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Inspecting Groundwater Monitoring Wells at Landfills (WA-1793)

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Waste and Materials Management

GENERAL TOPIC

This guidance document is intended to provide information for owners, operators and sampling personnel inspecting groundwater monitoring wells. In addition, this guidance document provides resources in the event a monitoring well needs to be repaired, abandoned and/or replaced.

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Inspecting Groundwater Monitoring Wells at Landfills

Guidance on Solid Waste Requirements

PUB-WA-1796 2026



Summary

Groundwater monitoring wells are one of many monitoring devices used to evaluate environmental conditions near landfills. Section NR 507.13, Wis. Adm. Code, requires landfill owners or operators to inspect, at least annually, all monitoring devices installed for field investigations under ch. NR 507, Wis. Adm. Code. Section NR 507.13, Wis. Adm. Code, also requires sampling personnel to inspect all monitoring devices each time the device is sampled or water elevations are measured.

Purpose and Audience: This guidance document is intended to provide information for owners, operators and sampling personnel inspecting groundwater monitoring wells. In addition, this guidance document provides resources in the event a monitoring well needs to be repaired, abandoned and/or replaced. Landfill owners can use the Quick Reference below and the checklist on the following page to check groundwater monitoring wells for compliance with Wisconsin Administrative Code. Additional details regarding the requirements and recommendations for addressing issues are provided in Attachment 1.

Groundwater Monitoring Well Inspection Quick Reference

Protection (ss. NR 507.04(3) and NR 506.081(1)(e)(4), Wis. Adm. Code)	Labels (s. NR 507.04(4), Wis. Adm. Code)	Surface Seals and Protective Cover Pipes (ss. NR 507.04(3m), NR 141.13(3) and NR 141.13(4), Wis. Adm. Code)	Abandonment and Replacement (s. NR 507.13, Wis. Adm. Code)
- Monitoring well must have protective metal cover pipe - Monitoring well must be kept locked and sealed to prevent contaminants from entering device - Additional protective devices such as a ring of brightly colored posts may be required to help protect monitoring well - Woody vegetation near monitoring well must be removed if continued growth may damage the monitoring well	- Monitoring well must be clearly and permanently labeled - Outside of monitoring well must be labeled with device name and identification number assigned by the Department of Natural Resources (DNR) - Inside of monitoring well must be labeled with Wisconsin unique well number (WUWN)	- Ground surface seal on monitoring well must be maintained so the protective metal cover pipe remains sealed and stable - Protective metal cover pipe must extend 24 inches above ground surface - Protective metal cover pipe must extend above (no greater than 4 inches) the top of the well casing - Monitoring well must be constructed with a bentonite or concrete surface seal (concrete surface seal for flush mounted protective cover pipe)	- If monitoring well is damaged, provides a conduit to subsurface, or fails to function properly, the owner or operator must notify the DNR in writing within 10 days of discovery and the well must be repaired if possible - If monitoring well cannot be repaired, it must be properly abandoned and replaced within 60 days unless otherwise approved by the DNR in writing - Replacement wells must be given the same number as the replaced device followed by the letter "R"

Groundwater Monitoring Well Inspection Checklist

Directions: Circle the answer to each question below. If your circled answer is in the “Action Needed” column, complete the recommended action.

Landfill Name and License No.:

Date of Inspection:

Name of Inspector:

Inspection Item	No Action Needed	Action Needed	Recommended Action
Were all groundwater monitoring wells able to be located?	Yes	No	Contact sampling personnel or DNR. Clearing vegetation and using a tall colored post or flag can help locate monitoring devices in the future.
Are all groundwater monitoring wells labeled with the well ID, identification number assigned by the DNR (i.e., GEMS point ID), and WUWN?	Yes	No	Label monitoring device (see frequently asked question #2). A WUWN label may not be available for older wells. Labeling a monitoring device prevents it from being mistaken for another device, which could result in incorrectly reported sample results.
Are all groundwater monitoring wells locked?	Yes	No	Add locks to devices missing locks. Locking a monitoring device prevents vandalism which could result in a change in water quality or irreparable damage.
Do all groundwater monitoring wells have metal outer protective cover pipe?	Yes	No	Add metal protective cover pipe. Consult drilling contractor. A protective metal cover pipe secures the well and prevents it from being damaged.
Are any of the surface seals for the groundwater monitoring wells heaved out of ground?	No	Yes	Repair surface seal and resurvey top of casing. Consult drilling contractor. An adequate surface seal prevents stormwater from entering the well and contaminating groundwater or affecting the sample quality.
Are outer metal protective cover pipes on all groundwater monitoring wells stable (i.e., do not wobble)?	Yes	No	Repair surface seal and reset protective metal cover pipe. Consult drilling contractor.
Is there woody vegetation growing near any of the groundwater monitoring wells?	No	Yes	Remove woody vegetation if continued growth may cause damage to the device.
Are any of the groundwater monitoring wells damaged?	No	Yes	Repair device and add features to prevent damage in future ¹ . If device cannot be repaired, abandon and replace the device (consult P.G. and drilling contractor).
Do all groundwater monitoring wells have a vented cap?	Yes	No	Install a vented cap unless the device is a flush mounted protective cover pipe or used to sample gas.
Are there any groundwater monitoring wells that are not being monitored or no longer used to gather information?	No	Yes	Check with DNR that well is not required to be monitored per an approval for the landfill. If well is required to be monitored, resume monitoring. If well is not required to be monitored, abandon well (consult P.G. and drilling contractor).

Notes:

P.G. = Professional geologist. Services can be obtained from an environmental service contractor.

GEMS = Groundwater and Environmental Monitoring System

WUWN = Wisconsin Unique Well Number

DNR = Department of Natural Resources

¹Brightly colored bumper posts, boulders, etc., can be used to prevent damage to monitoring device

Attachment 1:
Inspecting Groundwater Monitoring Wells at Landfills
Additional Information

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1 Introduction

Some landfills have monitoring devices, including groundwater monitoring wells. Groundwater monitoring wells are used to assess groundwater quality surrounding a landfill. Routine inspections of groundwater monitoring wells help ensure the wells are stable and functioning as intended. Damaged groundwater monitoring wells can create a conduit for contaminants to the subsurface. Therefore, it is important to routinely inspect groundwater monitoring wells and address any damages as soon as possible. It is less expensive to maintain groundwater monitoring wells than it is to replace them.

Groundwater monitoring wells are required to be maintained and monitored in accordance with ch. NR 507, Wis. Adm. Code, s. NR 506.081(1)(e), Wis. Adm. Code, and written approvals issued by the DNR. Written approvals issued by the DNR are specific to each landfill and typically referred to as monitoring plan or closure plan approvals. Section NR 507.13, Wis. Adm. Code, requires landfill owners or operators to inspect groundwater monitoring wells at least annually, though landfill-specific monitoring or closure plan approvals may specify higher frequencies. Section NR 507.13, Wis. Adm. Code, also requires sampling personnel to inspect all monitoring devices each time the device is sampled, or water elevations are measured.

The DNR may ask to review documentation of well inspections when the owner or operator submits a request to DNR for a reduction in monitoring frequency, or at other times. Well inspections are an important part of solid waste facility operations. If a well is in poor condition, the water sample results may not be representative of the water quality at the monitoring point.

If a groundwater monitoring well is damaged or fails to function properly, the owner or operator must notify the DNR within 10 days of discovery. If the groundwater monitoring well cannot be repaired, the well must be permanently filled and sealed following the abandonment requirements in s. NR 141.25, Wis. Adm. Code, and replaced within 60 days, unless otherwise approved by the DNR in writing. The replacement well is required to be given the same number as the replaced device followed by the letter "R." All groundwater monitoring wells are required to be constructed in accordance with ch. NR 141, Wis. Adm. Code. All groundwater monitoring well abandonment and replacement activities are required to be observed and directed by a professional geologist or by a qualified technician directly supervised by a professional geologist in accordance with s. NR 507.04, Wis. Adm. Code. Professional geologist services can be obtained from an environmental service contractor.

Section NR 507.04, Wis. Adm. Code

A professional geologist or qualified technician who is directly supervised by a professional geologist shall observe and direct the drilling of all borings and the installation, development, and abandonment of all wells

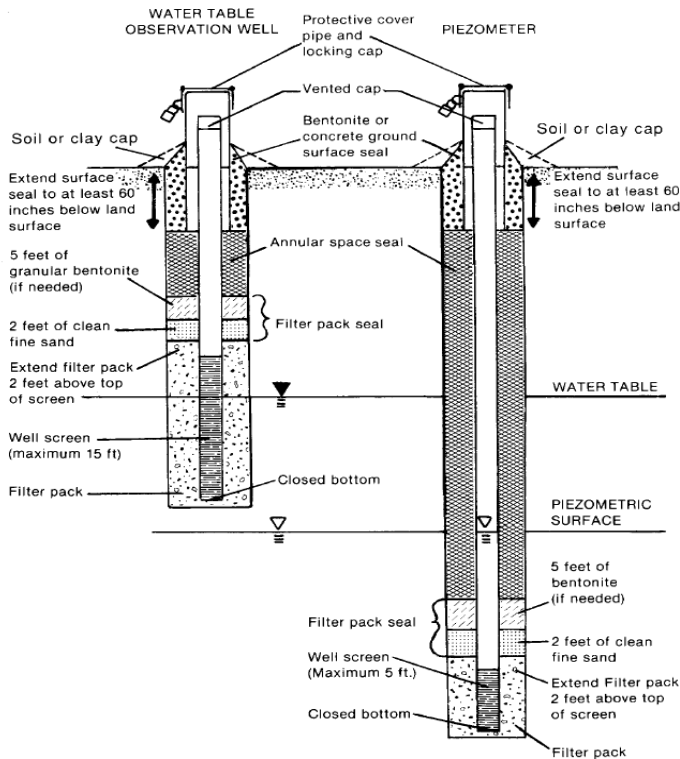
2 Groundwater Monitoring Well Overview

A typical groundwater monitoring well installed around a landfill is comprised of two main pieces – the well casing and the protective metal cover pipe that extends above ground surface. The well casing is the interior pipe generally made of PVC, whereas the protective metal cover pipe is the outer pipe commonly made of steel or anodized aluminum. Specifications for well casing material are provided in s. NR 141.07, Wis. Adm. Code. Specifications for the protective metal cover pipe are provided in s. NR 141.13(3)(b), Wis. Adm. Code.

In areas of high vehicular traffic that are not subject to ponding or flooding, a flush-mounted protective cover pipe may be installed (Photo 1). Groundwater monitoring wells with flush-mounted protective cover pipes will not extend above the ground surface. Flush-mounted protective cover pipes are not very common around landfills because areas around a landfill typically do not meet the criteria for a flush-mounted well. A flush-mounted well can only be installed in high vehicular traffic areas not subject to ponding or flooding and through an impervious surface such as asphalt or concrete that supports the weight of the traffic in the area (s. NR141.13(4)(b), Wis. Adm. Code). Furthermore, flush-mounted wells are difficult to seal and keep watertight. Therefore, they can often be more prone to contamination from the surface, such as road salt. Specifications for flush-mounted protective cover pipes are provided in s. NR 141.13(4)(b), Wis. Adm. Code.

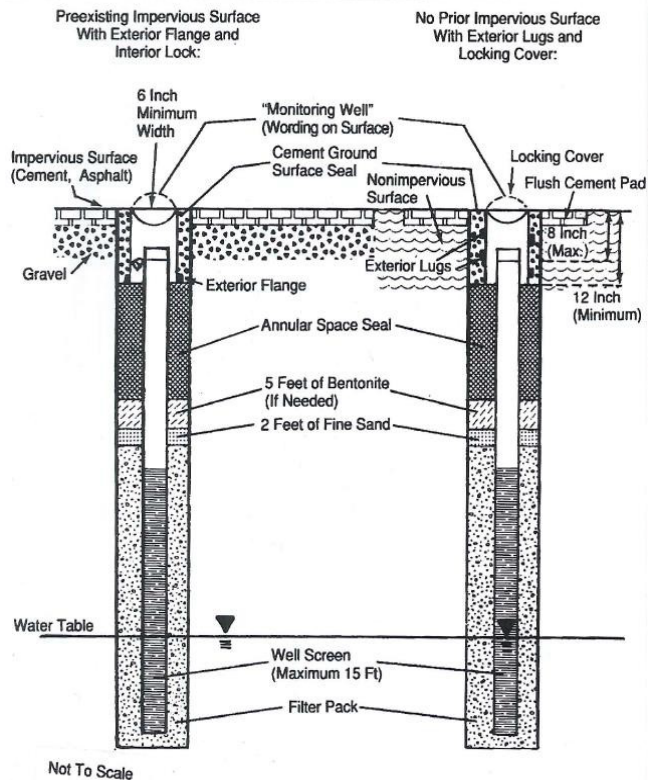
Figures 1 and 4 from ch. NR 141, Wis. Adm. Code, provided below, depict schematics of groundwater monitoring wells in further detail.

Figure 1.
Typical water table observation well and piezometer construction details.



Not to scale

Figure 4.
Two typical flush mounted protective cover pipes after installation.



3 Groundwater Monitoring Well Maintenance, Repair, Replacement

A damaged groundwater monitoring well can become a conduit for water to enter the well and contaminate groundwater. Because of this, landfill owners and operators must ensure all groundwater monitoring wells remain in good condition. It is less expensive to maintain groundwater monitoring wells than it is to replace them. Groundwater monitoring wells must be maintained in accordance with ss. NR 506.081(1)(e), NR 507.04, NR 507.13, and ch. NR 141, Wis. Adm. Code.

Groundwater monitoring wells that cannot be repaired must be abandoned and replaced within 60 days after its use has been discontinued, unless otherwise approved by the DNR in writing, in accordance with s. NR 507.13 and ch. NR 141, Wis. Adm. Code. Abandonment, construction and development documentation for all groundwater monitoring wells must be provided to the DNR within 60 days after the work is completed on forms supplied by the DNR (see underlined text in Table 1 for the appropriate forms). A professional geologist or qualified technician who is directly supervised by a professional geologist is required to observe and direct the drilling of all borings and the installation, development and abandonment of all wells.

The following table provides a summary of practices required to maintain, repair and/or replace groundwater monitoring wells. The table provides references to photos in the next section that show examples of groundwater monitoring wells.

Table 1: Summary of Groundwater Monitoring Well Requirements

	Requirement
Inspect (NR 507.13)	Landfill owner is required to inspect all monitoring devices at least annually.
	Sampling personnel are required to inspect all monitoring devices each time the device is sampled or a water level elevation is measured. ➤ <i>It is the landfill owner's responsibility to ensure their sampling personnel are conducting this task.</i>
Protect (NR 506.081(e)(4), NR 507.04(3), NR 507.04(3)(m))	All monitoring devices are required to be locked to prevent contaminants from entering the monitoring device (Photo 2, 3). ➤ <i>A person should not be able to remove or open the cover on a groundwater monitoring well's protective metal cover pipe while locked.</i>
	Groundwater monitoring wells are required to have outer protective metal cover pipes (Photo 4).
	The surface seals on groundwater monitoring wells are required to be maintained to prevent infiltration of contaminants and so the protective metal cover pipe remains stable. ➤ <i>An unstable or loose protective metal cover pipe indicates the surface seal may not be in good condition and may need to be repaired or replaced (Photo 5).</i> ➤ <i>Surface seals may heave out of the ground due to frost over time (Photo 5). If a surface seal has heaved out of the ground surface, the seal needs to be replaced or repaired to reseal the well.</i> ➤ <i>Contact a drilling contractor or environmental consultant to evaluate options for addressing surface seal issues.</i>
	All devices are required to be protected as necessary. ➤ <i>Ensure measures or features are put in place to prevent damage to groundwater monitoring wells.</i> ➤ <i>The DNR may require additional protective devices such as a ring of brightly colored posts around any groundwater monitoring well (Photo 6).</i>
	Woody vegetation near a monitoring device is required to be removed if continued growth of the vegetation may damage the monitoring device.
Label (NR 507.04(4))	All monitoring devices are required to be clearly and permanently labeled on the outside of the monitoring device. The label must include the device name (e.g., MW-1) and identification number assigned to each well by the DNR, referred to as the GEMS point ID (e.g., 003) (Photos 7 and 8). ➤ <i>These two labels on a groundwater monitoring well are required to be on the outside of the protective metal cover pipe.</i>

	Groundwater monitoring wells are required to be labeled with their Wisconsin unique well number (WUWN) in accordance with s. NR 141.23(2), Wis Adm Code. ➤ <i>WUWN labels are supplied by the DNR's Drinking Water and Groundwater program but are commonly provided by well drillers at the time of well installation.</i> ➤ <i>The WUWN label is best applied at a fixed location inside the groundwater well's protective metal cover pipe, as the label is unique and cannot be replaced (Photo 9).</i> ➤ <i>If the WUWN label supplied by the DNR becomes lost or illegible, the WUWN can be permanently labeled on the inside of the protective metal cover pipe.</i>
Repair and/or Replacement (NR 507.13)	Monitoring devices that are damaged provide a conduit to the subsurface (e.g., heaved surface seal, loose protective metal cover pipe) or otherwise fail to function properly (e.g., consistently dry) are required to be repaired, if possible. If the device cannot be repaired, it must be properly abandoned and replaced (Photo 10). ➤ <i>Contact a drilling contractor or environmental consultant for options to repair groundwater monitoring wells.</i> ➤ <i>Contact a professional geologist and licensed well driller to abandon and replace groundwater monitoring wells.</i>
Abandonment and Documentation (NR 141.25(1)(b) and NR 507.14)	Monitoring devices that are no longer being used to gather information on geologic or groundwater properties need to be abandoned. ➤ <i>Code requires proper abandonment within 60 days after its use has been discontinued.</i> ➤ <i>Contact a professional geologist and licensed well driller for abandonment.</i> Documentation of the abandonment is required to be provided to the DNR within 60 days of the abandonment on forms supplied by the DNR. ➤ <i>The required abandonment documentation forms include a <u>well/drillhole/borehole abandonment form (Form 3300-005)</u> for each well abandoned and an updated <u>Groundwater monitoring well information form (Form 4400-089)</u>.</i> ➤ <i>Groundwater forms are located on the DNR website.</i>
Installation and Documentation (NR 141 and NR 507.14)	Permanent groundwater monitoring wells must be constructed and developed in accordance with ch. NR 141, Wis. Adm. Code. ➤ <i>Contact a professional geologist and licensed well driller to construct and develop a permanent groundwater monitoring well.</i> Documentation of the construction of permanent groundwater monitoring wells is required to be provided to the DNR within 60 days of construction on forms supplied by the DNR. ➤ <i>The required construction documentation forms include a <u>monitoring well construction form (Form 4400-113A)</u> and <u>monitoring well development form (Form 4400-113B)</u> for each well constructed, and an updated <u>groundwater monitoring well information form (Form 4400-089)</u>.</i> ➤ <i>A <u>soil boring log information form (Form 4400-122)</u> is also required unless the DNR approves a preexisting boring log for a boring within 10 feet of a replacement well.</i>

4 Groundwater Monitoring Well Photos



Photo 1: Protective cover pipe for flush-mounted groundwater monitoring well.



Photo 2: Protective cover pipe with lock.



Photo 3: Protective cover pipe without lock.



Photo 4: Groundwater monitoring well casing without protective cover pipe or lock.



Photo 5: Groundwater monitoring well with concrete surface seal that has heaved out of the ground due to frost



Photo 6: Ring of brightly colored posts around a groundwater monitoring well.



Photo 7: Well label attached to the protective cover pipe clearly showing the well name and GEMS point ID.



Photo 8: Well label written on the protective cover pipe clearly showing the well name and GEMS point ID.



Photo 9: WUWN sticker displayed on inside of groundwater monitoring well protective cover pipe.



Photo 10: Damaged groundwater monitoring well that may need to be replaced.

5 Frequently Asked Questions

1. [Who can help me if I'm unsure what to do about a particular groundwater monitoring well or situation at my landfill?](#)
2. [How can I label my groundwater monitoring well?](#)
3. [What if I do not know the locations, names, GEMS point IDs or WUWNs for the groundwater monitoring wells at my landfill?](#)
4. [What do I do if a groundwater monitoring well associated with my landfill is damaged?](#)
5. [Do I need approval to abandon or replace a groundwater monitoring well?](#)
6. [How do I repair a groundwater monitoring well that is unstable or heaved due to a worn surface seal or frost?](#)
7. [Do I need to notify the DNR if I replace a groundwater monitoring well or make repairs to a groundwater monitoring well?](#)
8. [What are the requirements for a groundwater monitoring well with a flush mounted protective cover pipe?](#)
9. [Are sampling personnel required to notify the owner or operator if a groundwater monitoring well is damaged or broken?](#)

1. Who can help me if I'm unsure what to do about a particular groundwater monitoring well or situation at my landfill?

Contact DNR staff assigned to your landfill or an environmental consultant. DNR staff are located in different regions of the state and assigned to cover specific counties. There is a hydrogeologist and engineer assigned to your landfill. You can find the staff assigned to your landfill by using the staff directory on the DNR website and searching by a subject of 'landfill' and by the county your landfill is located within. A list of environmental consultants can also be obtained on the DNR website by searching for "[Environmental Services Contractor List](#)."

2. How can I label my groundwater monitoring well?

The well name and GEMS point ID can be written on the outside of the protective cover pipe with a paint pen, or the device can be more permanently labeled (with an embossed placard or tag affixed to the protective cover pipe). See Photos 7 and 8. The WUWN is best displayed on the inside of the protective cover pipe using stickers provided by the DNR. See Photo 9. You may be able to request WUWN stickers from the DNR by calling 608-266-1054 or emailing DNRWELLREPORT@Wisconsin.gov; however, WUWN stickers are not available for all groundwater monitoring wells and cannot be replaced. If the DNR is unable to provide you with WUWN stickers, you may create your own sticker or write the WUWN on the inside of the protective cover pipe using a paint pen.

3. What if I do not know the locations, names, GEMS point IDs or WUWNs for the groundwater monitoring wells at my landfill?

Contact the DNR staff assigned to your landfill, and they can provide you with a map, if available, of your monitoring locations with the device names and GEMS point IDs. The consultant sampling at your landfill should also be able to provide you with this information. Note, s. NR 507.14(1), Wis. Adm. Code, requires geographic information system (GIS) locational information to be provided for all borings and wells. The surveying for GIS coordinates is required to be conducted by a professional land surveyor or by a qualified technician who is directly supervised by a professional land surveyor in accordance with s. NR 500.055, Wis. Adm. Code. The DNR may request GIS coordinates for monitoring devices at your landfill to ensure monitoring device locations in DNR databases are accurate.

WUWNs are unique identifiers consisting of letters and numbers (e.g., BS817) assigned by the DNR's Drinking and Groundwater Program to all groundwater monitoring wells and water supply wells across the state. Stickers with the WUWNs are typically supplied by the driller at the time a well is installed. However, these stickers may no longer be available for your groundwater monitoring wells because they cannot be replaced. Regardless, your well has a WUWN, or should be assigned a WUWN if one was never assigned. Contact the DNR staff assigned to your landfill to obtain a WUWN or have one assigned.

4. What do I do if a groundwater monitoring well associated with my landfill is damaged?

Per s. NR 507.13, Wis. Adm. Code, a landfill owner is required to notify the DNR if there is damage to a monitoring device, if a device provides a conduit to the subsurface, or if a device otherwise fails to function properly. The notification needs to occur within 10 days after the issue is discovered and can be provided to DNR staff assigned to the landfill via email. If the monitoring device is required to be monitored per the approved monitoring plan, the device needs to be repaired, if possible, or properly abandoned and replaced within 60 days.

5. Do I need approval to abandon or replace a groundwater monitoring well?

A monitoring device can be replaced within 10 feet of the original device without DNR approval as long as the device is installed at the same elevation and has the same screened interval as the original device. See response to the previous question for requirements to notify the DNR when a monitoring device needs to be replaced. The device must be given the same name with an 'R' added to the end per s. NR 507.13, Wis. Adm. Code, to designate it as a replacement device (e.g., MW-25R, B-4R, GP-5R). The DNR will issue a new GEMS point ID number for the replacement device. When a monitoring device is replaced, the owner must provide documentation for the new device to the DNR within 60 days after the device has been installed per s. NR 507.14, Wis. Adm. Code. The documentation must include forms specified in s. NR 507.14(5), Wis. Adm. Code. For monitoring device replacement, the forms that are required are:

- Groundwater monitoring well and point information form (4400-089) (required any time a well is constructed, abandoned, or repaired such that the well casing elevation changes)
- Monitoring well construction form (4400-113A) (documentation for new or replacement groundwater monitoring wells)
- Monitoring well development form (4400-113B) (documentation for new or replacement groundwater monitoring wells)
- Well/drillhole/borehole abandonment (form 3300-005) (documentation for groundwater monitoring well abandonment/filling)
- Soil boring log information form (4400-122) (unless the DNR approves a preexisting boring log for a boring within 10 feet of a replacement well)

Electronic copies of these forms can be found on the DNR website. Contact the staff assigned to your landfill if you need information to complete the form (e.g., Facility ID number [FID], GEMS point ID). All applicable fields on these forms must be completed, which includes GIS locational information in accordance with s. NR 507.14(1), Wis. Adm. Code. Section NR 500.055, Wis. Adm. Code, requires the surveying for GIS coordinates to be completed by a professional land surveyor or by a qualified technician who is directly supervised by a professional land surveyor. Note the WUWN for the replacement groundwater monitoring well is supplied by the driller at the time a well is installed.

6. How do I repair a groundwater monitoring well that is unstable or heaved due to a worn surface seal or frost?

If a groundwater monitoring well is damaged such that the well can no longer be sampled, the device may need to be abandoned and replaced. The DNR recommends contacting a professional geologist and licensed well driller any time there is extensive damage to a groundwater monitoring well. A professional geologist or qualified technician who is directly supervised by a professional geologist is required to observe the abandonment and/or installation of all groundwater monitoring wells in accordance with s. NR 507.04(2), Wis. Adm. Code. Documentation of the abandonment and installation of a groundwater monitoring well needs to be provided to the DNR within 60 days after the device has been abandoned and/or installed in accordance with s. NR 507.14, Wis. Adm. Code.

The landfill owner or operator may be able to complete routine repairs to unstable groundwater monitoring wells without the help of a professional geologist or licensed well driller. To stabilize a groundwater monitoring well, the DNR recommends filling voids in the surface seal with bentonite and covering the bentonite with clean, native clay/soil in order to prevent the bentonite from drying out. Additional recommendations include:

- Creating a mounded slope with clean, native clay/soil to shed water away from the well casing
- Adding pea gravel between the protective cover pipe and well casing to improve the stability of the well, provided it does not interfere with monitoring
- Drilling a small hole into the protective cover pipe to drain water if it is filling between the protective cover pipe and well casing (water held in this space can freeze and damage the well)

7. Do I need to notify the DNR if I replace a groundwater monitoring well or make repairs to a groundwater monitoring well?

Yes, documentation of abandonment and installation of a monitoring device needs to be provided to the DNR within 60 days after the device has been abandoned/installed. The required documentation provides notification that a device has been replaced.

If a groundwater monitoring well has been repaired, notifying the DNR is recommended. In addition, if the device has heaved and/or the repairs require adjustments to the device that changes the height of the device, the following must be considered:

- The top of the well casing's elevation (i.e., inner PVC pipe) should be resurveyed to ensure accurate groundwater and well bottom elevations (based on depth to water and bottom of the well measured in the field) can be calculated
- A reference point should be marked on the well casing to measure the water level from a consistent point during each sampling event and ensure accurate groundwater elevations
- The height of the protective cover pipe must extend at least 24 inches above ground level to ensure flooding does not overtop the well

- The top of the well casing must terminate no more than 4 inches below the top of the protective cover pipe to ensure depth to water can be measured accurately
- The protective metal cover pipe should always extend above the top of the well casing

For an adjustment to a device that changes the height of the well casing or ground surface, new survey information for the well should be provided on an updated groundwater monitoring well and point information form (4400-089). Furthermore, it is beneficial for the top of casing of monitoring devices to be periodically resurveyed since heaving or settling of wells can occur subtly over time.

8. What are the requirements for a groundwater monitoring well with a flush-mounted protective cover pipe?

Flush-mounted protective cover pipes may only be installed in high vehicular traffic areas and may not be installed in areas subject to ponding water. The flush-mounted protective cover's lid is required to have the wording "monitoring well" on its outer surface. All permanent groundwater monitoring wells with a flush-mounted protective cover pipe must be installed with a concrete surface seal. Flush-mounted protective cover pipes must be installed through an impervious surface such as asphalt or concrete. If an impervious surface does not exist, one must be created that will support the weight of the traffic in the area. The protective cover pipe and well casing cap must also be watertight to avoid infiltration of stormwater. Flush-mounted protective cover pipes do not need to be locked as long as the well cap within the protective cover pipe is locked. Additional requirements for flush-mounted protective cover pipes are in s. NR 141.13(4), Wis. Adm. Code.

9. Are sampling personnel required to notify the owner or operator if a groundwater monitoring well is damaged or broken?

It is ultimately the responsibility of the owner to keep track of and notify the DNR of any damaged or broken wells. Sampling personnel are also required to inspect groundwater monitoring wells each time the device is sampled, or water elevations are measured. In addition, certain monitoring or closure approvals may require the sampling personnel to report to DNR's GEMS database a well that is broken (code 00004), frozen (code 00005), or dry (code 00006). However, the landfill owner is responsible for ensuring these tasks are completed. The landfill owner can delegate these tasks to their sampling personnel but still needs to ensure the sampling contractor is fulfilling their responsibility.

The DNR recommends sampling personnel prepare a written well inspection log and give a copy to the owner or operator to document a well that was inspected and note if repairs are or are not needed. By documenting the inspection, the owner or operator can be assured that inspections are being conducted in compliance with state code. The owner or operator can then be proactive and make repairs before the well becomes irreparable and avoid a costly well replacement.

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***Disclaimer:** This document is intended solely as guidance and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.*

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