# Incident Summary #II-1905302-2025 (#57438) (FINAL)

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| SUPPORTING INFORMATION | Incident Date | | May 2, 2025 |
| | Location | | Victoria, BC |
| | Regulated industry sector | | Gas - Natural gas system |
| | Impact – Injury | Qty injuries | 0 |
| | | Injury description | N/A |
| | | Injury rating | None |
| | Impact – Damage | Damage description | A fire occurred burning a tree, bushes, the front window of a home, and the hydraulic hose casing of an excavator when a buried residential gas line was severed.<br><br>Other Impacts:<br>• Combined financial costs for some of the initial responders is reported at over $25,000.<br>• Resources committed to the incident meant responses to any other emergencies were sent to mutual-aid partners to respond in the City of Victoria during that time.<br>• Gas utility company had one supervisor, eight employees, and two traffic control personnel responded to this incident.<br>• Street pavement was removed to cut off the gas supply upstream of the leak and subsequently needed to be repaired.<br>• Employees returned several times over two weeks. |
| | | Damage rating | Moderate |
| | Incident rating | | Moderate |
| | Incident overview | | After requesting and receiving directions from BC1Call on the location of gas lines buried in their residential property's yard, an owner proceeded to hand-dig one test hole and identified the line but was unable to identify the line in the second location when hand digging as required. They proceeded to use an excavator to dig a larger space and severed the gas line. As gas escaped and found ignition, fire occurred damaging nearby property. |
| INVESTIGATION CONCLUSIONS | Site, system and components | | The incident took place in the front yard of a residential home (Image 1).<br><br>Natural gas is an odorless gas used as fuel source typically for heating and cooking and is made up of methane, a simple hydrocarbon, and is found underground in geological formations. Odorant is added before distribution to make leaks identifiable.<br><br>Services of natural gas typically involve pipelines and distribution networks that transport natural gas from production wells to homes and businesses.<br><br>Underground pipelines deliver the gas to individual properties, where gas meters measure individual customer usage.<br><br>Medium density polyethylene underground gas lines are manufactured in yellow which provides increased visibility while exposed and identifies it as containing combustible gas. |

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When a person or contractor wants to dig on a property, they should ensure proper, safe clearance from all utilities both underground and overhead, which can be initiated by calling BC1Call. BC1Call is one way to get informed where any underground utilities are buried. BC1Call is the link between the excavating community (including homeowners) and the owners of underground infrastructure who are our members.

***Gas Safety Regulation***

Excavation work in the vicinity of a gas installation is subject to section 39 of the *Gas Safety Regulation*, requiring persons performing excavating work to:

- Request gas service locations from the gas company prior to beginning excavation work.
- Consider a gas installation to lie within a one-meter zone on either side of the location indicated by the gas company.
- He indicated location of gas installations must be confirmed by the excavator by means of hand digging and the excavator must expose the gas installations at a sufficient number of locations to determine their exact positions and depths before using mechanized excavation equipment for any purpose other than breaking the surface cover.
- Not excavate in a manner that is damaging or *dangerous** to a gas installation.

**Manners of excavation that are considered dangerous are not defined in the Regulation. See attached fire resulting from this incident (Image 2).*

The CSA Z662 Canadian Standard for Oil and Gas Pipeline Systems states that operating companies (Gas utility company) shall communicate company-specific safe work practices and conditions to those who propose ground disturbance.

The BC Common Ground Alliance is a non-profit organization for ensuring the highest possible standards of worker safety, public safety and damage prevention in connection with underground infrastructure. Their best practices identify a "*Tolerance zone*", based on the *Gas Safety Regulation*, within one meter on either side of an underground facility, such as a gas line. The guidance from the best practice document is for the ground disturber to "*exercise the necessary care*" within this zone. There is discretion given to the ground disturber who "may wish to consider using" lower risk methods such as hand digging, hydro-excavation or pneumatic hand tools in the tolerance zone.

The gas utilities' guideline for excavation safety around natural gas states that when exposing gas lines, no mechanical equipment can be used within one meter of an identified buried gas line, until such time that the gas line has been exposed by hand. Once the line has been exposed there are no absolute rules addressing the protection of an exposed gas line or limits for distances away for mechanical excavation.

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| Failure scenario(s) | After being given a soil testing requirement during property upgrades by local authorities, the owner of the home where the incident took place was required to access soil at a particular depth for analysis.<br><br>Prior to the mechanical digging they wanted to do to access the soil testing depth, the owner of the residential home sought out safety plans, instructions and maps from BC1Call, which is a free, year-round service providing information to the excavating community and homeowners from registered members of underground facilities and utilities.<br><br>Once the owner received information, they proceeded to hand dig one test hole approximately 18 inches from the surface and found and exposed the gas line, but they were unable to identify the line in an additional location as required and proceeded to use an excavator to dig.<br><br>The deviation from the provided instructions resulted in a decision to proceed with an excavator and accidently strike the gas line buried at 22 inches of depth from the surface (Image 3).<br><br>In this case, after the owner hand dug a second test hole, the owner believed the BC1Call was incorrect and that the gas line was "offset" from the location that BC1Call provided. They then assumed the line was located on a different path than the one provided by BC1Call and proceeded with an excavator.<br><br>The excavator penetrated the line, tearing through it and causing the pressurized gas to escape. Flame followed and ignited the surrounding tree, bush and radiant heat broke the window of the home. The excavator was also damaged. Fire crews sprayed the surrounding area until utility crews could clamp the line stopping the flow of gas (Image 4). |
| Facts and evidence | A BC1Call request was made In February of 2025 by the homeowner with a start date of June 2025. This timeline for requesting the safety plan and maps is outside of the BC1Call recommendation of 14 days from issue expiry.<br><br>**BC1Call Web Site Info:**<br>"Your excavation must start within **14 calendar days** from the request date of the ticket. If excavation has commenced within the 14 calendar days, **only then** is the ticket valid for 30 calendar days from the request date of the ticket. Some member companies may request more frequent update requirements".<br><br>**Gas Utility Safe Digging Guidance:**<br>Find the line — use the map to mark the location of the gas line on your property. If the area where you plan to dig is within one metre of where the line is indicated on the map, carefully dig with a hand shovel. As well, take note of the following:<br>• The gas line may be near the surface due to erosion or the soil shifting over time.<br>• **Don't use any power equipment within one metre of the gas line.**<br>• If you need help understanding the map and directions provided, call us at 1-888-822-6555 and we can walk you through the details. |

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**Statement of events from Owner**
On May 2nd 2025, the owner was hand digging in different areas of the front yard to identify the location of the gas line. They dug a hole at the southeast corner of the home and were able to identify the underground gas line at an angle. Then, they dug another hole, roughly 10 feet from the southeast corner of the home towards another street. The two holes created a trench configuration roughly seven feet in length and roughly two and a half feet deep but did not identify the gas line in that area.

The owner stated they believed that the gas line was not in the area that they intended to use this excavator in, as they believed it ran on an angle from the second hole. After completing hand digging, they utilized the excavator and shortly after hit the underground gas line in the second hole near the street and gas escaped to the atmosphere. They jumped out of the excavator and ran to the tenant's front door to advise the tenant to leave the home immediately and at roughly the same time, the gas escaping ignited. The owner then ran back to the excavator and moved it from the area out of the flame to prevent further damage to his excavator (Image 5).

**Safety Officer Observations**
Damage that occurred by the fire was limited to a tree, bushes at the front of the home, the front window of the home and hydraulic hose casing located on the excavator.

The information provided by BC1Call was accurate as per site conditions found and as the line indicated in the supplied documentation was in the area in which the machinery contacted, tore and severed and ruptured the gas line.

The Gas line at the location that was contacted was approximately 22 inches below grade (Image 2).

**First responders**
911 was called and Victoria Fire attended, supressing the fire and limiting further damage to property.

**Gas utility company**
The gas line was capped at the street with service removed from the property.

**Relevant sections from the *Gas Safety Regulation***
**Duties of persons intending to construct near gas installation**
**38** A person who intends to construct an underground structure within one metre of a gas installation must notify the gas company operating in the area at least 2 business days before starting the excavation for the structure.

**Procedures for excavations**
**39** (1)A person must not excavate or cause any excavating to be done in the vicinity of a gas installation that is or could be in any way damaging or dangerous to a gas installation.
(2)A person who intends to excavate must, at least 2 business days before the person intends to excavate, request from the gas company serving that area, or its agent, information on the location of all underground gas installations in the vicinity of the proposed excavation.
(3)A person must not excavate until
(a)the person ascertains that a request has been made under subsection (2) and

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(i)the information was provided by the gas company under subsection (5) and that information revealed that there is no gas installation in the vicinity, or
(ii)the information was provided by the gas company under subsection (5) and that information revealed that there is a gas installation in the vicinity and that installation has been indicated in accordance with subsection (5), and
(b)the person ascertains that information provided by the gas company in respect of the lack of indicators under paragraph (a) (i) or the presence of indicators under paragraph (a) (ii) was supplied by the gas company within 10 days before beginning of the excavation.
(4) If the excavator is not satisfied under subsection (3) (b), the person must verify the information with the gas company before excavating.
(5) On receiving a request under subsection (2) a gas company must
(a)provide the information requested within 2 business days, and
(b)in a manner that is clear and easily understood, indicate the location of gas installations owned or operated by it in the area where the excavation is intended to be made by one or more of the following methods as appropriate for conditions at the excavation site:
(i)providing a plan or listing of facility locations by measurement from an ascertainable point on the surface;
(ii)surface staking;
(iii)surface marking.
(6) Pre-located or marked gas installations must be considered to lie within a zone equal to the diameter of the gas installation plus one metre on either side of the location indicated by the gas company under subsection (5).
(7) The indicated location of gas installations must be confirmed by the excavator by means of hand digging and the excavator must expose the gas installations at a sufficient number of locations to determine their exact positions and depths before using mechanized excavation equipment for any purpose other than breaking the surface cover.
(8) For existing gas installations of non-metallic material not provided with tracer wires, the gas company must, on request, indicate the location, including all changes in direction, of the installation by stakes or paint or both, at intervals not exceeding 100 metres, and subsection (7) applies.
(9) If an excavator finds that the gas installation is not within the limits described by the gas company,
(a)the excavator must so advise the gas company,
(b)the gas company must immediately assist in locating and exposing the installation for the excavator, and
(c)mechanized excavation must not be carried on in the vicinity until the installation has been located and exposed.
(10) As the excavation work progresses, the excavator must
(a)maintain and keep visible all markings placed by the gas company that identify the location of the gas installation, or
(b)if it is impractical to maintain the markings, make other arrangements to ensure that the location of the gas installation is obvious to any observer.
[am. B.C. Reg. 475/2004, Sch. 3, ss. 2 and 3.]

**No probing to locate gas installations**
**40** A person must not probe with pointed tools to locate gas installations.

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| Causes and contributing factors | The cause of the incident was the excavator operator striking a buried gas line with their excavator bucket, likely within the area identified as containing the gas line by BC1Call.<br><br>The gas line location had not been identified at a sufficient number of locations by hand digging as instructed by BC1Call to determine its exact position and depth prior to using mechanized equipment.<br><br>Other contributing factors:<br>• When attempts to identify the gas line in the identified area were unsuccessful, the machine operator proceeded to dig with mechanized equipment despite instructions.<br>• The owner described having previous industry experience where location accuracy provided was inaccurate. This resulted in the owner having a mistrust in the BC1Call gas line location accuracy and proceeding with mechanized equipment prior to exposing the gas line by hand. |


Image 1 – Excavator in the front yard of the home post incident.

Image 2 - Flames after gas line strike at the residential home.

Image 3 - Gas line to surface to depth (22 inches) measured at location post gas line strike.

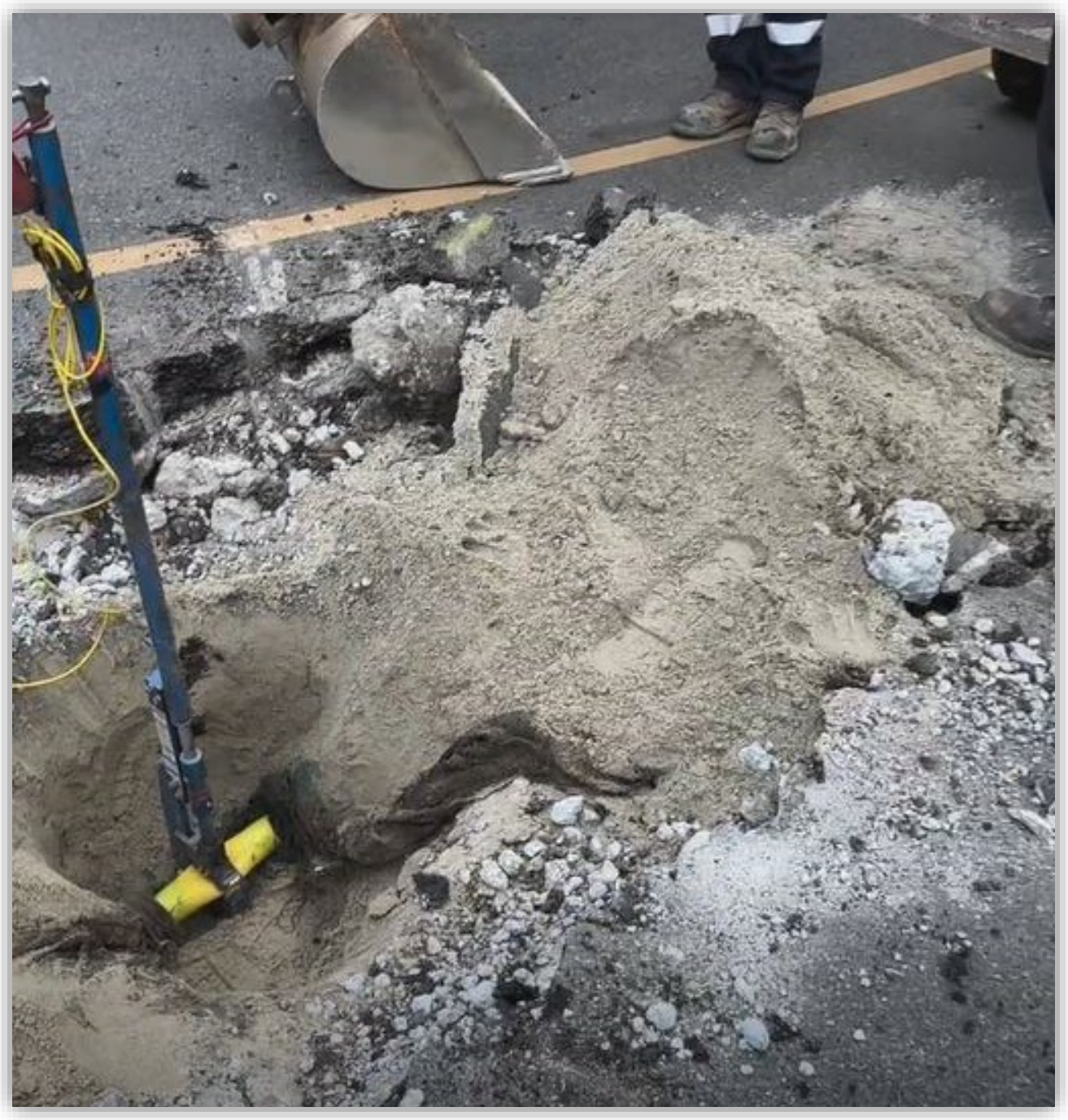


Image 4 - Post incident gas line clamped off at street by Fortis.

Image 5 – Excavator arm showing hydraulic and electrical lines damage from the fire.

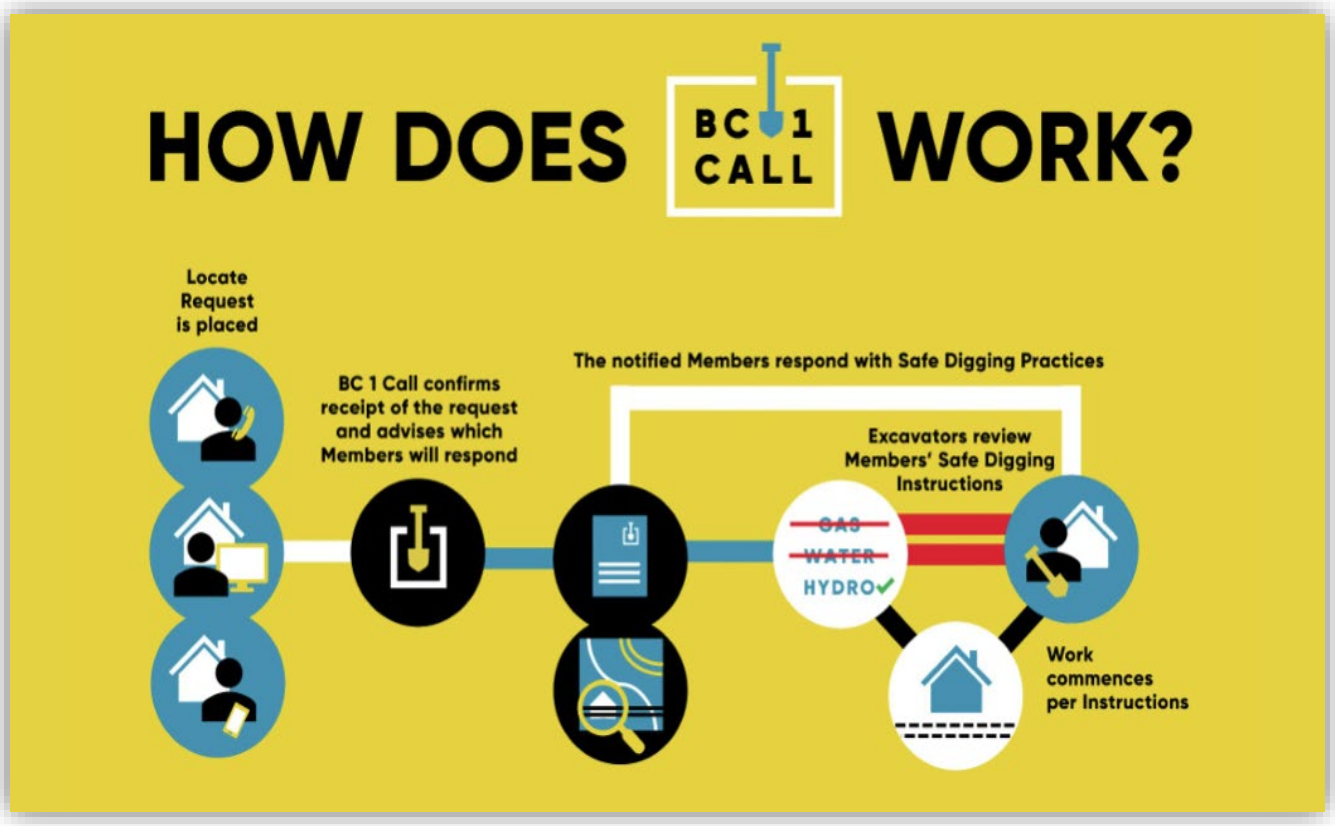
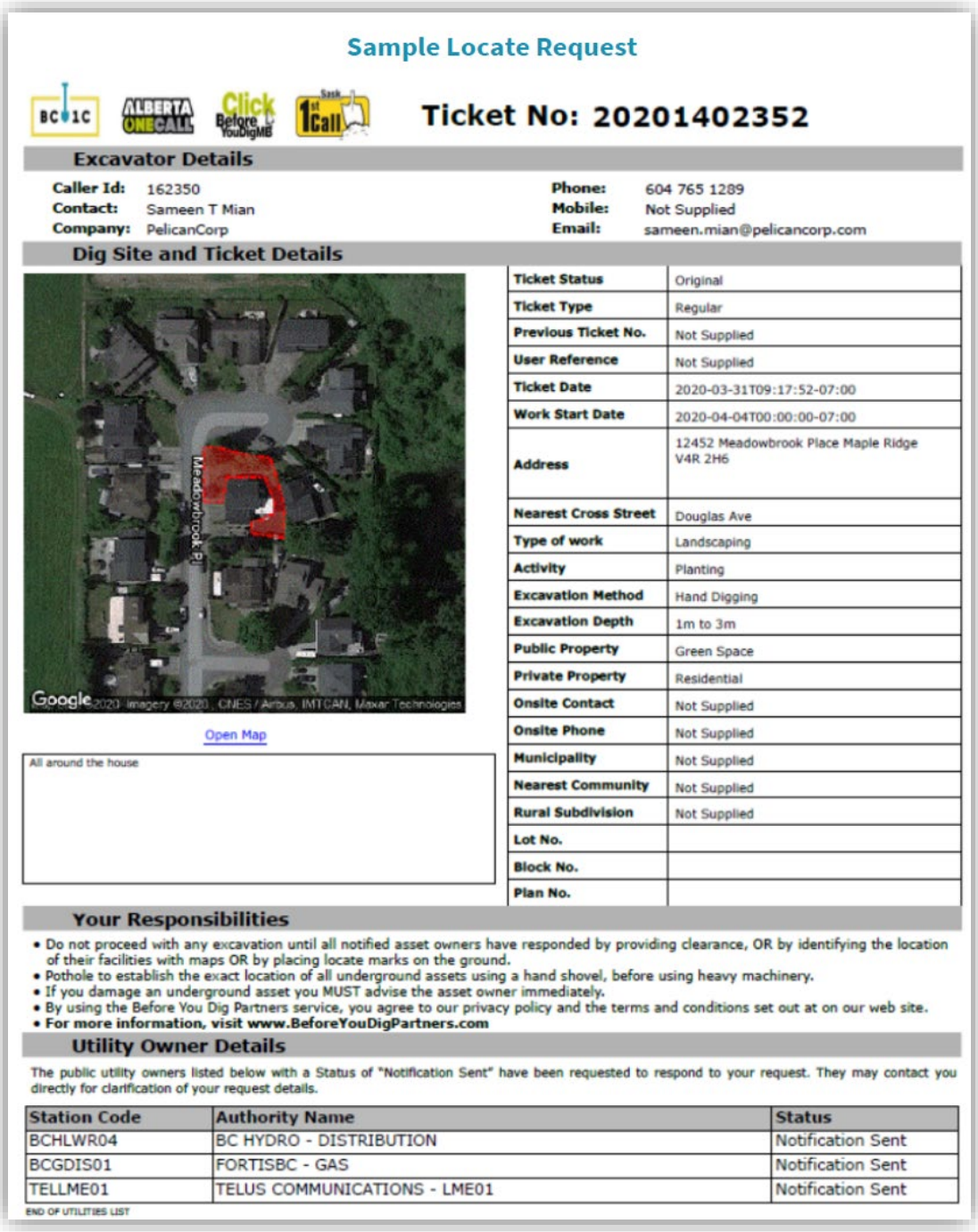



Image 6 - Illustration from BC1Call web on the flow of service.



## Sample Locate Request

**Ticket No: 20201402352**

### Excavator Details

**Caller Id:** 162350
**Contact:** Sameen T Mian
**Company:** PelicanCorp
**Phone:** 604 765 1289
**Mobile:** Not Supplied
**Email:** sameen.mian@pelicancorp.com

### Dig Site and Ticket Details



Open Map

All around the house

| | |
|---|---|
| **Ticket Status** | Original |
| **Ticket Type** | Regular |
| **Previous Ticket No.** | Not Supplied |
| **User Reference** | Not Supplied |
| **Ticket Date** | 2020-03-31T09:17:52-07:00 |
| **Work Start Date** | 2020-04-04T00:00:00-07:00 |
| **Address** | 12452 Meadowbrook Place Maple Ridge V4R 2H6 |
| **Nearest Cross Street** | Douglas Ave |
| **Type of work** | Landscaping |
| **Activity** | Planting |
| **Excavation Method** | Hand Digging |
| **Excavation Depth** | 1m to 3m |
| **Public Property** | Green Space |
| **Private Property** | Residential |
| **Onsite Contact** | Not Supplied |
| **Onsite Phone** | Not Supplied |
| **Municipality** | Not Supplied |
| **Nearest Community** | Not Supplied |
| **Rural Subdivision** | Not Supplied |
| **Lot No.** | |
| **Block No.** | |
| **Plan No.** | |

### Your Responsibilities

- Do not proceed with any excavation until all notified asset owners have responded by providing clearance, OR by identifying the location of their facilities with maps OR by placing locate marks on the ground.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using the Before You Dig Partners service, you agree to our privacy policy and the terms and conditions set out at on our web site.
- **For more information, visit www.BeforeYouDigPartners.com**

### Utility Owner Details

The public utility owners listed below with a Status of "Notification Sent" have been requested to respond to your request. They may contact you directly for clarification of your request details.

| Station Code | Authority Name | Status |
|---|---|---|
| BCHLWR04 | BC HYDRO - DISTRIBUTION | Notification Sent |
| BCGDIS01 | FORTISBC - GAS | Notification Sent |
| TELLME01 | TELUS COMMUNICATIONS - LME01 | Notification Sent |

END OF UTILITIES LIST

Image 7 - Sample from BC1Call website on the information sent to a person who sends in a request.