

## Temporary High Capacity Dewatering Well Application Instructions

Form Number 3300-258 (1/2012)

A well is any opening into the ground constructed for the purpose of obtaining groundwater made by digging, boring, drilling, and driving (or any other means) where the depth of the opening is greater than the largest surface dimension and extends more than 10 feet below the ground surface. An approval is required from the Department of Natural Resources, Bureau of Drinking Water and Groundwater for any well or system of wells that is classified as a high capacity well system. **A high capacity system is defined as any well, or combination of wells on a single property, that in aggregate have a combined pumping capacity of 70 or more gallons per minute.**

The Department would deny or limit the pumping capacity of a high capacity dewatering well proposal only:

- If the operation would likely have an adverse impact on water availability to a public utility well,
- If the dewatering pumping could cause an area of groundwater contamination to spread,
- If the dewatering pumping would have a significant adverse environmental impact on a water of the state, or
- The proposed dewatering system does not meet the requirements of [Ch. NR 812, Wis. Adm. Code](#).

The Department can rescind or modify any approval that has been issued if it determines that:

- The applicant submitted an incomplete or inaccurate proposal,
- The system is not constructed or operated in accordance with all the terms and conditions of the Department's approval, or
- The Department finds that the project is causing a significant adverse environmental impact.

The discharge from a dewatering operation may require a separate application and permit for compliance with the requirements of the Wisconsin Pollutant Discharge Elimination System (WPDES) as specified in [Chapter 283, Wisconsin Statutes](#). This separate application, and approval from the Department, is required if the dewatering discharge could cause any adverse impact on the quality of the receiving surface water. The Department also has the authority to take enforcement action under [Chapter 29 Wisconsin Statutes](#), if the quality of the receiving water is degraded.

[Chapter 30 of the Wisconsin Statutes](#) does not allow water discharges that scour the bank or bed of any navigable body of water. [Section 30.12](#) of that statute requires permits for all modifications to the beds or banks of navigable bodies of water, including supports for discharge pipes. Contact the DNR Regional Water Leader if you have any questions about Chapter 30 permits.

[Ch. NR 812, Wis. Adm. Code](#) requires a minimum well casing depth of 25 feet for unconsolidated formation wells. If the well casing depth is less than 25 feet (not including the screen depth) a variance request as described in s. [NR 812.43](#), must be included with the dewatering system application. The owner of the property, where the dewatering project is to be located, must sign the application and the variance request.

In accordance with [Chs. NR 820 and 856, Wis. Admin. Code](#), persons operating a high capacity dewatering well system must report the monthly volumes of water withdrawal and submit the compiled withdrawal information following completion of the dewatering project. Additionally, in accordance with [Ch. NR 860, Wisc. Admin. Code](#), persons operating a high capacity dewatering well system within the Great Lakes basin that may withdraw water in amounts averaging 100,000 gallons per day or more in any 30-day period will be issued the appropriate Water Use Permit based on the information submitted with your dewatering well application.

Attached, you will find a summary of the design requirements and the information that the Department requires to evaluate a high capacity dewatering well system proposal.

**If you have any questions regarding the preparation of a complete dewatering proposal, you can contact any of the people noted below.**

<u>NAME</u>	<u>TELEPHONE</u>	<u>E-MAIL ADDRESS</u>
<a href="#">Dave Johnson</a> , P.G	(608) 261-6421	Dave.Johnson@Wisconsin.gov
<a href="#">Paul Kozol</a> , P. E	(608) 267-9787	Paul.Kozol@Wisconsin.gov
<a href="#">Larry Lynch</a> , P.G.	(608) 267-7553	Lawrence.Lynch@Wisconsin.gov

This form is available on the Internet at: <http://www.dnr.state.wi.us/org/water/dwg/dewater.htm> as Form Number 3300-258. You can download and print the form from your computer.

If you do not have a computer and access to the Internet to obtain a copy of this form, you can request a paper copy of the form at (608) 266-0821. Paper copies of the forms can also be requested by faxing a request to the Private Water Systems Section at (608) 267-7650 or by mailing a request to the Private Water Systems Section, WDNR DG/2, P.O. Box 7921, Madison WI 53707-7921. Paper copies of the requested form will be mailed to the requester the next business day.

Please note that any application that is incomplete will be returned to the applicant or property owner for completion and resubmittal. Applications are reviewed on a "first in – first out" basis. Resubmitted applications will be reviewed in order of receipt along with all other applications received by the Department. The Department will issue a decision within 65 business days after receipt of a **complete** application.

There is a distinct advantage to applying early for an approval for a dewatering operation. Approvals can be requested by project consultants early in the planning process and by municipal entities when they know that they will be bidding a project, well in advance of contract awards. This allows the approval to be available when the contractor is ready to proceed with construction. It is not a good idea to wait until the last minute or after a contract has been awarded to a contractor to apply for approvals for dewatering operations and associated discharge permits.

Typical problems observed by the Department include:

- (1) The altering of a groundwater contamination plume, thereby, negating expensive efforts to clean-up the contamination or causing the contamination to flow into another water supply well,
- (2) Sensitive surface water bodies losing base flow and in some instances completely drying up, and
- (3) Private water wells being affected to the point where the user has no water.

The Department has an interest in preventing these types of problems from occurring and wants you to be alert to these potential problems. All of these problems are preventable if recognized early in the planning process. If you think there is a potential problem, ask Department staff for assistance.

### **Application Form and Water Use Reporting Instructions**

While most of the blanks on the form are self explanatory, the following instructions should help to clarify what information we need from you for the form and what you will need to do to report your water use (if your application is approved).

**PROJECT NAME AND BRIEF DESCRIPTION:** Provide a name that appropriately identifies the dewatering project and a few words to describe the project, e.g. "wastewater lift station," "foundation dewatering," etc.

**DEWATERING SYSTEM PROPERTY OWNER.** Provide the name and mailing address of the individual, corporation, partnership, village, municipality, or sanitary district that owns the property where the dewatering well(s) is/are proposed for installation. Include the name, title, address and telephone number of a property ownership official.

**DEWATERING SYSTEM OPERATOR:** Provide the name and address of the operator of the proposed dewatering well(s). Include the name, title, address and telephone number of an official of the entity that will be responsible for the daily operation of the wells.

**PROPOSED DEWATERING SYSTEM LOCATION:** Using Public Land Survey System (PLSS) nomenclature, provide information on the location of the proposed dewatering system. This information can most easily be obtained from a copy of a plat map commonly found in libraries and municipal offices such as a land records office.

**DEWATERING SYSTEM OPERATION:** Provide details on the operation of the proposed dewatering system. Indicate how long the dewatering is expected to take place and when. If the rate of dewatering pumping is expected to vary over the length of the project, describe the amount and reason for the variation.

**WELL CONSTRUCTION:** Provide detailed information on the proposed dewatering well construction.

The top of all of the well casings must terminate at least 2 feet above the regional flood level and shall be at least 1 foot above the local ground surface.

A Department approved, watertight well cap or seal must be provided for each well.

For drilled wells in unconsolidated (soil) formations, at least 25 feet of well casing must be installed (30 feet, if a gravel pack is placed around the well screen). If the well is constructed with a reverse rotary drilling method, the casing must be sealed in place with fine grained drill cuttings, a mixture of bentonite slurry and drill cuttings with a mud weight of at least 11 pounds per gallon or with neat cement grout. The upper enlarged drillhole must be at least 4 inches larger than the casing diameter when the well is drilled using cable-tool or other percussion drilling method or must be 2 inches larger in diameter if a rotary drilling method is used. For wells constructed into bedrock encountered at a depth of less than 40 feet below the ground surface, or if sandstone bedrock is encountered less than 30 feet, or if the upper enlarged drillhole is constructed more than 5 feet into any bedrock formation encountered at a depth greater than 40 (30 feet for sandstone), then the annular space around the well casing must be sealed with tremie injected, neat cement grout. The grout must be injected according to the requirement of s. [NR 812.20](#). If limestone or dolomite is encountered at a depth less than 10 feet, the upper enlarged drillhole and casing must extend at least to the 60-foot depth and must be sealed with neat cement grout.

Dewatering wells may also be installed using jetting techniques and well points may be jetted or driven. Well casing materials must meet requirements of [Ch. NR 812](#) for type of material and wall thickness.

**PUMP INSTALLATION:** Provide details on the proposed pump installation. An approved check valve is required on each well discharge pipe after it exits the well seal to prevent water from flowing back into any well.

**WATER USE MEASURING:** According to [NR 856.31](#), water withdrawals shall be measured using one of the following methods:

- 1. Totalizing Flow Meter** - Flow meters shall be read and documented at least once every month. When reporting pumpage to the Department, use the following measurement code: **TFM**.
- 2. Hour Meter** - Pump operation is timed with an hour meter and the pumping capacity is used to calculate total pumpage. The operation time and pumping capacity shall be documented for each period of use. When reporting pumpage to the Department, use the following measurement code: **THM**.
- 3. Weir** - Flow rate is measured using a weir. For sources with little or no flow rate variability, flow rate shall be measured on a daily basis for the first week and at a minimum of weekly thereafter. For sources with flow rate variability, flow rate shall be measured daily. When reporting pumpage to the Department, use the following measurement code: **MVW** (for a V-notch weir) or **MRW** (for a Rectangular weir).
- 4. Horizontal Pipe** - Flow rate is measured by discharge from a horizontal pipe. Flow rate shall be measured on a daily basis for the first week and at a minimum of weekly thereafter. When reporting pumpage to the Department, use the following measurement code: **MHP**.
- 5. Alternative Method** - Alternative method and monitoring frequency may be approved by the Department. To obtain an approval to use an alternative method, contact the Water Use Program within the WDNR by phone (608-266-2299) or by email [DNRWaterUseRegistration@wi.gov](mailto:DNRWaterUseRegistration@wi.gov). When reporting pumpage to the Department, use the following measurement code: **OTH**.

**WATER USE REGISTRATION AND REPORTING:** Obtaining a high capacity dewatering well approval automatically registers your withdrawal with the Water Use Program. According to [NR 856.30](#), annual reporting for each calendar year is required by March 1 of the following year. (For example, 2011 water use reporting is due March 1st, 2012.) When reporting this pumpage to the Department, use the appropriate measure measurement method code listed above as well as the following water use code: **IN63**. You may either report withdrawals online or by completing a paper form available at: <http://dnr.wi.gov/org/water/dwg/greatlakes/registration.htm#tabx3>

Please see the water use registration & reporting webpage for more information:

<http://dnr.wi.gov/org/water/dwg/greatlakes/registration.htm>

Water Use Program contact: [DNRWaterUseRegistration@Wisconsin.gov](mailto:DNRWaterUseRegistration@Wisconsin.gov), 608-266-2299

**WATER USE FEES:** Water use fees may be assessed to the withdrawer if the withdrawal lasts longer than 1 year.. Contact the Water Use Program at 608-266-2299 if you have any questions about water use fees.

**WELL FILLING AND SEALING:** Provide details on the well filling and sealing method for the proposed dewatering well(s).

Well filling and sealing must comply with s. [NR 812.26, Wis. Adm. Code](#) requirements. Upon filling and sealing the well, complete the Temporary Dewatering Well Filling and Sealing Form. You may either email this form to [DNRWaterUseRegistration@wi.gov](mailto:DNRWaterUseRegistration@wi.gov) or mail this form to: Water Use Program, PO Box 7921, Madison, WI 53707-7921.

**ENCLOSURES:** As you prepare and collect the required enclosures and add them to the application package, check the box next to the appropriate item. This will help you to prepare/provide a **complete** application package.

**PLAT MAP:** Provide a copy of a plat map showing the proposed dewatering project location. Clearly mark and label the project location.

**SITE PLAN:** Provide a site specific plan sheet or drawing showing property boundaries, the proposed well locations and dewatering system discharge location. Include a North arrow and enough detail so that the drawing can be matched with the plat map location. Indicate the areas to be dewatered and note the different anticipated drawdowns that will be maintained on the property. Indicate the locations of the nearest municipal wells and private wells on nearby properties. If the project involves a discharge of water to a surface water body, provide the name of the receiving water body. Indicate the location of the point of discharge on the dewatering location map and also indicate how the water will reach the discharge point.

If the proposed well(s) is/are located within 300 feet of a wetland, the proximity of the well(s) to the wetland must be shown on the property location map. You should be aware that it is Department policy to discourage construction that affects wetlands if practical alternatives exist. As a result, your proposal to site a high capacity well within 300 feet of a wetland must include justification and a discussion of other alternatives to the proposed well(s).

**POTENTIAL CONTAMINATION SOURCES:** Provide information from the DNR database for potential contamination sites that may affect or be affected by the dewatering operation. Generally, sites within 1200 feet of the proposed dewatering operation should be described. This information can be obtained from the DNR web site at: [www.dnr.state.wi.us/org/aw/rr/brrts/index.htm](http://www.dnr.state.wi.us/org/aw/rr/brrts/index.htm) by selecting the search by Government Land Survey (GLS) coordinates option. Check the site and check with local municipal officials and DNR field staff to determine if there are any: waste disposal sites; underground gasoline, dry cleaning or other chemical storage tanks; or any other known contamination areas that could affect or be affected by the groundwater pumping. If so, summarize each source providing; the owner's name and address, the known contamination limits and composition, the existing remediation programs if any, and the monitoring and remediation that will be used at the project to limit the impact on the spread of the contamination.

**Note:** A listing of hazardous substance discharge sites, open and closed, can be found on the Bureau for Remediation and Redevelopment's Tracking System, also referred to as "BRRTS," on the DNR's Internet site <http://www.dnr.state.wi.us/org/aw/rr/brrts/index.htm>. Sites that have been closed with groundwater enforcement standard exceedances can also be found on the Department of Natural Resource's GIS Registry of Closed Remediation Sites, at <http://www.dnr.state.wi.us/org/aw/rr>. Information that appears on BRRTS and the GIS Registry of Closed Remediation Sites can also be obtained from the nearest regional DNR office.

**WELL CONSTRUCTION DRAWING:** Provide a proposed well construction drawing/diagram showing the proposed well construction details and dimensions.

**MANIFOLD DRAWING:** Provide a drawing of the manifold design with dimensions if multiple wells are proposed to be connected together.

**DISCHARGE DRAWING:** Provide a drawing of the proposed discharge from the proposed dewatering system. There must be a free air gap of at least 2 pipe diameters between the bottom of the pump discharge pipe and the overflow elevation of the receiving structure or 2 feet above the regional flood level of the water body to which the dewatering system discharges, whichever is higher. Basic discharge drawings are included for reference with this instruction package.

**WPDES PERMIT:** Provide a copy of the WPDES permit for the discharge from the dewatering system if such a permit has already been issued.

**VARIANCE REQUEST SIGNATURE:** If you are requesting a variance from any provision of CH. NR 812, Wis. Adm. Code, such as well construction where the casing will be less than 25 feet deep, the property owner must sign and date the application and you must describe the requested variance in detail.

**APPLICANT:** Provide information and a signature for the person preparing the application for approval of the high capacity dewatering well system. Submit completed forms to the DNR address in the upper left corner on the application form.

**STATE OF WISCONSIN DEPARTMENT  
OF NATURAL RESOURCES**

**DRINKING WATER PROGRAM  
REGION OFFICES**

**NORTHERN REGION**  
Department of Natural Resources  
810 W Maple Street  
Spooner WI 54801  
(715) 635-2101

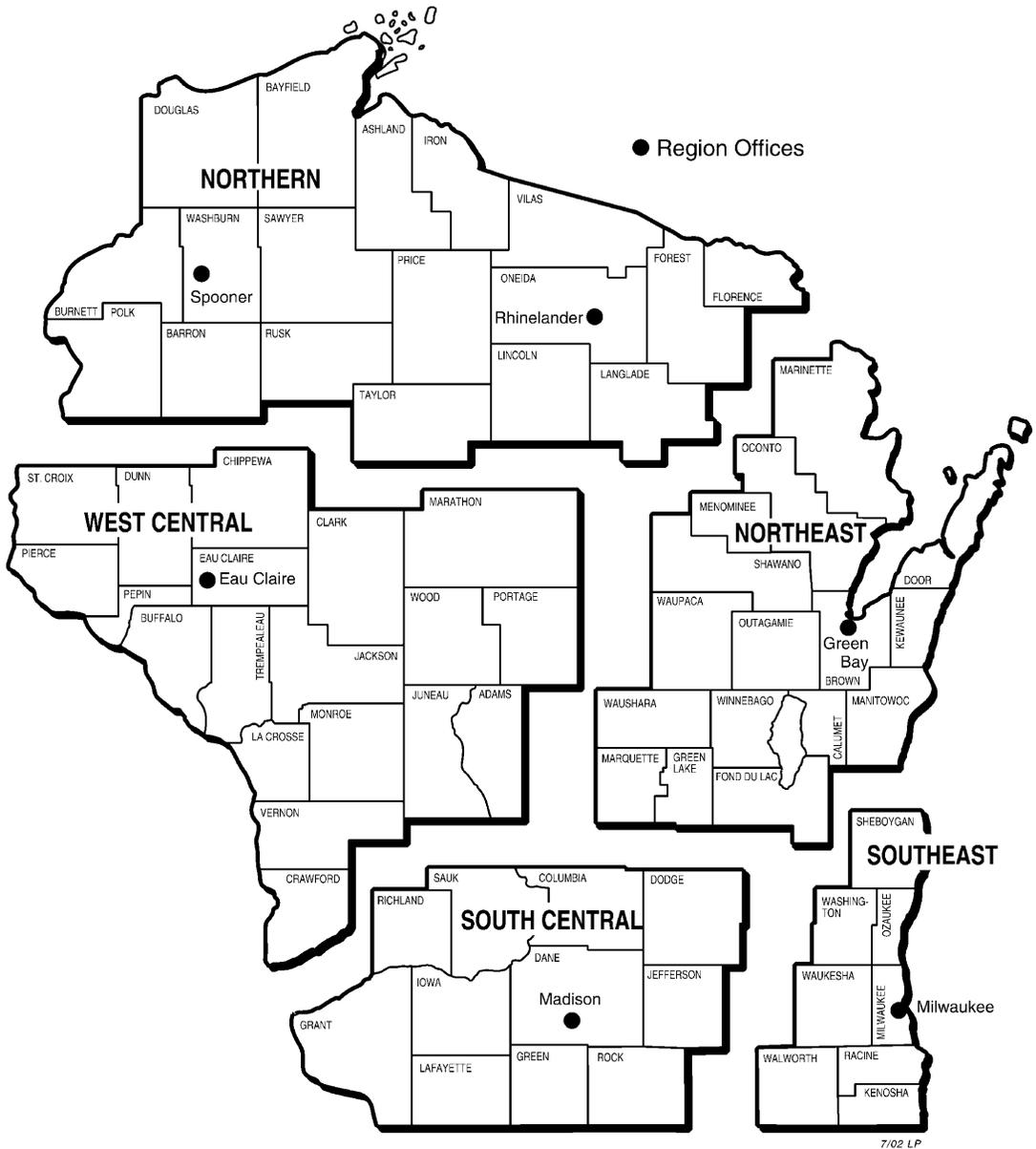
Department of Natural Resources  
107 Sutliff Avenue  
Rhineland WI 54501  
(715) 365-8900

**WEST CENTRAL REGION**  
Department of Natural Resources  
1300 W Clairemont Avenue  
P O Box 4001  
Eau Claire WI 54702-4001  
(715) 839-3700

**NORTHEAST REGION**  
Department of Natural Resources  
1125 N Military Avenue  
P O Box 10448  
Green Bay WI 54307-0448  
(920) 492-5885

**SOUTHEAST REGION**  
Department of Natural Resources  
2300 N Dr. Martin Luther King, Jr.  
Drive  
P O Box 12436  
Milwaukee WI 53212  
(414) 229-0800

**SOUTH CENTRAL REGION**  
Department of Natural Resource  
3911 Fish Hatchery Rd  
Fitchburg WI 53711  
(608) 275-3266



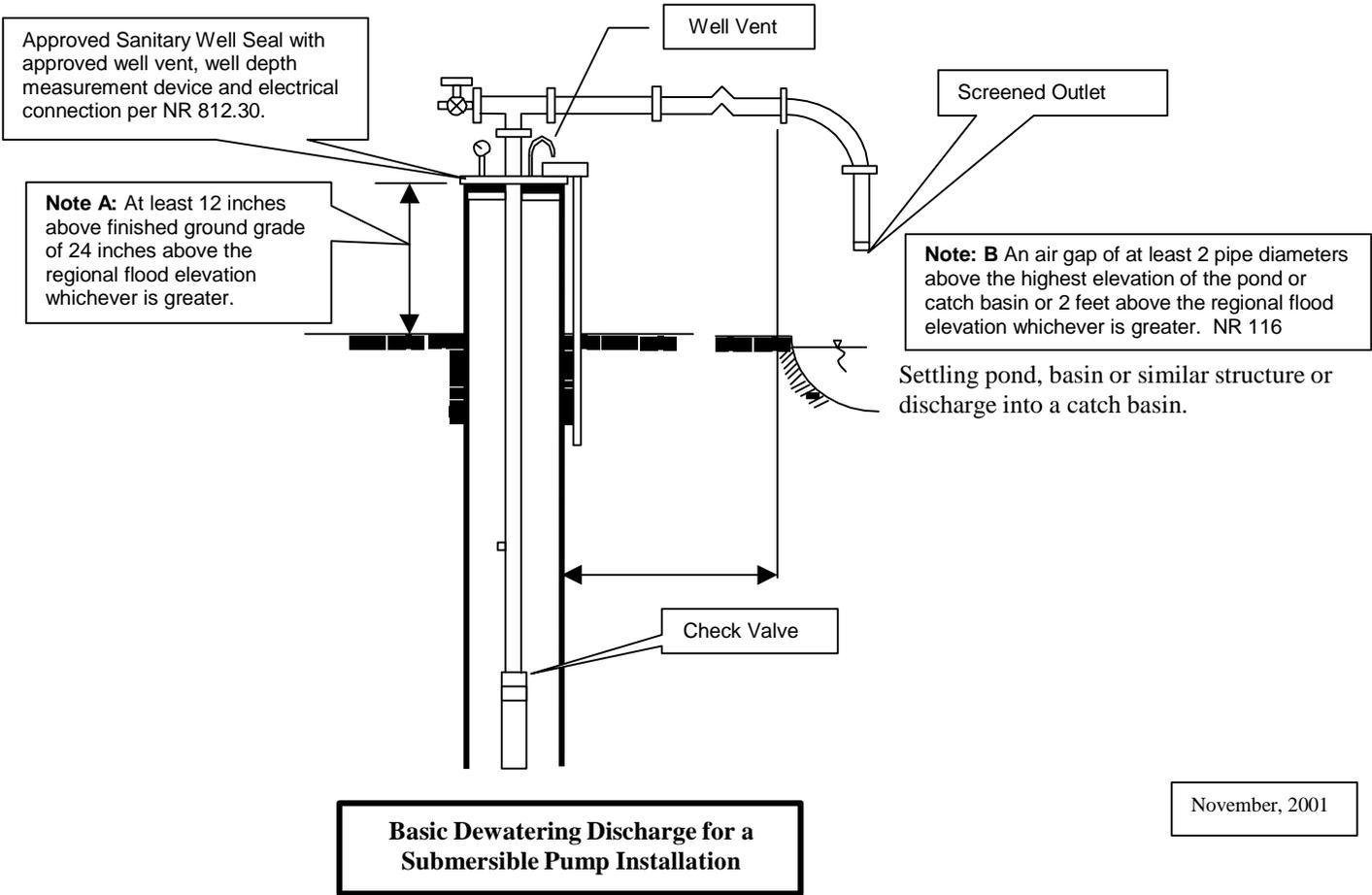
**BUREAU OF DRINKING WATER AND GROUNDWATER - CENTRAL OFFICE**

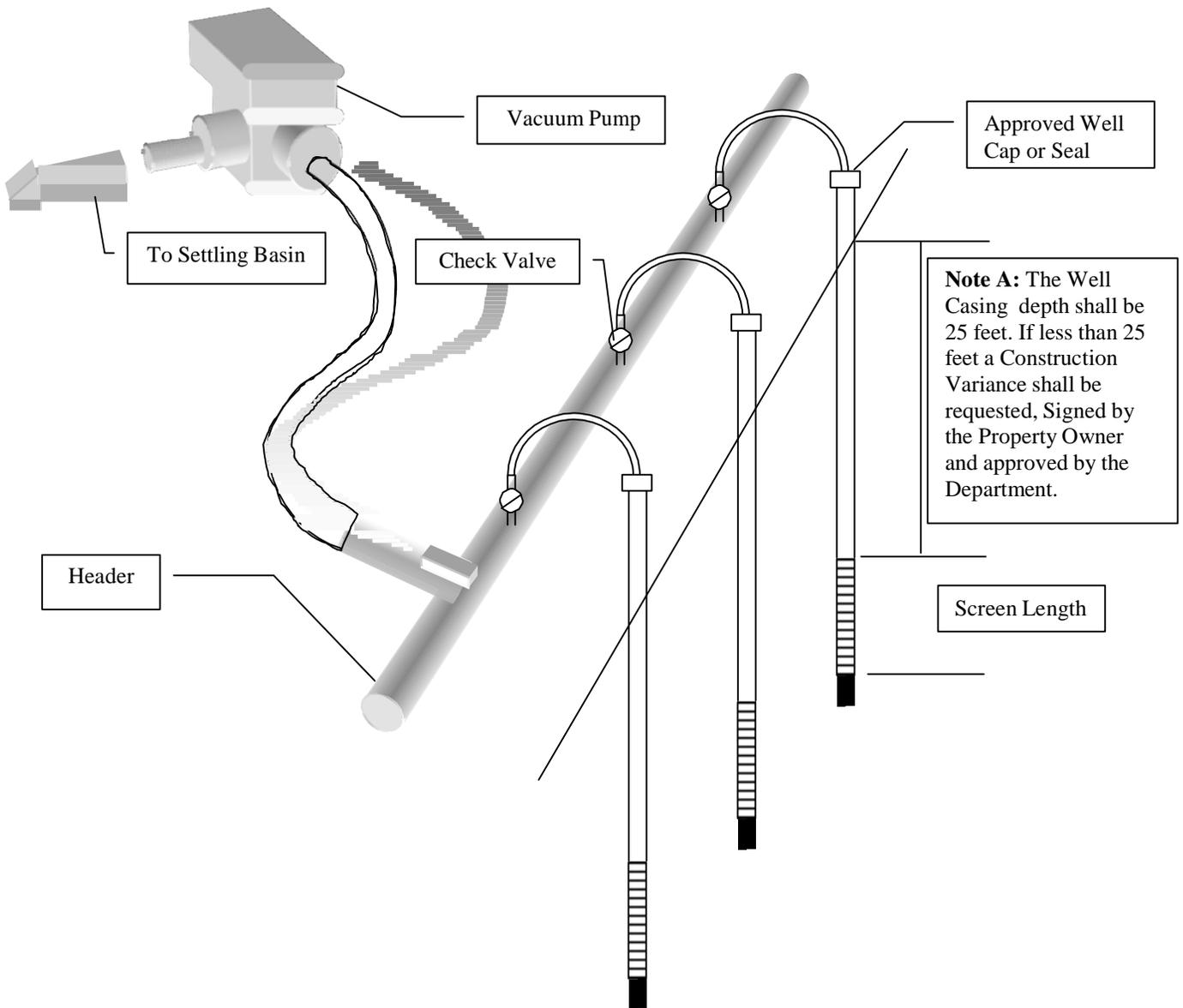
Street Address:  
WDNR - DG/2  
101 South Webster Street  
Madison WI 53703  
(608) 266-2621  
Fax (608) 267-7650

Mailing Address:  
WDNR - DG/2  
P O Box 7921  
Madison WI 53707-7921

**DEPARTMENT OF NATURAL RESOURCES WEB SITE**

<http://dnr.wi.gov>





**Basic Dewatering Discharge for a Multiple Well Point Operation**