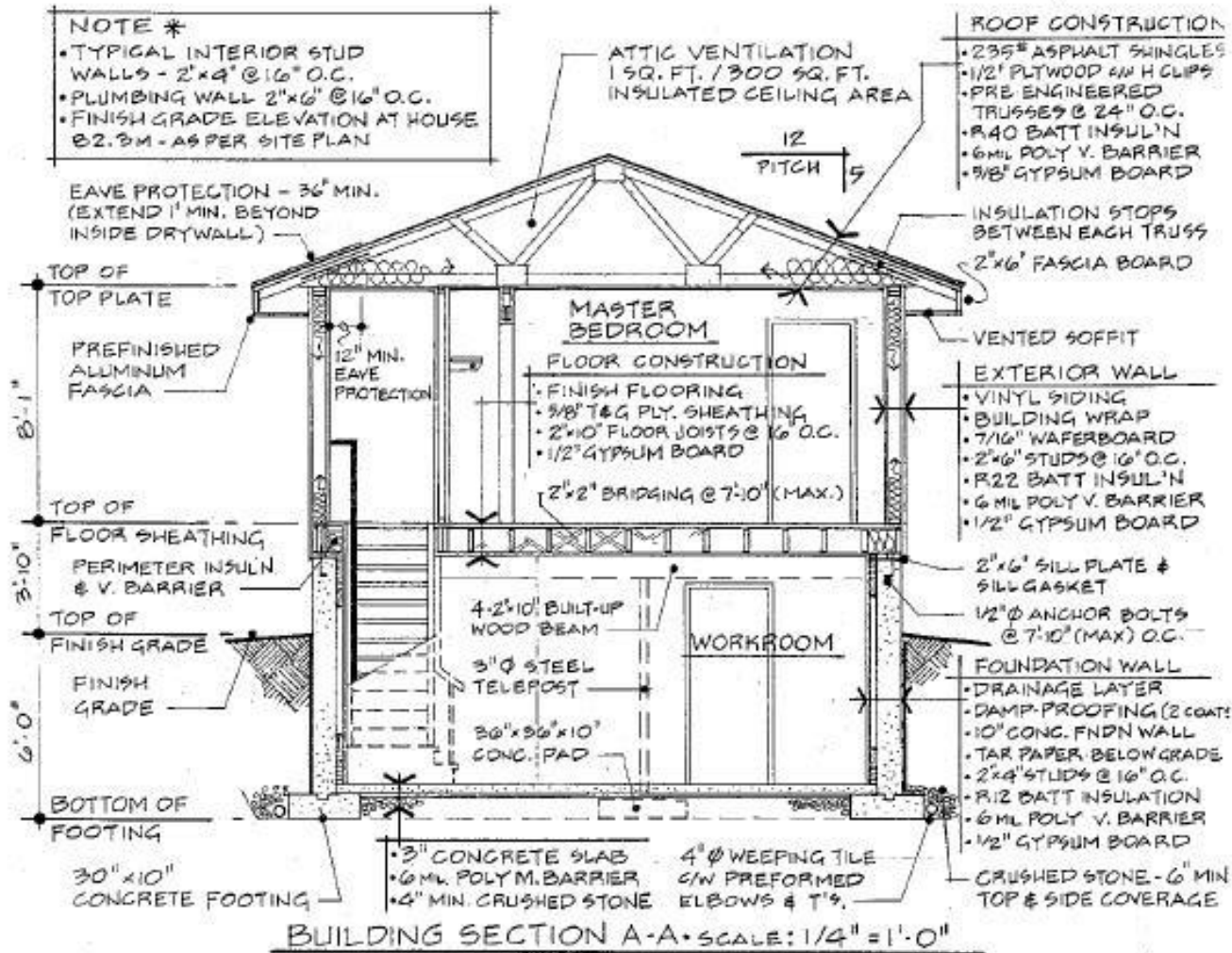
Plans can be done by the homeowner or by a Registered Designer and must include:

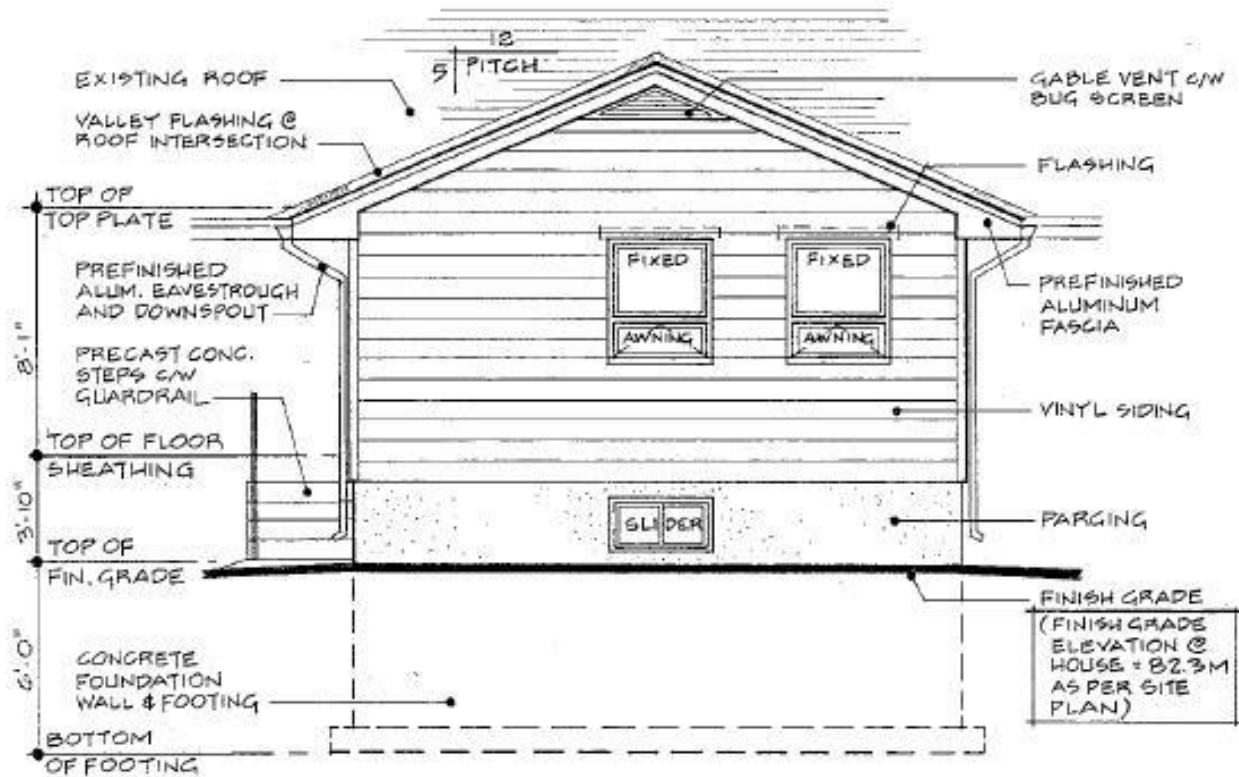
- Foundation Plan
- Floor Plans
- Cross Section or Exterior Wall Section
- Elevations
- Plumbing Isometric
- Site Plan / Lot Grading and Drainage Plan



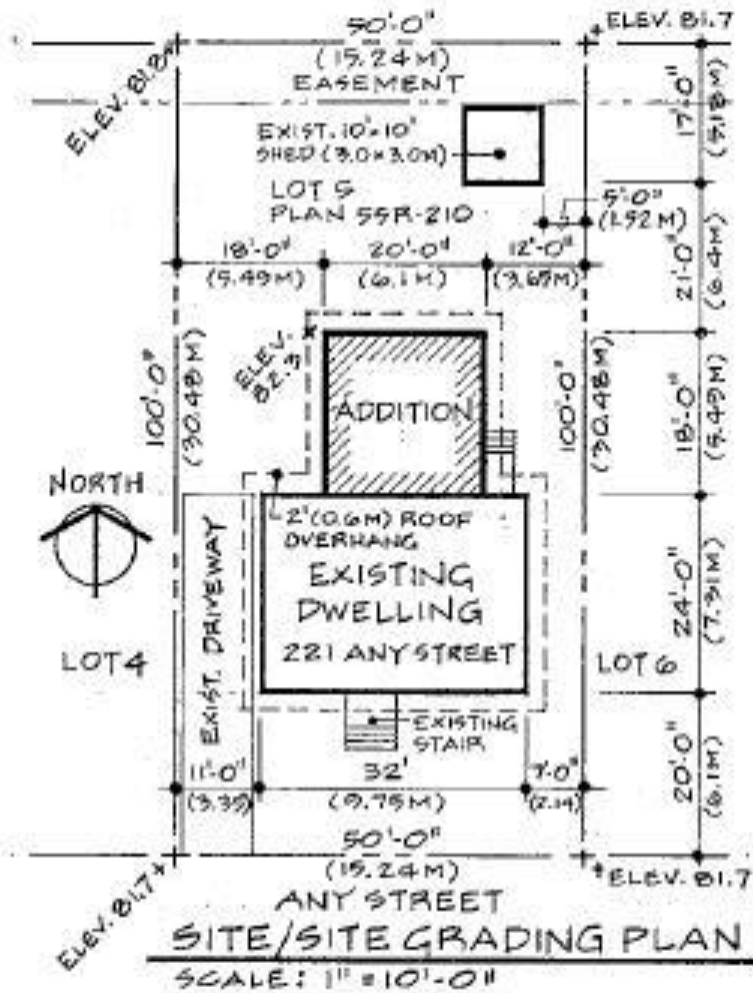








BACK ELEVATION SCALE: 1/4" = 1'-0"



**Mandatory Notices for Inspections (1 & 2 Family Dwellings)**

The person to whom a *building permit* is issued shall notify the appropriate inspector and request an inspection at the following stages of construction:

**Building Inspector**

1. Readiness to construct footings.
2. Substantial completion of footings and foundations prior to the commencement of backfilling
3. Substantial completion of soil gas barrier/reinforcing prior to basement floor or slab on grade pour.
4. Substantial completion of structural framing and ductwork and piping for heating and air conditioning for Residential Buildings
5. Substantial completion of insulation
6. Substantial completion of vapour/air barriers
7. Substantial completion of all required fire separations and closures and all fire protection systems required in multi-residential buildings
8. Rough-in of solid fuel fired appliances and chimneys (fireplaces, woodstoves, etc.)

**Plumbing Inspector**

9. Substantial completion of the sewage system before the commencement of backfilling
10. Substantial completion of plumbing not located in a structure, prior to backfilling
11. Readiness and testing of:
  - a. building sewers and building drains
  - b. water service pipes
  - c. drainage systems and venting systems
  - d. the water distribution system, and
  - e. plumbing fixtures and plumbing appliances
  - f. heating systems – Hydronic and Geothermal

**Building & Plumbing Inspectors**

12. Completion of construction and installation of components required to permit the issue of an occupancy permit under Div C Part 1, 1.3.3.1.(2) or to permit occupancy under Div C Part 1, sentence 1.3.3.2.(1), if the building or part of the building to be occupied is not fully completed.
13. Completion of Project – Final Inspection (if not fully completed at Stage 12)

**Inspection Contact Numbers**

Contact Building and Plumbing Inspectors by phone Mon. to Fri. between 8:30am to 9:30am

**Building Inspectors**

Northward: 625-2570

Southward: 625-3124

Email: [GGigliotti@thunderbay.ca](mailto:GGigliotti@thunderbay.ca)

Email: [JDuce@thunderbay.ca](mailto:JDuce@thunderbay.ca)

**Plumbing Inspectors**

Northward: 625-2736

Southward: 625-2868

Email: [JMagierowicz@thunderbay.ca](mailto:JMagierowicz@thunderbay.ca)

Email: [MMcFarlane@thunderbay.ca](mailto:MMcFarlane@thunderbay.ca)

The set of drawings reviewed and stamped by the Building Services Division Office are to be kept on site during construction and the orange card conspicuously posted.

The permit fee includes, in general, the cost of a single site inspection for the construction stages listed above. Additional inspections may be subject to additional fees. Inspections may be performed on active permits, at no additional fee, on other aspects of construction not mentioned above, as determined appropriate, provided the work is an integral part of the permit, as reviewed by the Building Services Division, at the time of permit issuance. Should you have any questions regarding these matters, please call the Building Services Division office at: 625-2574.

**NOTE: CHANGES HAVE BEEN MADE TO THE ONTARIO BUILDING CODE. THESE CHANGES WERE EFFECTIVE JANUARY 1, 2017**

**PLEASE REVIEW THE *CORRECTIONS, COMMENTS and ATTACHMENTS* ON THE ATTACHED REVIEWED PLANS BEFORE STARTING CONSTRUCTION.**

**IF YOU HAVE ANY QUESTIONS REGARDING YOUR REVIEWED PLANS, PLEASE CONTACT YOUR PLANS EXAMINER.**

# Inspections Stages

It is the responsibility of the applicant to call for inspections at the appropriate stages.

# INSPECTION REPORT

TO _____  LOCATION _____  PERMIT # _____  LEGAL DESCRIPTION _____  INSPECTION STAGE _____	<input type="checkbox"/> THIS IS A RECORD OF THE INSPECTOR'S FINDINGS. <input type="checkbox"/> THIS IS AN ORDER UNDER THE ONTARIO BUILDING CODE ACT, S.O. 1992, CHAPTER 23, SECTION 12(2) AS AMENDED, SECTION VIOLATION.  <b>COPY</b> <input type="checkbox"/> POSTED ON SITE: _____ <input type="checkbox"/> GIVEN TO: _____ <input type="checkbox"/> FAXED TO: _____ <input type="checkbox"/> MAILED TO: _____
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<b>CONSTRUCTION STATUS</b>	_____
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**INSPECTION PARTICULARS**

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Other inspection stages (e.g. building, plumbing) may be required prior to covering work, occupancy, or final inspection. Refer to the "Mandatory Inspections Checklist" included with your building permit documentation. It is the responsibility of the owner/authorized representative to coordinate and obtain the required inspections. \_\_\_\_\_

Electrical inspections are performed by the Electrical Safety Authority (ESA). Ensure electrical inspections are completed prior to covering work.

- Acceptable for Stage Noted
- Stop All Work Immediately and Take Action Required Above
- Apply For and Obtain Occupancy Permit Prior to Occupancy
- Undertake Corrections, and:
  - Call for Re-inspection
  - Call at Next Stage: \_\_\_\_\_

**CONTACT 8:30 am - 9:30 am**

Building	Plumbing
<input type="checkbox"/> (807) 625-2570	<input type="checkbox"/> (807) 625-2280
<input type="checkbox"/> (807) 625-2468	<input type="checkbox"/> (807) 625-2868
<input type="checkbox"/> (807) 625-3124	<input type="checkbox"/> (807) 625-2736
<b>Backflow</b> .....	<input type="checkbox"/> (807) 625-3430
<b>FAX Number</b> .....	<b>(807) 623-9344</b>

INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

TB36(rev11/15) **\*INSPECTIONS ARE MANDATORY. PLEASE CALL YOUR INSPECTOR AT ALL INSPECTION STAGES & AS NOTED ABOVE.**



# PWF Foundation



# Prior to Backfill Inspection



# Prior to Backfill Inspection





# Prior to Backfill Inspection



# Prior to Backfill Inspection



# Soil Gas Barrier Inspection



# Framing Inspection



# Framing Inspection



# Framing Inspection



# Framing Inspection



# HVAC Rough-in Inspection





# HVAC Rough-in Inspection



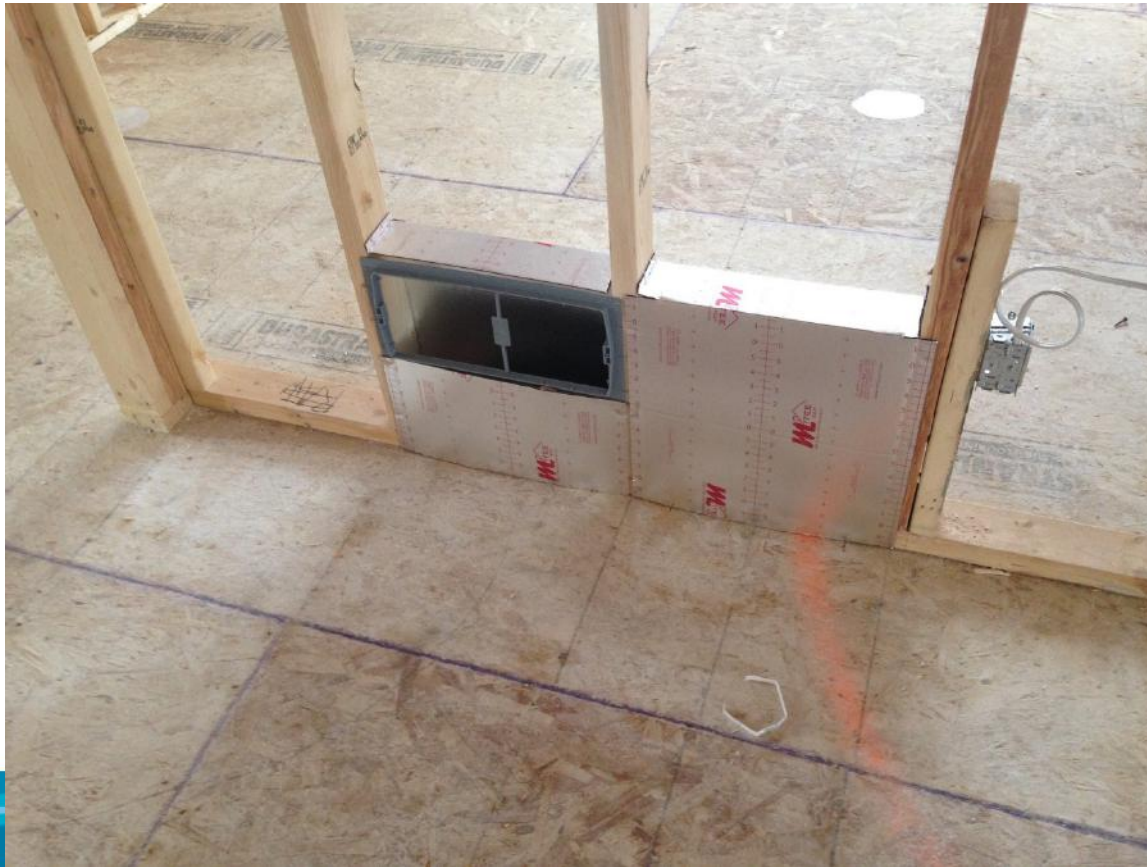
# HVAC Rough-in Inspection



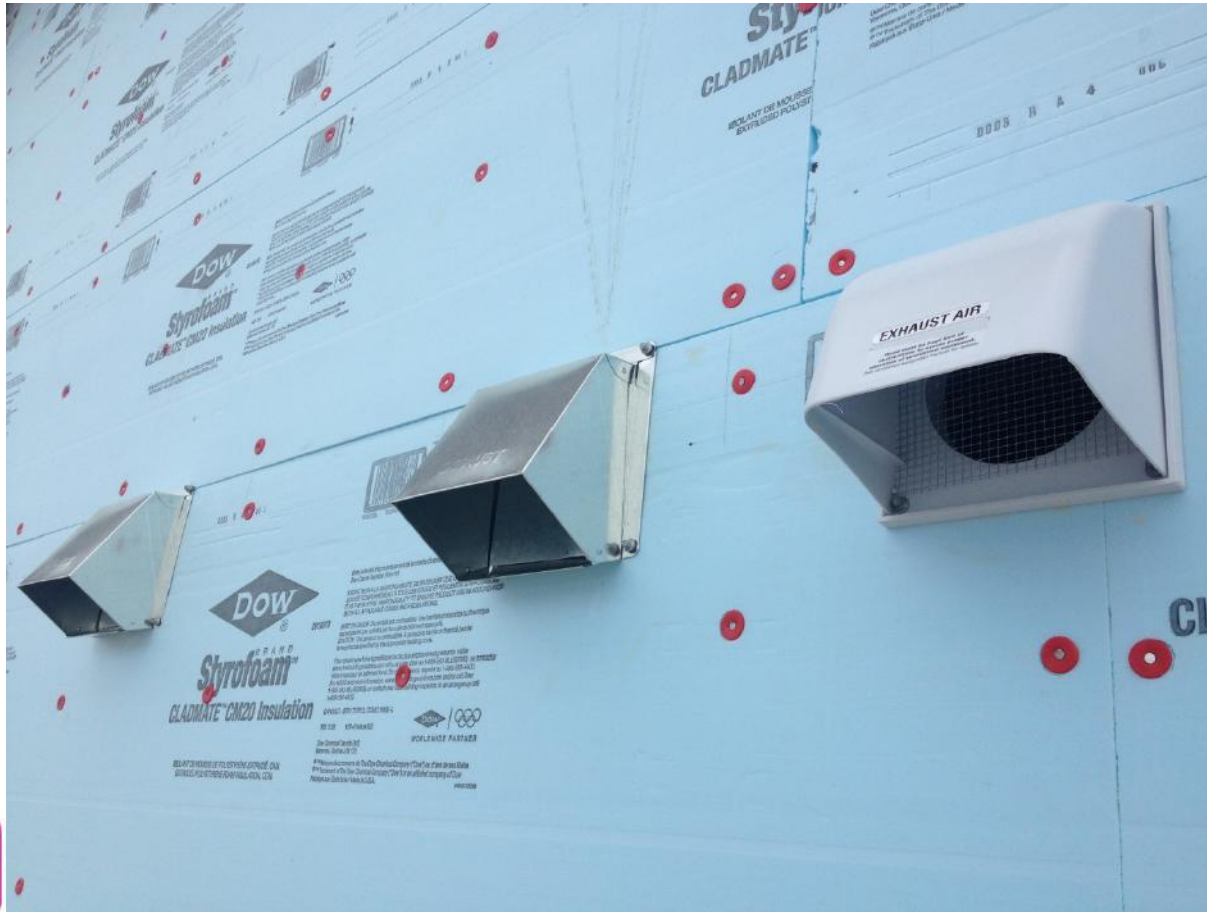
# HVAC Rough-in Inspection



# HVAC Rough-in Inspection



# Exterior HVAC Inspection



# Exterior HVAC Inspection



# Insulation Inspection - Continuous Exterior



# Insulation Inspection - Continuous Exterior





# Insulation Inspection - Interior



# Insulation Inspection - Interior



# Vapour Barrier Inspection



# Vapour Barrier Inspection



# Prior to Occupancy Inspection



## OCCUPANCY PERMIT

**OWNER(S) AND MAILING ADDRESS:**

[REDACTED] THUNDER BAY ON P7C 5P4 CANADA  
[REDACTED] THUNDER BAY ON P7C 5P4 CANADA

**PROJECT LOCATION:**

STREET NUMBER: 373 STREET NAME: SOUTH CREEK ST  
LEGAL DESCRIPTION: PLAN 55M634 LOT 14

**APPLICANT(S) NAME AND ADDRESS:**

[REDACTED] THUNDER BAY ON P7C 5P4 CANADA

**AREA TO BE OCCUPIED:**

TWO STOREY SINGLE DETACHED DWELLING WITH ATTACHED GARAGE AND DECK

**NOTE: THIS PROJECT IS NOT COMPLETE. A FINAL BUILDING INSPECTION IS REQUIRED. CONTACT JEFFREY DUCE AT (807) 625-3124 ON OR BEFORE FEBRUARY 22, 2018 TO ARRANGE THIS INSPECTION.**

**NOTE: THIS PROJECT IS NOT COMPLETE. A FINAL PLUMBING INSPECTION IS REQUIRED. CONTACT JOHN MAGIEROWICZ AT (807) 625-2736 ON OR BEFORE FEBRUARY 22, 2018 TO ARRANGE THIS INSPECTION.**

**Note: Only a short term radon test has been completed in this dwelling. Health Canada recommends a 90 day radon test be completed.**

**AUTHORITY:** The Ontario Building Code Act, Chapter 23, as amended

No person shall occupy or use or permit to be occupied or used any building or part thereof newly erected or installed;

- a) Until notice of the date of completion of the building or part thereof is given to the Chief Building Official;
- b) Until an inspection is made pursuant to such notice; and
- c) Until any order made by an inspector under Section 12, of The Building Code Act, is complied with.

This Department is satisfied that the above structure has been completed to the state that occupancy can be permitted under the minimum requirements of The Building Code. (Division C, Part 1, Subsection 1.3.3.)

An Occupancy Permit can be issued prior to project completion. Where a person has occupied or permitted the occupancy of a building under this subsection, such person shall notify the Chief Building Official forthwith upon completion of the building. (Division C, Part 1, Article 1.3.3.3.)

Jeffrey Duce / 22-NOV-2017  
BUILDING INSPECTOR/DATE

John Magierowicz / 22-NOV-2017  
PLUMBING INSPECTOR/DATE

  
CHIEF BUILDING OFFICIAL/DATE

Nov. 22, 2017.

# Final Inspection - Building & Plumbing



# Plumbing Inspections

- Site services- extending services into building





# The beauty of plumbing


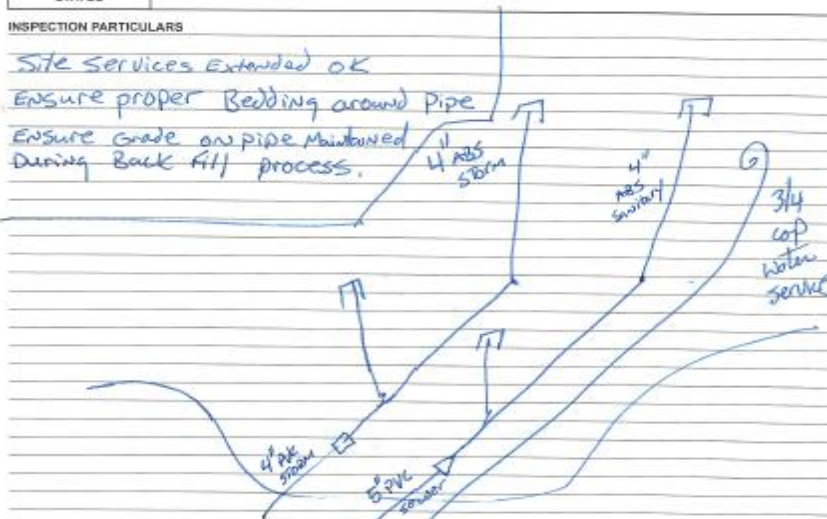



# Service extensions





# Site service inspection reports

 <b>DEVELOPMENT &amp; EMERGENCY SERVICES</b> DEPARTMENT - Building Services Division 121 Spadina Avenue S, 2nd Flr 800 Thunder Bay, ON P7C 8K4		<b>INSPECTION REPORT</b>	
TO	Whom it May Concern		
LOCATION	123 wherever st		
PERMIT #			
LEGAL DESCRIPTION			
INSPECTION STAGE	Service extension		
CONSTRUCTION STATUS			
<input type="checkbox"/> THIS IS A RECORD OF THE INSPECTOR'S FINDINGS. <input type="checkbox"/> THIS IS AN ORDER UNDER THE ONTARIO BUILDING CODE ACT, S.O. 1992, CHAPTER 23, SECTION 12(2) AS AMENDED, SECTION VIOLATION.			
COPY		<input checked="" type="checkbox"/> POSTED ON SITE: at Excavator <input type="checkbox"/> GIVEN TO: <input type="checkbox"/> FAXED TO: <input type="checkbox"/> MAILED TO:	
<b>INSPECTION PARTICULARS</b> Site Services Extended OK Ensure proper Bedding around Pipe Ensure grade on pipe maintained during Back fill process.			
			
Other inspection stages (e.g. building, plumbing) may be required prior to covering work, occupancy, or final inspection. Refer to the "Mandatory Inspections Checklist" included with your building permit documentation. It is the responsibility of the owner/authorized representative to coordinate and obtain the required inspections.			
Electrical inspections are performed by the Electrical Safety Authority (ESA). Ensure electrical inspections are completed prior to covering work.			
<input checked="" type="checkbox"/> Acceptable for Stage Noted <input type="checkbox"/> Stop All Work Immediately and Take Action Required Above <input type="checkbox"/> Apply For and Obtain Occupancy Permit Prior to Occupancy <input type="checkbox"/> Undertake Corrections, and:		<input type="checkbox"/> Call for Re-inspection <input type="checkbox"/> Call at Next Stage:	
INSPECTOR: 		CONTACT 8:30 am - 9:30 am <b>Building</b> <input type="checkbox"/> (807) 625-2570 <input type="checkbox"/> (807) 625-2280 <input type="checkbox"/> (807) 625-2468 <input checked="" type="checkbox"/> (807) 625-2858 <input type="checkbox"/> (807) 625-3124 <input type="checkbox"/> (807) 625-2736 <b>Backflow</b> ..... <input type="checkbox"/> (807) 625-3430 FAX Number ..... <input type="checkbox"/> (807) 623-9344	
T3308 (1/15) "INSPECTIONS ARE MANDATORY. PLEASE CALL YOUR INSPECTOR AT ALL INSPECTION STAGES & AS NOTED ABOVE."			



# Groundwork inspections







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**Thunder**  
Sup

[www.thunder](http://www.thunder)

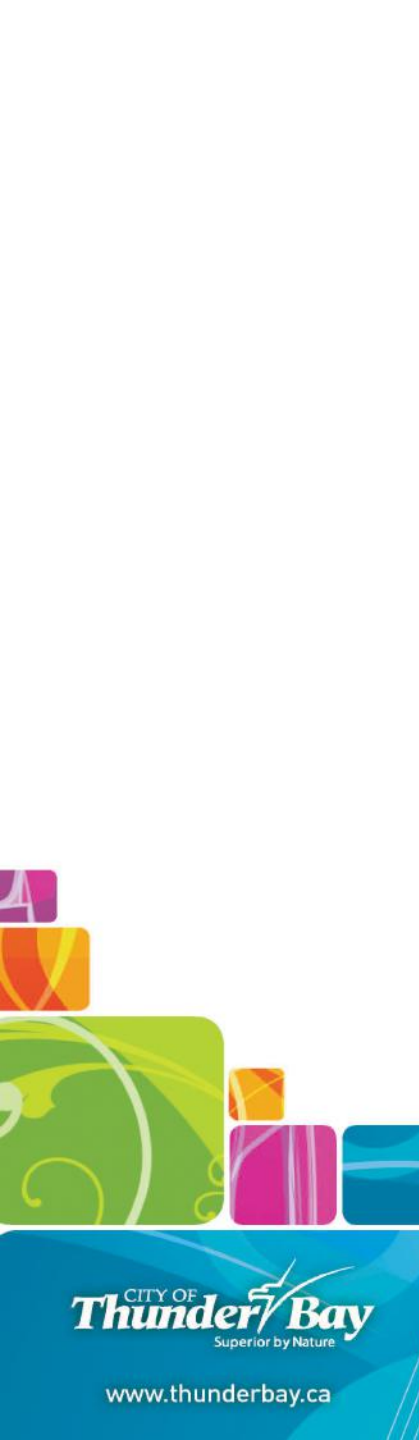




# Drain Waste and Venting







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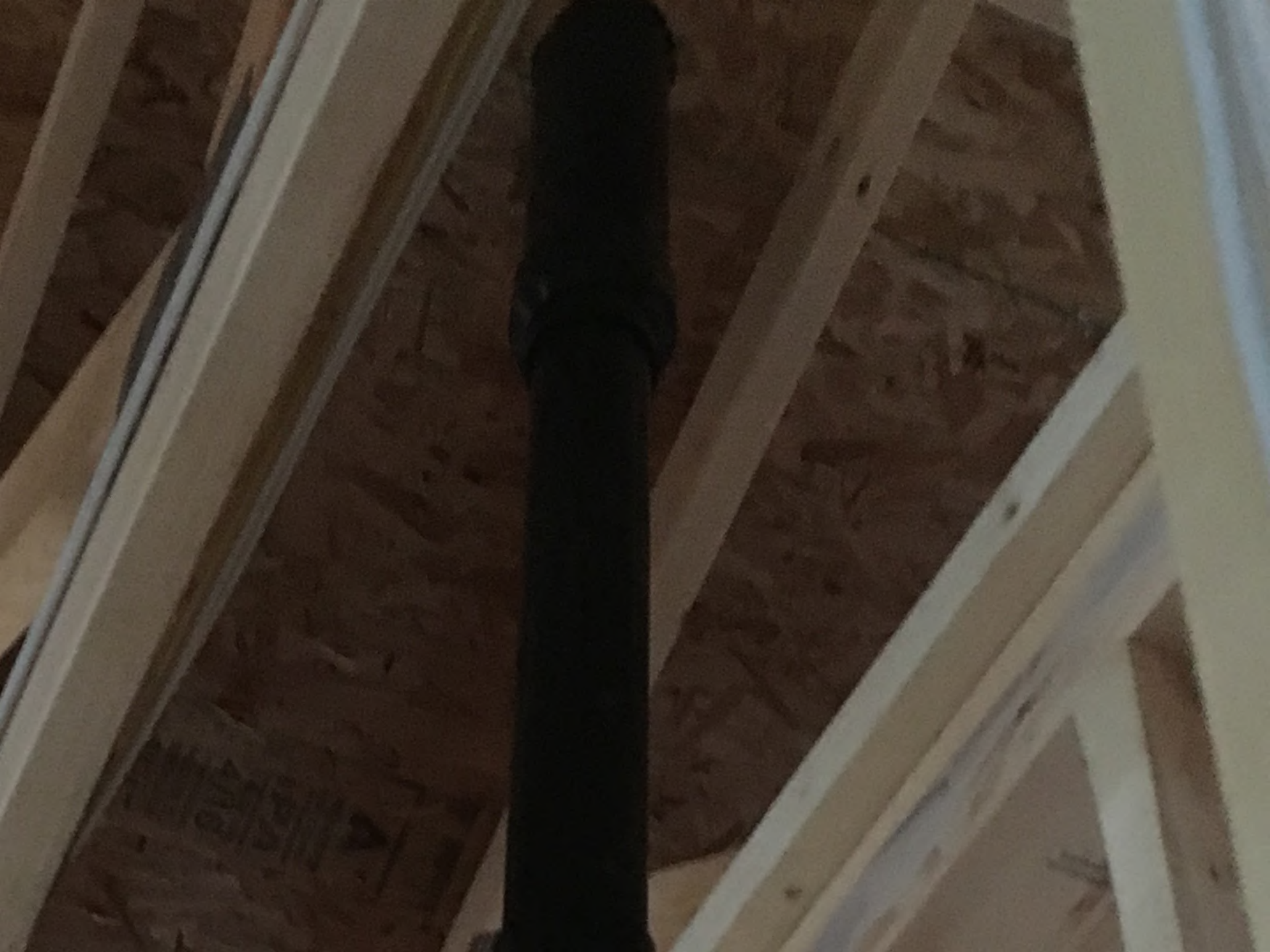
[www.thunderbay.ca](http://www.thunderbay.ca)













# Water Pipe inspection



Table A-7.6.3.1.  
Pipe Size Based on the Number of Fixtures Units Served<sup>(1)</sup>

Water Service, inches	Water Distribution System, inches	Maximum Allowable Length, m														
		12	18	24	30	46	61	76	91	122	152	183	213	244	274	305
Pressure Range		Number of Fixture Units Served														
200 to 310 kPa (30 to 45 psi)																
¾"	½"	6	5	4	3	2	1	1	1	0	0	0	0	0	0	
¾"	¾"	18	16	14	12	9	6	5	5	4	4	3	2	2	1	
¾"	1"	29	25	23	21	17	15	13	12	10	9	7	6	6	6	
1"	1"	36	31	27	25	20	17	15	13	12	10	8	6	6	6	
1½"	1½"	90	68	57	48	38	32	28	25	21	18	15	12	11	11	
1½"	1½"	151	124	105	91	70	57	49	45	36	31	26	23	21	20	
2"	1½"	151	151	132	110	80	64	53	46	38	32	27	23	21	20	
2"	2"	359	329	292	265	217	185	164	147	124	96	70	61	57	54	
2½"	2½"	445	418	390	370	330	300	280	265	240	220	198	175	158	143	
311 to 413 kPa (46 to 60 psi)																
¾"	½"	8	7	6	5	4	3	2	2	1	1	1	0	0	0	
¾"	¾"	21	21	19	17	14	11	9	8	6	5	4	4	3	3	
1"	1"	42	42	41	36	30	25	23	20	18	15	12	10	9	8	
1½"	1½"	83	83	83	83	66	52	44	39	33	29	24	20	19	17	
1½"	1½"	151	151	151	151	128	105	90	78	62	52	42	38	35	32	
2"	1½"	151	151	151	151	150	117	98	84	67	55	42	38	35	32	
2"	2"	359	359	359	359	318	280	250	205	165	142	123	110	102	94	
2½"	2½"	611	611	610	580	535	500	470	440	400	365	335	315	285	250	
Over 413 kPa (60 psi)																
¾"	½"	8	8	7	6	5	4	3	3	2	1	1	1	1	0	
¾"	¾"	21	21	21	21	17	13	11	10	8	7	6	6	5	4	
1"	1"	42	42	42	42	38	32	29	26	22	18	14	13	12	11	
1½"	1½"	83	83	83	83	83	74	62	54	43	34	26	25	23	21	
1½"	1½"	151	151	151	151	151	130	113	88	73	51	51	46	43	40	
2"	1½"	151	151	151	151	151	142	122	98	82	64	51	46	43	40	
2"	2"	359	359	359	359	359	359	359	340	288	245	204	172	153	141	
2½"	2½"	611	611	611	611	611	610	570	510	460	430	404	380	356	329	
Column 1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	

Notes to Table A-7.6.3.1.:

(1) Where total fixture unit values exceed those given in this Table, the system must be designed according to a detailed engineering design method.



# Plumbing Occupancy Inspection



# Customer expectations



# Actual Reality







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CHECK	INSPECTION	COMMENTS
<input type="checkbox"/>	<b>METER-SET:</b> ___ Spacing      ___ Stop and Drain Valve ___ PRV            ___ Expansion Tank ___ Remote Cable ___ No spacer in place	
<input type="checkbox"/>	<b>STORM:</b> ___ Union            ___ Check Valve	
<input type="checkbox"/>	<b>BLOW DOWNS FOR PEX PIPING</b>	
<input type="checkbox"/>	<b>TRAP SEAL PRIMERS</b>	
<input type="checkbox"/>	<b>HOT WATER TANK:</b> ___ Expansion tank—valve on cold water feed ___ Relief Valve piped 6" to 12" above floor ___ Mixing Valves    ___ Check for EF factor on rating plate	
<input type="checkbox"/>	<b>COPPER SUPPLY PIPING:</b> ___ No trapped water lines ___ Ensure lead free solder has been used	
<input type="checkbox"/>	<b>LAWN HYDRANTS:</b> ___ Non-freeze (requires valve) ___ Hose Bib (requires stop and drain close by)	
<input type="checkbox"/>	<b>MAIN CLEAN OUT:</b> ___ Ensure accessible (all other cleanouts as well)	
<input type="checkbox"/>	<b>ROUGH-IN:</b> ___ Permanently capped.	
<input type="checkbox"/>	<b>GROUNDWORK AS-BUILD DRAWING</b>	
<input type="checkbox"/>	<b>FIXTURES:</b> ___ Require CSA marking visible (if not, provide documentation & cut sheets).	
<input type="checkbox"/>	<b>TRAPS:</b> ___ Union type or provide in-line cleanout (kitchen only).	
<input type="checkbox"/>	<b>LAUNDRY CONNECTIONS</b>	
<input type="checkbox"/>	<b>DISHWASHER:</b> ___ Connect above trap. ___ Run hose high in the cupboard space.	
<input type="checkbox"/>	<b>CERTIFICATE OF COMPLETION FOR SEPTIC SYSTEM</b>	
<input type="checkbox"/>	<b>HOUSE TO SEPTIC FIELD CONNECTION</b>	
<input type="checkbox"/>	<b>HYDRONICS:</b> ___ Glycol information letter submitted. ___ Heat exchanger ferrocides installed ___ Secondary loops have thermal expansion & pressure reliefs ___ In-floor as-builts submitted	
<input type="checkbox"/>	<b>WATER CONTRACT SIGNED AT REVENUE (water is off)</b>	
<input type="checkbox"/>	<b>PLUMBING GROUNDWORK COMPLETE</b>	
<input type="checkbox"/>	<b>SOIL GAS PIPE COMPLETE</b>	
<input type="checkbox"/>	<b>DWV COMPLETE</b>	



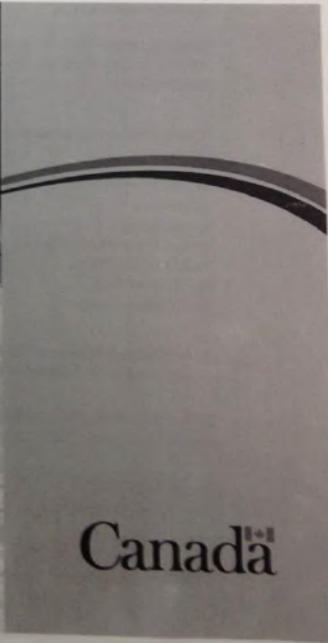
# Recent Code Changes



# Cross-Canada Survey of Radon Concentrations in Homes

## Final Report

*page 1  
page 11  
MAKE 25/199;  
- normal radon levels,  
start to surface,  
on new houses*



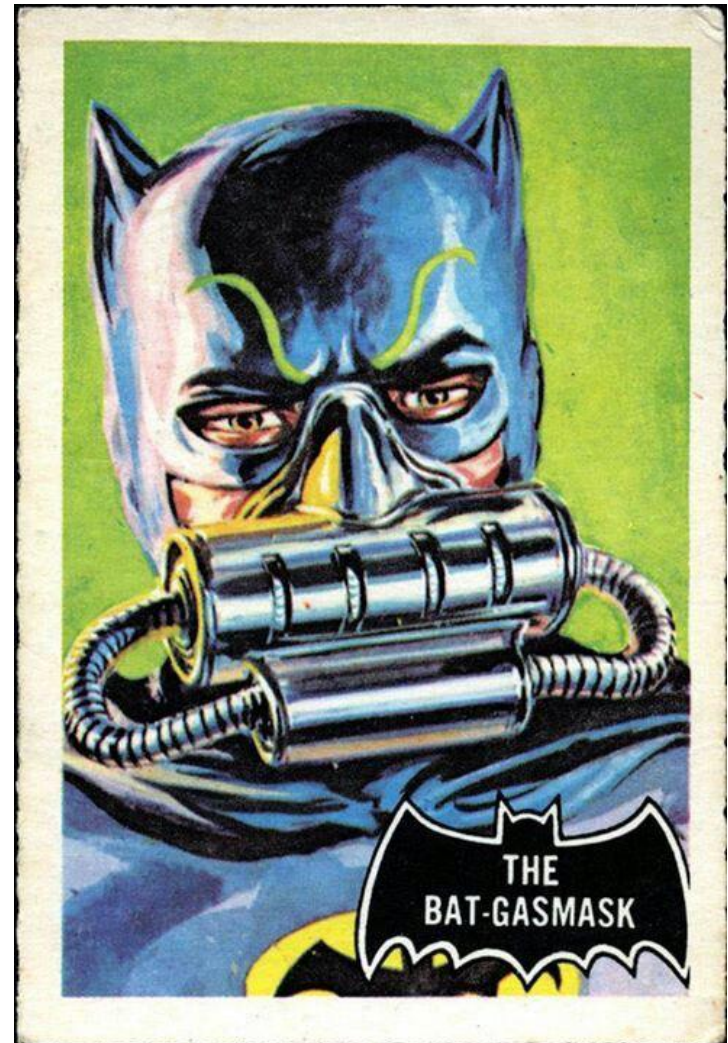
# Health Canada Survey

- Arrived on our desk Spring 2014
- 12% of homes tested in Thunder Bay District exceeded 200 Bq/m<sup>3</sup>
- Consult with Legal Division - Is radon now known to be a problem?

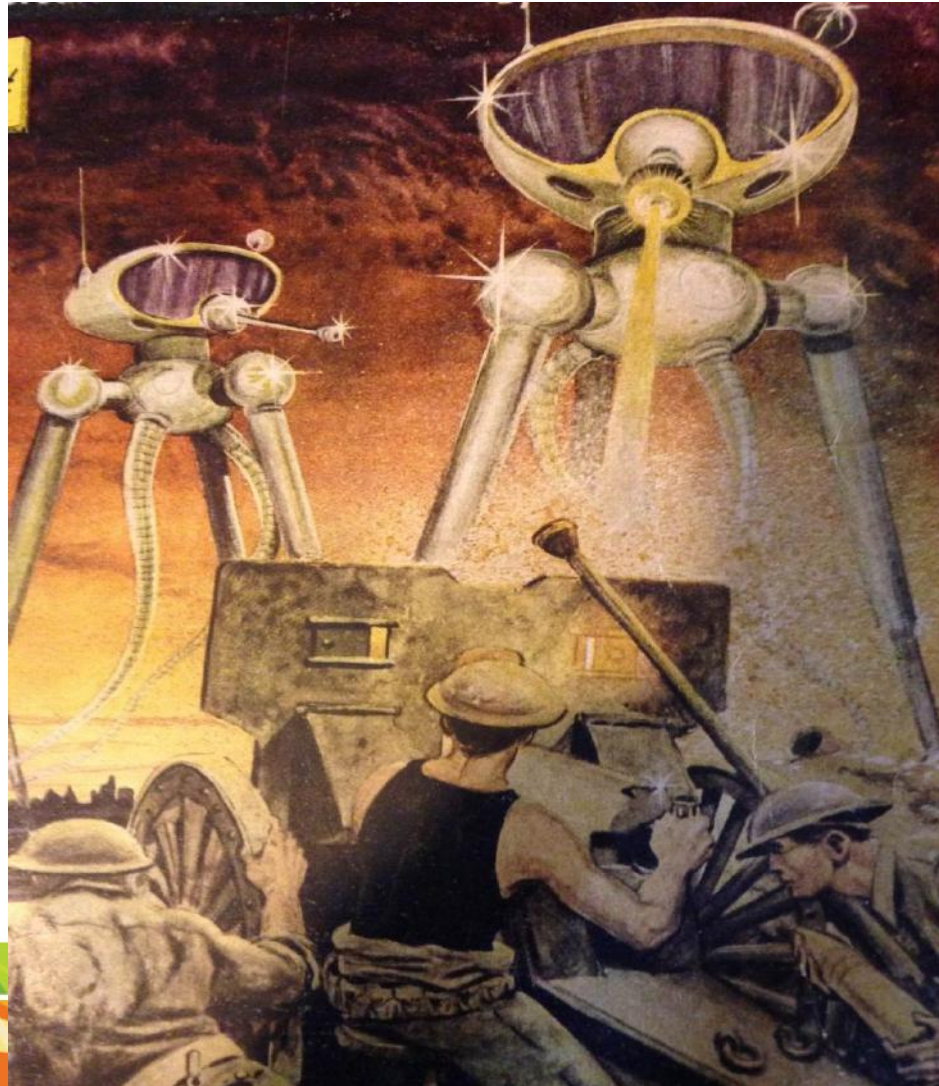
# One option



# Another solution



# What is Radon?





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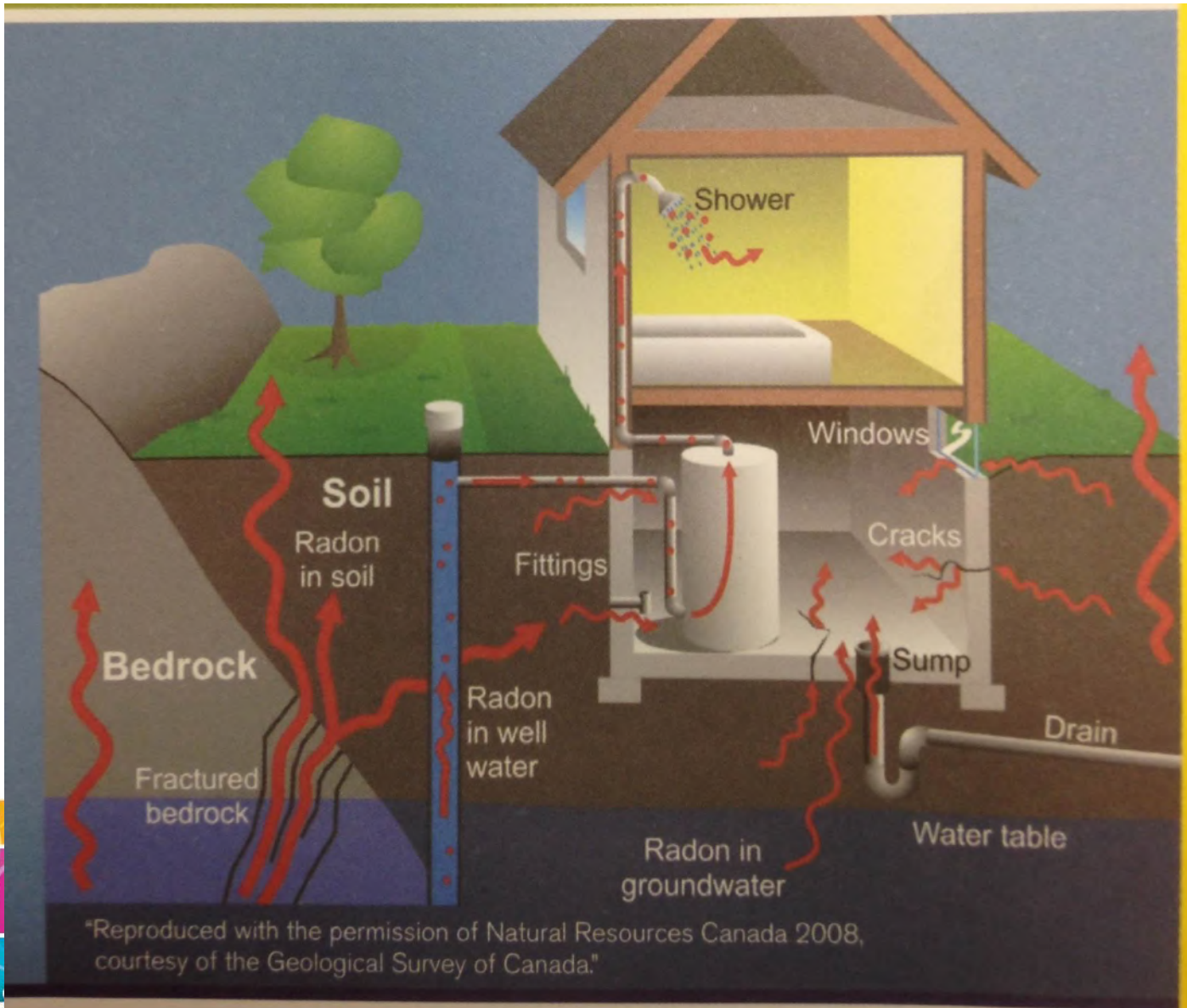
[www.thunderbay.ca](http://www.thunderbay.ca)





# Radon Characteristics

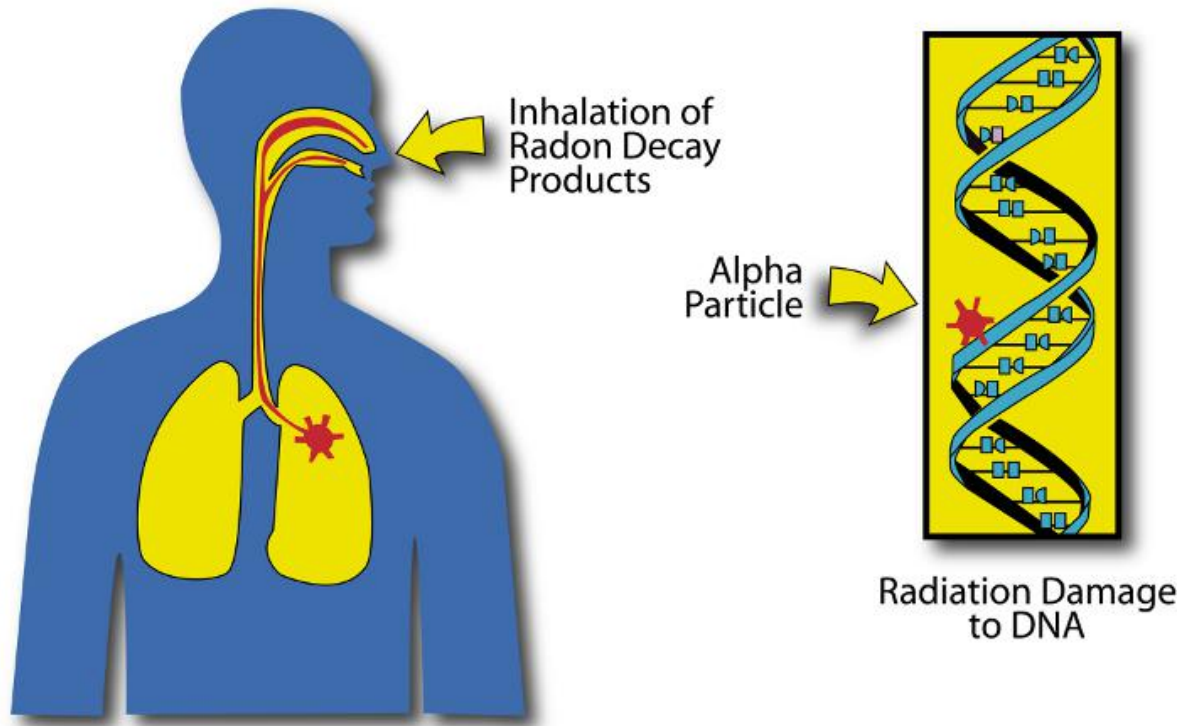
- Colourless, odourless, tasteless radioactive gas
- Produced by the decay of uranium found in rock and soil
- Moves freely through the soil and escapes into the atmosphere or seeps into buildings
- Can accumulate inside buildings



"Reproduced with the permission of Natural Resources Canada 2008, courtesy of the Geological Survey of Canada."

# Radon and Lung Cancer

Annually it is estimated about 16% of lung cancer deaths in Canada are related to radon exposure - 3261 people.



# SB-9 Supplement of the OBC

- Implemented in Spring of 2014
- Soil gas barrier under basement slab
- 100 mm exhaust pipe under the floor slab, in the existing crushed rock layer to allow for future depressurization if necessary
- Maintain 100 mm crushed rock under basement slabs (requirement since 1990)





**INTENDED FOR REMOVAL OF SOIL  
GAS BELOW A FLOOR-ON-GROUND  
• NOT FOR PLUMBING •**



# The Prevalence of High Residential Radon in Thunder Bay, Ontario

Publication date:  
November 2015



TBDHU.COM



Thunder Bay District  
Health Unit

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The Prevalence of High Residential Radon in Thunder Bay

Radon Concentration (Bq/m <sup>3</sup> )	Number of homes	Percent of homes tested
100 or higher	168	36%
150 or higher	109	23%
200 or higher	76	16%
400 or higher	22	4.7%
600 or higher	4	0.9%

Table 2: Percentage of Thunder Bay Homes Exceeding the Health Canada Guideline Arranged by Wards.

City Ward	Homes tested	Percent with radon concentration of 200 Bq/m <sup>3</sup> or higher
McIntyre	82	43%
Neebing	47	30%
Red River	79	15%
Current River	68	13%
McKellar	63	6%
Northwood	75	3%
Westfort	54	0%

# Radon Map of Thunder Bay

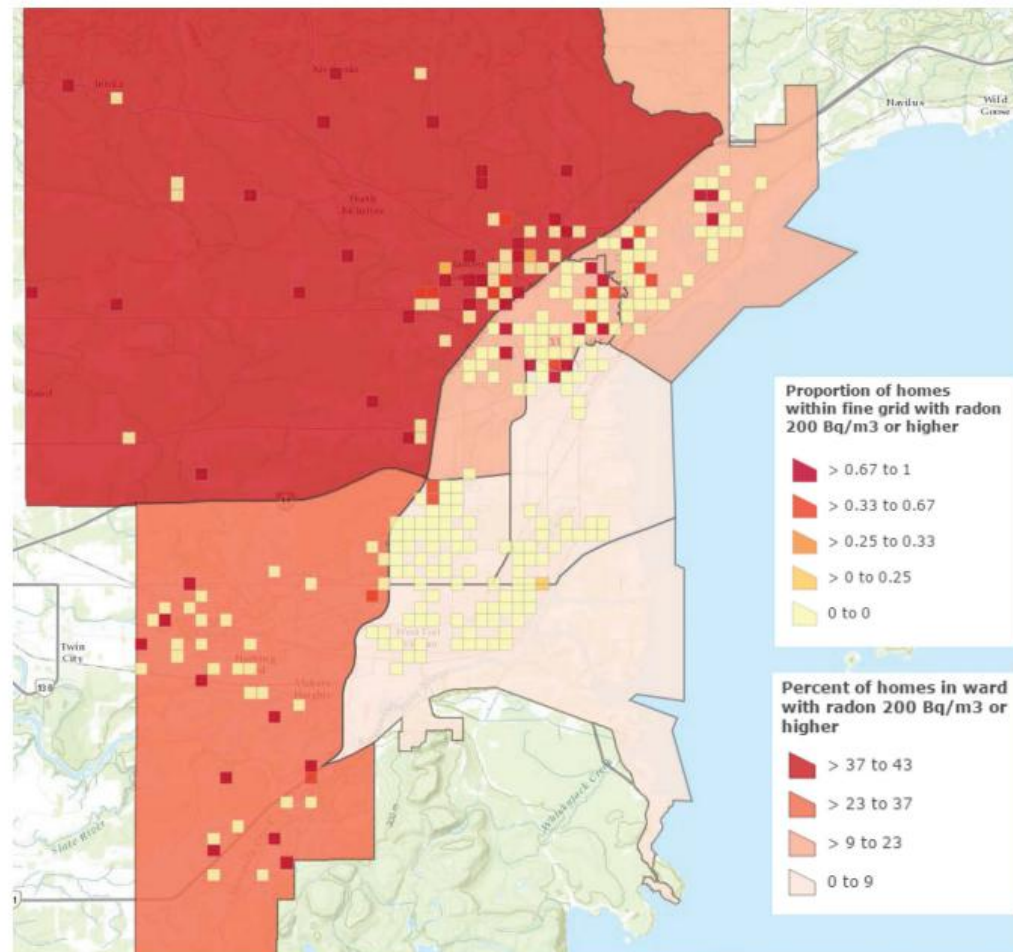


Figure 2. Proportion of homes with high radon (200 Bq/m<sup>3</sup> or higher) within each grid cell and at the city ward level.

# 2016 Requirements

- 2015 TB Health Unit Survey: we are now requiring testing of all new homes prior to occupancy
- Minimum 48 hour test by a certified tester
- Testing must be performed in the basement

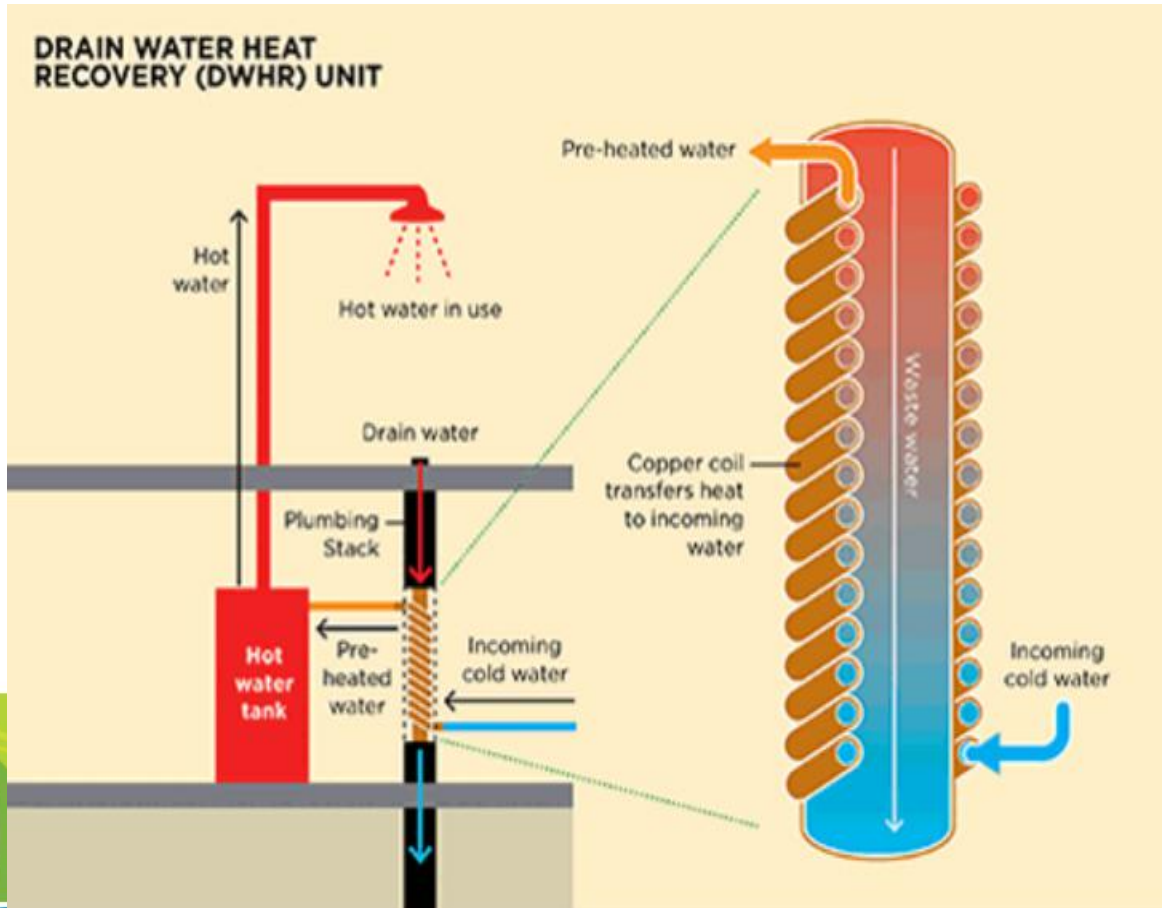
# 2016 Occupancy Permit changes

- Occupancy permits will be qualified: recommending 90 day test on all new homes
- *90 day devices*: EcoSuperior
- *48 hour testing/Continuous Monitor*: TBT Engineering, True Grit Consulting
- Test results over 200 BQ/m<sup>3</sup> will require mitigation and retesting within 1 month of occupancy - permits will not be closed

# 2017 Code changes

- New SB 12 compliance packages - continuous insulation layer required on walls
- Drain water heat recovery units required
- Heat Recovery Ventilators mandatory
- Requirements for 2 unit houses eased
- Additional requirements for retirement homes.

# Drain water heat recovery





## Installed Heat Recovery Unit

When installed in appropriate manner they can add efficiency by increasing the inlet supply to the hot water tank .

Proper installation would usually involve separate plumbing stack for showers which will add to initial installation costs the units themselves are also fairly costly



Table 7.5.6.3.  
 Length of Trap Arm  
 Forming Part of Sentence 7.5.6.3.(4)

OLD

Size of Trap Served, in.	Maximum Trap Arm, m	Minimum Slope
1¼	1.5	1 in 50
1½	1.8 / 1.5	1 in 50
2	2.4 / 1.5	1 in 50
3	3.6 / 1.8	1 in 50
4	4.9 / 3	1 in 50
4	9.8 / 3	1 in 100
Column 1	2	3



# 2018 Code changes

- Electric vehicle charging requirements for homes with attached garage, carport or driveway.



# Thank You

- Des Stolz 807 625 2573  
dstolz@thunderbay.ca
- Michael Otway 807 625 2203  
motway@thunderbay.ca



GOOD BYE!



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