In order to install the pitless adaptor, you need to co-ordinate between the pump installer and the back hoe operator to ensure that the lines are running where you want them. All ditches and trenches must meet OH&S regulations before any technicians can enter them, therefore it is important to have a qualified person do the trenching. A list of contractors can be provided by our office. The lines will be laid from the well to the house at least 8 feet down as a means of safeguarding against frost.

The pump will be installed on drop pipe to the depth determined at the time the well was drilled. The pump is sized to suit the output of the well and the needs of the client.

GRUNDFOS & GOULDS SUBMERSIBLE PUMPS

A range of Grundfos & Goulds pumps are available in order to meet all of your production needs.

Once the pump is installed you are ready to complete your system by installing the pressure system. All pump controls, pressure tanks, etc. will be installed in the mechanical room of your residence (basement) or in a well insulated/heated pump house by a qualified pump installation technician. When installing the system, we utilize quality brass fittings to minimize future corrosion.

GOULDS PRESSURE TANKS

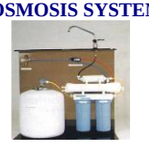
M & M Drilling offers a range of Goulds pressure tanks all of which carry a 5 year warranty.

WATER CONDITIONING

Although the quality of your water may not be what you had anticipated, there are methods available to assist in filtering and/or softening it in order to better suit your needs.

CLEAR WATER I IRON FILTER

REVERSE OSMOSIS SYSTEM



M & M Drilling offers a wide range of water conditioning options. A qualified technician will be able to offer suggestions for water treatment based on analysis results.

ALTERNATIVE POWER

M & M Drilling recognizes that not all of your water needs may be in locations readily available to power sources. In an attempt to further meet the needs of our clients, we now install Grundfos Solar Pumping Systems for those remote areas where power is an issue or in situations where power conservation is of concern.

TECHNOLOGICAL SUPPORT

M & M Drilling offers several innovative resources in order to better service your needs.

The down hole video camera allows you to view down your well, while the e-logger enables us to provide geological information.

PUMP TESTING & ANALYSIS

In order to further support your water needs, M & M Drilling is able to conduct flow tests and water analysis on your well. This service has been utilized extensively for real estate purposes and oil and gas exploration.

For further information on any of the services that M & M Drilling offers please contact

BILL MURRAY @ 403-934-4271.

M & M DRILLING CO. LTD.

Box 1, Site 22, RR 2
Strathmore, Alberta
T1P 1K5

Phone: (403) 934-4271

Fax: (403) 934-4865

Email: mmdrill@mmdrilling.ca
Website: www.mmdrilling.ca

ABOUT US

M & M Drilling was established in 1952 and has been operated as a family based business for over 50 years. We provide a variety of services throughout southern Alberta, Saskatchewan and Eastern British Columbia. All of our Drillers are certified Journeymen and our Pump Technicians are certified through the Canadian Groundwater Association. We pride our selves on the services we provide and are members in good

standing of the Alberta, Saskatchewan and Canadian Water Well Associations.

SERVICES OFFERED

WATER WELLS

- New wells drilled & developed (domestic, industrial/testhole, municipal)
- Old wells cleaned and serviced
- Old wells abandoned
- De-watering wells
- Screened & gravel packed wells

PUMP SERVICE & INSTALLATION

- New pumps,tanks etc. sold & installed
- Old systems repaired/updated
- Well pit conversions
- Cisterns
- Gas traps

WATER CONDITIONING

- Commercial & domestic units
- Non-chemical iron removal
- Water softners,Reverse Osmosis,
- Ultra-violet units
- Chlorine Injection systems

WATER WELL TESTING & ANALYSIS

- Real Estate evaluations, Oil, Gas and Seismic testing
- Well Licensing
- Aquifer testing
- Chemical, Bacterial, H2S, TOC & specialty testing

TECHNOLOGICAL SUPPORT

- Down hole video camera well inspections
- Electronic logger
- Alberta Environment water well database

DOMESTIC WATER TRUCK

- Rig Sites
- Plant Sites
- Emergency water supply for farms and acreages.

DRILLING THE WELL

You've decided to drill a new well. The first thing you need to determine is the purpose of this well (i.e. domestic, livestock, irrigation) and the long term plan for its use. Picking a suitable location is very important. When doing so, you need to consider several things:

- site in relation to the buildings
- lay of the land (i.e. hills, creeks)
- set back regulations (i.e. power, septic, property lines, corrals & fuel tanks)

Once you've decided on the site for your new well, it is important to have the underground lines located to ensure that the well will not conflict with any of these other lines (failing to do so can be fatal). This service can be accessed by calling **Alberta First Call @ 1-800-242-3447.**

Having completed these tasks, you are ready for the equipment to be moved on site. The equipment utilized by M & M Drilling consists of a rig, water truck and casing trailer and a support truck. The crew generally consists of a driller, and 1 or 2 rig hands.

Once everything has been set up, the crew will drill down through to the bedrock at which point they will set their surface casing. This allows for further drilling, bailing and development without interference from surface water or overburden (a screen may be set in the overburden area if the gravel shows any sign of water). The driller will continue to drill until water is located. Samples are taken from cuttings to determine the formations and establish the water bearing zone. Once this occurs, the hole will be bailed and/or blown to establish the quantity and quality of water (field tests will determine total dissolved solids and hardness).

If the water obtained is deemed suitable, the following is then decided:

- type of casing to be used (Steel or PVC) If possible, the well will be cased with **one size casing from top to bottom.**
- location of sanitary seal (steel ring welded to outside of steel casing or a machined coupling for the PVC casing)
- where perforations will be cut
- or if needed where stainless steel screen will be installed.

The well is now ready to be reamed and the production casing and surface seal set into place. The following procedures will then occur:

- the well will be flushed out with clean water, blown and bailed to determine the flow.
- bedrock wells will then be hydro-fraced to try and increase flow.
- gravel wells will be either packed with frac sand or a natural pack depending on the formation.
- screens will be jetted with water and/or air to remove the bentonite filter cake and to graduate the sand pack around the screen.

Once this has occurred, the well will be rebailed or blown to clean up the water and determine the pumping rate. The level at which the pump should be placed will also be decided.

Part of our service when drilling a well is to ensure that it is completed to a standard to which it could be licensed if necessary. In doing so, we ensure that the outside of the casing is grouted with bentonite from ground level to the seal. This ensures that any surface water or upper aquifers are separated and sealed off from your well.

In accordance to Alberta Environment Standards, a 2 hour drawdown and 2 hour recovery pump test is conducted with the use of our test pump. Readings are taken of the water levels at specified times during this test and are recorded on your well log. Samples can be taken at this time to determine the quality of your water.

To complete the drilling process, the crew will shock chlorinate your well to remove any contaminates from the drilling process and will install a temporary well cap. Your well is now ready to have a pumping system installed.

PUMP SYSTEM INSTALLATION

Once the drilling has been completed you are ready for the installation of your system. M & M Drilling prefers to incorporate a Snappy Pitless Adaptor unit (or other type of full opening adaptors) as a means of attaching the pump to your pressure system. The pitless adaptor is a saddle that is installed on the well casing 8 feet below ground level. Historically pressure systems had been installed inside a pit with the well, however these systems are no longer legal. If your property has one of these systems already, it would be recommended that this be converted to a pitless system as contamination of your water could be the result.