Checklist: Hauled Water (HAUL)

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Manitoba

Sustainable Development

The Drinking Water Safety Act
Self Assessment or Qualified Person Checklist
Revised: September 18, 2018

Section 1: Owner Information

Owner Water System

Operator Water System

Owner Mailing Address

Town/ City | Province | Postal Code

Email | Phone/ Cell

Section 2: Water System Information

Public Water System (PWS) ☐ PWS Code # (i.e. 123.00)

Semi-Public Water System (SPWS) ☐ SPWS Code # (i.e. 1000.00)

Operating License # | Seasonal? ☐ Yes ☐ No ☐ N/A

Section 3: Assessor Information (*please fill this out even if Self Assessment*)

Name

Company

Email | Phone/ Cell

Section 4: Certification

The information contained in this report is complete and accurate to the best of my knowledge.

Signature of Owner or Owner's Representative | Date

Personal information is collected under the authority of *The Drinking Water Safety Act* and its pursuant regulations, and is used to issue permits and licenses, and for enforcement purposes. Information collected is protected by the privacy provisions of *The Freedom of Information and Protection of Privacy Act*. If you have any questions, contact the Access & Privacy Coordinator, 200 Saulteaux Crescent, Box 85, Winnipeg MB, R3J 3W3.

Checklist: Hauled Water (HAUL)

Section 5: System Supplying Hauled Water

Provide the water system code # of the system supplying the hauled water.

Public Water System (PWS)	☐ PWS Code # (i.e. 123.00)	
Semi-Public Water System (SPWS)	☐ SPWS Code # (i.e. 1000.00)	

☐ Attachments

Section 6: Suggestions or Recommendations for Improvements (*please don't leave blank*)

Checklist: Hauled Water (HAUL)

Section 7: HAUL System - Description

Type of Water System Connections:

- ☐ Year-round Residential
- ☐ Seasonal Cottages
- ☐ RV Hook-ups
- ☐ Open Campsites/ Standpipes
- ☐ Hospital/ Health Care Centre
- ☐ Restaurant/ Food Establish.
- ☐ School
- ☐ Personal Care Home
- ☐ Seniors Manor/ Apartments
- ☐ Apartments/ Condos
- ☐ Day Care Facility
- ☐ Rec./ Community Centre
- ☐ Other:

Average # People Served per Day

Peak # People Served per Day

Building or Service Connections (include standpipes)

WATER USE: PROVIDE UNITS! (volume water/ time) i.e. Liters, cubic meters, US or Imperial gallons.

Average Day Demand ☐ Metered ☐ Estimated

Peak/ Max Day Demand ☐ Metered ☐ Estimated

Peak Hourly Flow ☐ Metered ☐ Estimated

Don't just write "gallons".

1 US gallon = 3.785 L

1 Imp gallon = 4.546 L

Note:
This is not the same information sent to the Groundwater section for the Manitoba Government for annual water usage.

Additional comments:

Checklist: Hauled Water (HAUL)

Section 8: HAUL System - General Information

Is your system currently under a drinking water advisory?	☐ Yes ☐ No ☐ N/A
If yes, what type of advisory? (i.e. Boil Water, Water Quality - Arsenic). Type:	
If yes, when was it issued? Date:	
If the system is under an advisory, are water users notified and public areas posted with the advisory notice?	☐ Yes ☐ No ☐ N/A
Are all water system components adequately protected from vandalism?	☐ Yes ☐ No ☐ N/A
Does the system experience frequent water outages due to equipment failures or water supply capacity issues?	☐ Yes ☐ No ☐ N/A
Is the water system equipped with flow meters to monitor total water use for the system as a whole?	☐ Yes ☐ No ☐ N/A
System able to meet peak water demands with adequate at-tap pressures?	☐ Yes ☐ No ☐ N/A
Does the system receive frequent or repeated complaints from water users about water quality?	☐ Yes ☐ No ☐ N/A
Was the system designed by a Professional Engineer?	☐ Yes ☐ No ☐ N/A
Was the system approved by the Office of Drinking Water?	☐ Yes ☐ No ☐ N/A
Owner/ operator aware of the need to obtain approval (i.e. permit) before significant alterations to the system? This includes watermain extensions.	☐ Yes ☐ No ☐ N/A
Any changes, upgrades, or expansions to the system since the last assessment?	☐ Yes ☐ No ☐ N/A

If yes, explain:

What is the average age (years) of the following components of the system?

Distribution

At inspection time, were all water system components in good working order? ☐ Yes ☐ No ☐ N/A

If no, explain:

Additional comments:

Checklist: Hauled Water (HAUL)

Section 9: HAUL System - Specific only to HAUL Systems

Is the hauled water from a licensed system and approved by the Drinking Water Officer?	☐ Yes	☐ No	☐ N/A
Does the water carry a disinfectant (chlorine) residual at the time of delivery?	☐ Yes	☐ No	☐ N/A
If yes, is the disinfectant (chlorine) residual tested and recorded at the time of delivery?	☐ Yes	☐ No	☐ N/A
Is rechlorination required for the hauled water by the Office of Drinking Water?	☐ Yes	☐ No	☐ N/A
Name company/ organization delivering water:			
How often are the tank/s re-filled?			
Is the fill connection hose located within a locked building or locked box, or is the connection locked to prevent/ limit access?	☐ Yes	☐ No	☐ N/A
When the hauled water tank/s are being filled, is the fill supervised with health and safety procedures to prevent accidents?	☐ Yes	☐ No	☐ N/A

Checklist: Hauled Water (HAUL)

Section 10: HAUL System - Treated Water Storage in Aboveground Tank(s)

☐ Section is Not Applicable to this System.

What is the total volume of the tank/s? Units.

How many tanks? List # and each volume.

What is the total volume of the tank/s based on the lowest operating level? Units.

Are the tanks in series (flow through one to another) or parallel (separate flows)?

☐ single (1) tank ☐ multiple tanks ☐ tanks in series ☐ tanks in parallel ☐ N/A

What is the tank material?

☐ polyethylene (PE) ☐ fibreglass (FRP)

☐ epoxy-coated steel ☐ other:

Is the tank material or interior tank coating certified or approved for use in a potable water system? (i.e. NSF 61 or FDA approved) ☐ Yes ☐ No ☐ N/A

What is the purpose of the water storage? Check all that apply.

☐ to meet peak demands

☐ fire protection ☐ other

Storage tanks sized to meet peak demands? ☐ Yes ☐ No ☐ N/A

What is the peak hourly flow rate? Units.

What is the hydraulic retention time at the estimated peak hourly flow rate when the tanks are at their lowest operating level (atmospheric tanks) or at their normal full volume (pressurized tanks)?
(Divide the volume from above by the peak hourly flow rate from above. Convert to same units.)

Retention time: (i.e. 2.50 hours or 150 minutes)

Are the tanks equipped with level sensors for pump operation? ☐ Yes ☐ No ☐ N/A

☐ floats ☐ pressure sensors ☐ ultrasonic sensing system ☐ other (contact probes)

Are the tanks accessible for visual inspection? ☐ Yes ☐ No ☐ N/A

Are the tanks equipped with access or inspection hatches? ☐ Yes ☐ No ☐ N/A

Are the tanks regularly inspected? ☐ Yes ☐ No ☐ N/A

Last inspected or inspection frequency:

Are the tanks regularly cleaned and disinfected? ☐ Yes ☐ No ☐ N/A

Last cleaned or cleaning frequency:

Checklist: Hauled Water (HAUL)

Section 10: HAUL System - Treated Water Storage in Aboveground Tank(s)

☐ Section is Not Applicable to this System.

Are the inlet and outlet pipes located to minimize the chance of water short-circuiting through the tanks and leading to water stagnation?	☐ Yes	☐ No	☐ N/A
Is the pump intake line properly sealed and located at least 150 mm (6 inches) above the bottom of the tank?	☐ Yes	☐ No	☐ N/A
Can individual tanks be isolated for inspection or maintenance?; without interrupting water service or interrupting chlorine contact time.	☐ Yes	☐ No	☐ N/A
Are pumps connected to multiple tanks to allow for isolation?	☐ Yes	☐ No	☐ N/A
Are all openings sealed watertight?	☐ Yes	☐ No	☐ N/A
Are all vents, overflows, and drain lines equipped with screens?	☐ Yes	☐ No	☐ N/A
Are all vents, overflows, and drain lines located to avoid backflow or run-off?	☐ Yes	☐ No	☐ N/A
If the tanks are located outside the building:			
Are the tanks protected from vandalism (fenced area or locked hatches)?	☐ Yes	☐ No	☐ N/A
Are the tanks protected from direct sunlight (opaque or covered?)	☐ Yes	☐ No	☐ N/A

What is the average age (years) of the storage equipment?

Storage

What is the general condition of the storage equipment?

- ☐ Good
- ☐ Fair - nearing end of useful life
- ☐ Poor - replacement required

Additional comments:

Checklist: Hauled Water (HAUL)

Section 11: HAUL System - Treated Water Storage Inground Reservoir or Buried Tank(s)

☐ Section is Not Applicable to this System.

What type of storage system is used to store treated water before it is distributed?

☐ inground concrete reservoir ☐ buried tank/s ☐ other:

What is the total volume of the reservoir/s or tank/s? Units.

How many reservoir cells or tanks? List # and each volume.

What is the total storage volume based on the lowest operating level? Units.

Are the cells or tanks in series (flow through one to another) or parallel (separate flows)?

☐ single (1) cell ☐ multiple cells ☐ cells in series ☐ cells in parallel ☐ N/A

What is the reservoir or tank material?

☐ concrete ☐ fibreglass (FRP)

☐ polyethylene (PE) ☐ other:

Is the reservoir or interior tank coating certified or approved for use in a potable water system? (i.e. NSF 61 or FDA approved) ☐ Yes ☐ No ☐ N/A

What is the purpose of the water storage? Check all that apply.

☐ to meet peak demands

☐ fire protection ☐ other

Reservoir or tanks sized to meet peak demands? ☐ Yes ☐ No ☐ N/A

What is the peak hourly flow rate? Units.

What is the hydraulic retention time at the estimated peak hourly flow rate when the cells/ tanks are at their lowest operating level?
(Divide the volume from above by the peak hourly flow rate from above. Convert to same units.)

Retention time: (i.e. 2.50 hours or 150 minutes)

Is the reservoir or tanks equipped with level sensors for pump operation? ☐ Yes ☐ No ☐ N/A

☐ floats ☐ pressure sensors ☐ ultrasonic sensing system ☐ other (contact probes)

Are the cells or tanks accessible for visual inspection? ☐ Yes ☐ No ☐ N/A

Are the cells or tanks equipped with access or inspection hatches? ☐ Yes ☐ No ☐ N/A

Checklist: Hauled Water (HAUL)

Section 11: HAUL System - Treated Water Storage Inground Reservoir or Buried Tank(s)

☐ Section is Not Applicable to this System.

Are the cells or tanks regularly inspected?	☐ Yes ☐ No ☐ N/A
Last inspected or inspection frequency:	
Are the cells or tanks regularly cleaned and disinfected?	☐ Yes ☐ No ☐ N/A
Last cleaned or cleaning frequency:	
Are the inlet and outlet pipes located to minimize the chance of water short-circuiting through the cells or tanks and leading to water stagnation?	☐ Yes ☐ No ☐ N/A
Are there at least two isolatable cells or tanks with a valved interconnection?	☐ Yes ☐ No ☐ N/A
Can individual cells or tanks be isolated for inspection or maintenance?; without interrupting water service or interrupting chlorine contact time.	☐ Yes ☐ No ☐ N/A
Is pumping capacity available in at least two cells or tanks to allow water supply to be maintained when cleaning the reservoir cells or tanks?	☐ Yes ☐ No ☐ N/A
Are access hatches curbed and sealed watertight?	☐ Yes ☐ No ☐ N/A
Are all openings sealed watertight?	☐ Yes ☐ No ☐ N/A
Are pipe entries into the reservoir or tanks sealed watertight to prevent contamination? (i.e. LinkSeal or cast-in-place sleeve)	☐ Yes ☐ No ☐ N/A
Do any floor drains or wastewater pipes pass over or through the reservoir?	☐ Yes ☐ No ☐ N/A
☐ Yes - floor drain ☐ Yes - wastewater ☐ Yes - other	
If yes, are these pipes encased in concrete?	☐ Yes ☐ No ☐ N/A
Are pipes through walls protected from differential settling? (i.e. flexible joints/ ball-and-socket joints)	☐ Yes ☐ No ☐ N/A
Are all vents, overflows, and drain lines equipped with screens?	☐ Yes ☐ No ☐ N/A
Is the reservoir or tank equipped with a screened air vent? (i.e. gooseneck or inverted J-pipe)	☐ Yes ☐ No ☐ N/A
Is the reservoir or tank equipped with an adequately sized screened overflow that discharges to the ground?	☐ Yes ☐ No ☐ N/A
Are all vents, overflows, and drain lines located to avoid backflow or run-off?	☐ Yes ☐ No ☐ N/A
Is the reservoir or tank protected from contamination from run-off or spills into the building?	☐ Yes ☐ No ☐ N/A
Is the reservoir or tank located at least 15 m away from sewer system components such as sewer lines or holding tanks?	☐ Yes ☐ No ☐ N/A
If the reservoir extends beyond the footprint of the building, is the reservoir roof adequately sloped and drained?	☐ Yes ☐ No ☐ N/A
Is the reservoir or tank site graded to drain away?	☐ Yes ☐ No ☐ N/A
If the cells or tanks are located outside the building:	
Are the cells or tanks protected from vandalism (fenced area or locked hatches)?	☐ Yes ☐ No ☐ N/A

Checklist: Hauled Water (HAUL)

Section 11: HAUL System - Treated Water Storage Inground Reservoir or Buried Tank(s)

☐ Section is Not Applicable to this System.

What is the average age (years) of the storage equipment?

Storage

What is the general condition of the storage equipment?

☐ Good

☐ Fair - nearing end of useful life

☐ Poor - replacement required

Additional comments:

Checklist: Hauled Water (HAUL)

Section 12: HAUL System - Chlorination (Rechlorination)

☐ Section is Not Applicable to this System.

What type of chlorine solution is used?

- ☐ Sodium hypochlorite fed directly from container
- ☐ Diluted sodium hypochlorite
- ☐ Solution from calcium hypochlorite powders or tablets
- ☐ Unscented household bleach
- ☐ On-site sodium hypochlorite generation ("analyte")

What is the make-model-brand name of the chlorine or generator used? (i.e. supplier label)

Does the chlorine solution, or powder/ tablets, or salt carry NSF 60 certification?	☐ Yes	☐ No	☐ N/A
Does the on-site sodium hypochlorite generator carry NSF 60 certification?	☐ Yes	☐ No	☐ N/A
Does the on-site sodium hypochlorite generator carry NSF 61 certification?	☐ Yes	☐ No	☐ N/A
Is an adequate amount of chlorine chemical kept on-hand at all times? (i.e. 30 days minimum)	☐ Yes	☐ No	☐ N/A
Is the chlorine solution stored away from sunlight?	☐ Yes	☐ No	☐ N/A
Is the sodium hypochlorite solution used within 3 months of purchase?	☐ Yes	☐ No	☐ N/A
Are chlorine tanks stored over a spill tray?	☐ Yes	☐ No	☐ N/A
Is the chlorine stored in a separate chemical storage room?	☐ Yes	☐ No	☐ N/A
Is the system equipped with duty-standby chlorine pumps with automatic switchover in the case of pump failure?	☐ Yes	☐ No	☐ N/A
Is there only a single feed chlorine pump?	☐ Yes	☐ No	☐ N/A
Is there a spare feed chlorine pump? (i.e. "shelf spare")	☐ Yes	☐ No	☐ N/A
Are critical spare parts kept on-hand to maintain the feed pump?	☐ Yes	☐ No	☐ N/A

What triggers operation of the chlorine feed? (i.e. reservoir level, etc...)

Is operation of the feed pump controlled by the distribution pump (fixed injection rate) or by a flow meter (flow-paced injection rate)?

☐ N/A ☐ Distribution pump ☐ Flow meter ☐ Other

Do feed pump settings suggest a properly sized feed pump? ☐ Yes ☐ No ☐ N/A

What type of chlorine residual test kit is used?

☐ N/A ☐ Digital DPD colorimeter ☐ Colour wheel ☐ Unapproved unit (i.e. pool kit)

Is the system equipped with an online chlorine residual analyzer? ☐ Yes ☐ No ☐ N/A

Explain where the analyzer sample draw water goes:

Normally, what is the free chlorine residual (mg/L) of the outgoing water?

Checklist: Hauled Water (HAUL)

Section 12: HAUL System - Chlorination (Rechlorination)

☐ Section is Not Applicable to this System.

What is the average age (years) of the chlorination equipment?

Chlorination

What is the general condition of the chlorination equipment?

☐ Good

☐ Fair - nearing end of useful life

☐ Poor - replacement required

Additional comments:

Checklist: Hauled Water (HAUL)

Section 13: HAUL System - Distribution System (not intended for a building plumbing system)

Are there up-to-date maps of the distribution system indicating locations of: service connections, valves, flush-outs, hydrants, etc...	☐ Yes	☐ No	☐ N/A

What types of watermain materials exist in the distribution system? Check all that apply.

☐ PVC (polyvinyl chloride) ☐ AC (asbestos cement) ☐ iron - cast

☐ HDPE (high-density polyethylene) ☐ other ☐ iron - ductile

Are watermains adequately sized? (i.e. 50 mm (2 inch) if no fire protection, 150 mm (6 inch) if fire protection)	☐ Yes	☐ No	☐ N/A
Are watermains adequate pressure rating? (i.e. minimum 100 psi or 690 kPa)	☐ Yes	☐ No	☐ N/A
Is adequate at-tap pressure of 30-to-60 psi (200-to-400 kPa) maintained in the distribution system at all times?	☐ Yes	☐ No	☐ N/A
Does the system have a watermain replacement or renewal strategy?	☐ Yes	☐ No	☐ N/A
Are a set of standards available for <u>new</u> construction?; reference to Manitoba Water Services Board (MWSB) or City of Winnipeg standard construction specifications or similar, to ensure proper materials and construction procedures are followed?	☐ Yes	☐ No	☐ N/A
Have minimum design and construction standards been established for <u>new</u> service connections?	☐ Yes	☐ No	☐ N/A
Is all <u>new</u> construction inspected to meet these requirements?	☐ Yes	☐ No	☐ N/A
Are all <u>new</u> watermains, service lines, and related equipment CSA or NSF certified for use in potable water systems?	☐ Yes	☐ No	☐ N/A
Are all <u>new</u> watermains and water lines disinfected as per AWWA, MWSB, or City of Winnipeg disinfection standards including confirmatory bacterial testing before placed into service?	☐ Yes	☐ No	☐ N/A
If piped sewer is present, is there at least 3 m (10 feet) horizontal distance separation between watermains and sewer mains, where they run parallel?	☐ Yes	☐ No	☐ N/A
If watermains are closer than 3 m (10 feet) from sewer mains are the watermains vertically above the sewer mains?	☐ Yes	☐ No	☐ N/A
If yes, do the watermains have a vertical distance separation at least 0.45 m (18 inches)?	☐ Yes	☐ No	☐ N/A
If watermains cross: sewer mains, raw or other non-potable water lines, oil or gas pipelines, etc... is the watermain above at least 0.45 m (18 inches)?	☐ Yes	☐ No	☐ N/A
Are watermains protected from damage by being buried with at least 2.4 m (8 feet) cover for year-round systems or 0.45 m (18 inches) for seasonal?	☐ Yes	☐ No	☐ N/A
Has the distribution system had any issues with frozen service lines?	☐ Yes	☐ No	☐ N/A
Are "bleeder" lines or valves used to prevent frozen service lines? (These are used in some northern communities.)	☐ Yes	☐ No	☐ N/A

Checklist: Hauled Water (HAUL)

Section 13: HAUL System - Distribution System (not intended for a building plumbing system)

Are water service connections metered? ☐ Yes ☐ No ☐ N/A
☐ some connections

Are water losses kept under 15% to reduce water production requirements? ☐ Yes ☐ No ☐ N/A
☐ don't know

What is the estimated % of water loss for this water system? % ☐ don't know

Are dead ends supplied with hydrants or flush-outs? ☐ Yes ☐ No ☐ N/A

Are valves and hydrants regularly inspected and exercised? ☐ Yes ☐ No ☐ N/A

Are there adequate number of valves, hydrants, and flush-outs to isolate and flush the system? Drain the system if seasonal. ☐ Yes ☐ No ☐ N/A

Are watermains and distribution lines flushed at least annually? ☐ Yes ☐ No ☐ N/A

Flushing frequency:

Are there any known lead service lines present in the system? ☐ Yes ☐ No ☐ N/A
☐ don't know

If found, has a strategy been developed to remove lead service lines? ☐ Yes ☐ No ☐ N/A

Is there a cross connection and backflow prevention program? ☐ Yes ☐ No ☐ N/A

Are connections where there is potential for backflow of hazardous materials protected by backflow prevention assembly or air gap? (i.e. potential locations include agricultural operations, wastewater treatment plants, etc.) ☐ Yes ☐ No ☐ N/A

Are connections from heat exchangers prohibited from being connected to the water supply? (i.e. prohibited from returning water to the potable water line) ☐ Yes ☐ No ☐ N/A

Is there equipment within the distribution system with a high water table or potential to be flooded?
Includes: manholes with potable water equipment, underground meter/ valve pits ☐ Yes ☐ No ☐ N/A

Are all manholes with potable water equipment or underground meter/ valve pits or similar installations, watertight and free from non-potable water intrusion? ☐ Yes ☐ No ☐ N/A

Are air relief valves within the distribution system located aboveground? ☐ Yes ☐ No ☐ N/A

Checklist: Hauled Water (HAUL)

Section 13: HAUL System - Distribution System (not intended for a building plumbing system)

Are there periodic changes in treated water quality in the distribution system? ☐ Yes ☐ No ☐ N/A

Do the distribution system bacterial records suggest it is well operated and well maintained? ☐ Yes ☐ No ☐ N/A

Do the distribution system chlorine residual records suggest it is well operated and well maintained? ☐ Yes ☐ No ☐ N/A

Do the records suggest any specific water quality issues? ☐ Yes ☐ No ☐ N/A

If yes, please explain:

What is the average age (years) of the distribution system?

Distribution

What is the general condition of the distribution system?

- ☐ Good
- ☐ Fair - nearing end of useful life
- ☐ Poor - replacement required

Additional comments:

Checklist: Hauled Water (HAUL)

Section 14: HAUL System - Operation and Maintenance (O&M)

Is the water system checked on a daily basis when it is operating?	☐ Yes ☐ No ☐ N/A
Has the water distribution system been classified under the operator certification program?	☐ Yes ☐ No ☐ N/A
water distribution system: ☐ small system ☐ 1 ☐ 2 ☐ 3 ☐ 4	
Have any operators been classified under the operator certification program?	☐ Yes ☐ No ☐ N/A
Is there a back-up operator for the water system?	☐ Yes ☐ No ☐ N/A
How many hours per day does the operator spend on the water system?	
Is there an up-to-date emergency contact list?	☐ Yes ☐ No ☐ N/A
Is there a list of critical water users (i.e. hospitals, personal care homes, schools) to be contacted during an emergency?	☐ Yes ☐ No ☐ N/A
Is there a procedure for emergency notification of water users if there is a supply interruption or water quality issue or an advisory?	☐ Yes ☐ No ☐ N/A
Is there a plan for obtaining water on an emergency basis?	☐ Yes ☐ No ☐ N/A
If the system is operated on a seasonal basis, are Office of Drinking Water procedures followed for start-up and shut-down of the water system?	☐ Yes ☐ No ☐ N/A
Have written procedures been developed for key activities such as: watermain repairs, flushing, etc?	☐ Yes ☐ No ☐ N/A
Is there an up-to-date water system drawing available?	☐ Yes ☐ No ☐ N/A
Is there a maintenance log for recording preventive maintenance, repairs, etc?	☐ Yes ☐ No ☐ N/A
Are water system records kept for a minimum of 2 years?	☐ Yes ☐ No ☐ N/A
Are instruments regularly calibrated, in particular, water testing equipment to ensure reliable test results?	☐ Yes ☐ No ☐ N/A
Are extra bacterial sample bottles kept on-hand for emergency purposes?	☐ Yes ☐ No ☐ N/A
Is the system in compliance with the sampling parameters and frequency listed in the Operating Licence?	☐ Yes ☐ No ☐ N/A

Additional comments: