GROUND WATER UNDER DIRECT INFLUENCE OF SURFACE WATER
GROUND WATER AT RISK OF CONTAINING PATHOGENS

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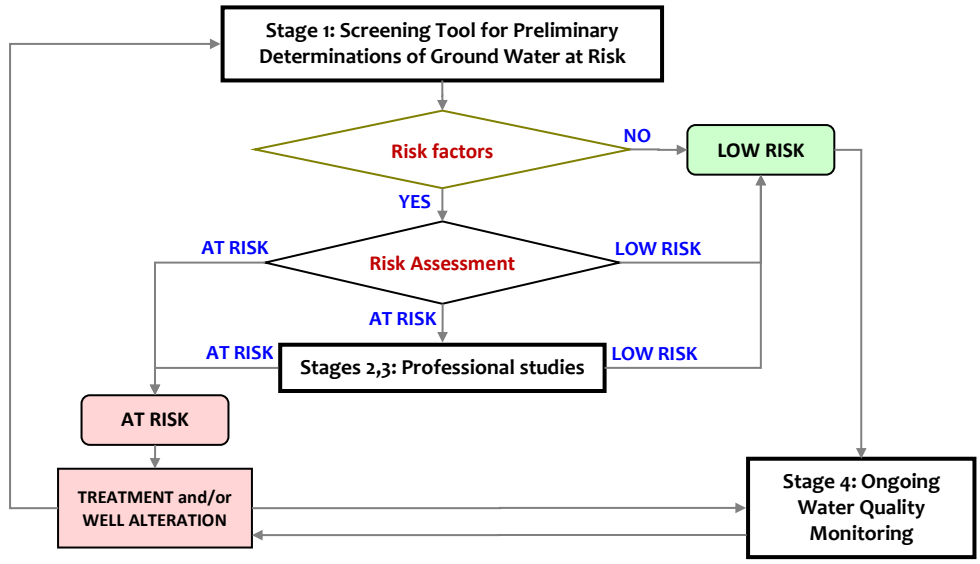
Flowchart:



WATER SYSTEM NAME: _____ **WELL NAME:** _____

BC MoE Well ID Plate Number: _____ **BC MoE Aquifer:** _____ / ☐ none / ☐ unknown

Well Log: ☐**Examined** ☐**Attached** ☐**N/A** ☐**Sanitary Survey Conducted** Verbal / Measured

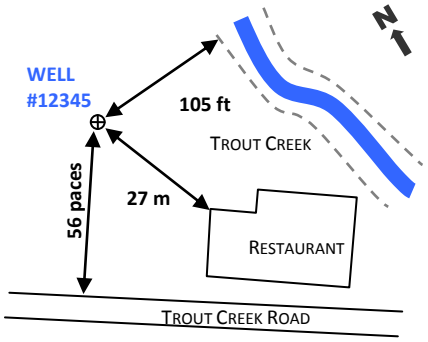
Latitude: _____ ° N , **Long**itude: _____ ° W ☐ / ☐

Well Depth: _____ ☐feet *or* ☐metres below ground *or* ☐unknown ☐ / ☐

Water Level in Well: _____ ☐feet *or* ☐metres below ground *or* ☐unknown ☐ / ☐

Well Casing Diameter: _____ ☐inches *or* ☐mm *or* ☐unknown ☐ / ☐

Well Location Sketch



Sketch the well location and proximity to roads, buildings, waterways, sources of contamination, etc. Distances may be estimated in feet or metres or paced off.

or … on separate page ☐

STAGE 1: SCREENING TOOL CHECKLIST FOR GUDI/GARP

RISK FACTORS and CRITERIA	At Risk	Low Risk	Unknown	Comments
AQUIFER TYPE and SETTING				
Shallow well with intake depth < 15m below ground and in an unconfined aquifer, or any karst well [e.g. sand & gravel or bedrock from intake to surface]	☐	☐	☐	PHE can review well log / mapped aquifers. Aquifer
WELL LOCATION				* *Public Health Act,* **H**ealth **H**azards **R**egulation
Well situated inside setback distances of the HHR* or from a possible source of contamination *incl. septic* [contam: 30 m ; dwelling: 6 m ; dump: 120 m; septic system 300 m]	☐	☐	☐	Separation from known ***Contaminant Sources*** Setbacks
Well located within 150m of high water mark or natural boundary of surface water feature [e.g. top of bank], and with intake < 15m below either: a) ground surface (i.e. "shallow" well) or b) normal water level (NWL)	☐	☐	☐	Separation from ***Surface Water Bodies*** Refer to **Figure** below. 15m guideline may be *increased* (sand) or *decreased* (clay) depending on the surrounding soil type. GUDI
WELL CONSTRUCTION				** *Ground Water Protection Regulation*
… does ***not*** meet GWPR** (s7) re *surface sealing*. [5 m sealant underground along casing, no visible gaps at surface]	☐	☐	☐	Disregard if SW cannot reach the wellhead. Seal
… does ***not*** meet GWPR (s10) re *well cap/cover*. [secure cap/cover, prevent entry by people or animals, stop artesian flow]	☐	☐	☐	"Secure" → not removable by hand Cap
… does ***not*** meet GWPR (s11) re *floodproofing*. [prevent contam entering, well pit/house must drain or have sump pump, grading to prevent ponding of water at wellhead]	☐	☐	☐	Flood
… does ***not*** meet GWPR (s11) re *wellhead protection*. [protect from physical damage, stickup 0.3 m above ground/floor, no plastic casing at ground]	☐	☐	☐	Stickup
WATER QUALITY RESULTS				
Well shows recurring unsatisfactory bacti results. [any confirmed *E.coli* or e.g. ≥3 total coliforms in last 24 samples]	☐	☐	☐	[usually requires >24 samples] Bacti
Water system has seasonal turbidity problems associated with the well. [e.g. ≥ 5 NTU *]	☐	☐	☐	Turbidity
Water system has a confirmed history of disease outbreaks associated with surface water pathogens. [check paper file, HealthSpace, experienced staff]	☐	☐	☐	[none in NH pre-2014] Outbreaks

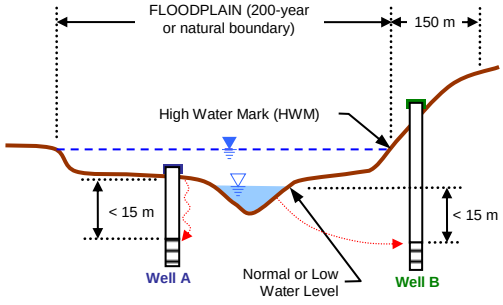


Figure: Well location with respect to surface water features (lake, pond, river, creek, spring, etc.)

Well A: within 150m of HWM; intake < 15m below *ground* → At Risk

Well B: within 150m of HWM; intake between HWM and normal water level (NWL) or < 15 m below *NWL* → At Risk

* If new well has high turbidity, mark "unknown" and recommend redevelopment & resampling.

Risk Assessment:

0 0 0

Did *any* risk factor suggest that the system is **At Risk** (as opposed to **Low Risk** or **Unknown**)?

- ☐ If **Yes** then consider disinfection or remediation (see remediation options below), or
  - ❑ proceed to Stage 2/3 Hydrogeological Investigation.
- ☐ If **Unknown** because information is unavailable for any factor(s) or criteria of the assessment, then *consider* moving to Stage 2/3 Hydrogeological Investigation.
- ☐ If **No**, move to Stage 4 Long-term Water Quality Monitoring.

Remediation Options:

- ❑ Disinfection to meet Health Authority surface water treatment objectives requirements (43210)
- ❑ Disinfection to meet Health Authority groundwater treatment objectives
- ❑ Disinfection to meet Health Authority "virus only" groundwater treatment objectives
- ❑ Provide alternate source of water
- ❑ Well alteration / correct deficiencies in well construction
- ❑ Relocate the well
- ❑ Eliminate source(s) of contamination
- ❑ Stage 2 Preliminary Hydrogeological Investigation
  - ❑ Specific concerns _____
- ❑ Stage 4 Long-term Water Quality Monitoring
- ❑ Other _____

Assessment Comments:

Completed by: _____ **DATE:** _____

Health Authority Review Comments:

Reviewed by: _____ **DATE:** _____