

Drillers' Licensing Board Victoria

How to obtain a Victorian water well driller's licence

Application package 2019-20



Introduction

Sixteen percent of Victoria's total water use is derived from groundwater sources. The percentage is rising as our surface water sources become more fully utilised or the economics favour groundwater use.

Throughout Victoria bores are used to extract groundwater. These bores may be utilised for various purposes such as stock and domestic supplies, irrigation, industrial use, and town water supplies. Approximately 60 Victorian towns rely on groundwater for their drinking water supplies, including major towns such as Geelong and Warrnambool.

Well-constructed bores will protect aquifer resources and provide an efficient long-term water supply. Bores that are poorly constructed may cause contamination of groundwater resources and provide inadequate water supplies for their owners. Appropriate groundwater bore construction standards are achieved through conditions on licences for the construction and decommissioning of bores and by requiring work to be undertaken by licensed groundwater drillers in accordance to national standards.

The Victorian Drillers Licensing Board is the body responsible for granting driller licenses in Victoria. A driller licence entitles the driller to use the method of drilling and bore construction endorsed on the licences.

Aim of driller's licensing

Poor drilling practices and poorly constructed or failed bores can cause and contribute to groundwater misuse, wastage and degradation via uncontrolled bore flow or exchange of water from different aquifers via the hole. Ingress of materials and surface water directly down bore holes can also cause groundwater contamination.

The aim of licensing drillers who carry out bore construction, decommissioning or other work on an existing bore is to ensure:

- (a) The protection of the groundwater resource from contamination, deterioration and undue depletion
- (b) The long- term economic production of groundwater of the best possible quality.

The emphasis of drillers licensing is on groundwater protection. A drillers licence classification system relating to aquifer types is the most appropriate way to protect the resource and determine the skills and knowledge required by drillers.

Single non-flowing aquifers - An unconfined aquifer system must be protected primarily from surface pollution and the skills involved in achieving this (relating to drilling) are relatively modest, as surface pollution around the casing is easily prevented.

Multiple non-flowing aquifers - Drilling and bore construction in multiple aquifer systems requires more knowledge and skills on the part of drillers as inter-aquifer communication must be prevented to avoid aquifer contamination and depletion.

Flowing Aquifers - Artesian (flowing or high pressure) aquifers require a high level of knowledge and skill on the part of the driller due to the requirement of understanding and controlling hydrostatic pressures.

Driller's licence classification and endorsements

A driller's licence comprises a class, together with drilling or construction method endorsement(s). The class of licence relates to the type of aquifer systems in which a driller may operate while the endorsements relate to the drilling and construction methods which a driller may use.

Classes

Class 1 -This licence is restricted to drilling operations in single non-flowing aquifer systems.

Class 2 -This licence, in addition to operating in Class 1 conditions, permits drilling operations in multiple non-flowing systems.

Class 3 -This licence, in addition to operating in Class 1 and 2 conditions, permits drilling operations in flowing aquifer systems.

All licenses issued for the construction, alteration and decommissioning of groundwater bores will have a condition stating the class of driller required to carry out the work.

Endorsements

Non-drilling rig method - This endorsement permits drilling methods which do not use conventional drilling rigs such as: hand dug wells, jetted and driven spears, and casing repairs.

Cable Tool - This endorsement permits drilling operations using cable tool or percussion drilling methods.

Auger - This endorsement permits drilling operations using bucket auger, hollow stem and solid stem auger techniques.

Rotary Air - This endorsement permits drilling operations that use rotary drilling methods with air or foam as the drilling fluid. This endorsement also includes the use of down hole hammers.

Rotary Mud - This endorsement permits drilling operations which use rotary drilling methods with water or water as a base for the drilling fluid.

Sonic - This endorsement permits drilling operations which use vibration (resonation) and downward force to advance the drill string and where the formation is retrieved via a core;

Competence in gas prone areas, high temperature - drilling operations in groundwater systems where the water temperature exceeds 40 degrees Celsius or drilling operations in gas prone areas may require the driller to have demonstrated competence in gas or high temperature work (see Qualifications Section). The Board recognises the competency levels but does not issue endorsements for gas or high temperature work. Gas/high temperature is not a requirement but may be considered within "prior experience".

Qualifications and Experience

Class 1 Licence: A Class 1 Driller's Licence may be issued on application to any person who has:

Option (a):

- successfully completed an approved course or national qualification; and
- been employed as a driller or trainee driller for not less than 6 months; and
- completed at least six Class 1 bores under supervision; and
- passed the National Uniform Drillers Licensing Committee (NUDLC) drillers' licence examinations;

Option (b):

- been employed as a driller or trainee driller for not less than 12 months; and
- completed at least six Class 1 bores under supervision; and
- passed the NUDLC drillers' licence examinations;

Option (c):

- been issued with a Class 1 drillers' licence to carry out bore construction work in another state or territory of the Commonwealth and the Licensing authority is satisfied that the licence and experience of the applicant are equivalent to that required of a driller licensed in the state or territory.

See "Prior Experience" Section.

Class 2 Licence: A Class 1 Driller's Licence may be issued on application to any person who has:

Option (a):

- successfully completed an approved course or national qualifications; and
- been employed as a driller for not less than 6 months; and
- completed one of the following;
at least six Class 2 bores under supervision;
OR
at least six Class 1 bores and three Class 2 bores under supervision; and
- passed the NUDLC drillers' licence examinations;

Option (b):

- held a Class 1 licence or has the qualifications and experience necessary to hold a Class 1 licence; and
- been employed as a driller for not less than 12 months; and
- completed one of the following;
at least six Class 2 bores under supervision;
OR
at least six Class 1 bores and three Class 2 bores under supervision; and
- passed the NUDLC drillers' licence examinations;

Option (c):

- been issued with a Class 2 drillers' licence to carry out bore construction work in another state or territory of the Commonwealth and the Licensing authority is satisfied that the licence and experience of the applicant are equivalent to that required of a driller licensed in the state or territory.

See "Prior Experience" Section.

Class 3 Licence: A Class 3 Driller's Licence may be issued on application to any person who has:

Option (a):

- successfully completed an approved course or national qualifications; and
- held a Class 2 licence for at least 12 months; and
- been employed as a driller for a period not less than 12 months; and
- completed one of the following;
at least six Class 2 and three Class 3 bores under supervision
OR
completed at least eight Class 2 bores (of suitable depth and complexity) and one Class 3 bore under supervision;
and
- has passed the NUDLC drillers' licence examinations;

Option (b):

- held a Class 2 licence for at least 12 months; and
- been employed as a driller for not less than 24 months; and
- completed at least six Class 2 and three Class 3 bores under supervision; and
- passed the appropriate drillers' licence examinations;

Option (c):

- been issued with a Class 3 drillers' licence to carry out bore construction work in another state or territory of the Commonwealth and the Licensing authority is satisfied that the licence and experience of the applicant are equivalent to that required of a driller licensed in the state or territory.

See "Prior Experience" Section.

Prior Experience

The number of bores required, and training described above is provided as a guide. The Board recognises that practical experience in a higher licence class or additional endorsement may be difficult to gain. Consequently, the Board will consider an applicant who produces proof of satisfactorily completed courses or examinations which demand an equivalent or higher standard of technical knowledge or ability. The Board will also consider the type and complexity of the completed bores.

“approved course” means the ADIA - Drilling Industry Certificate and Training Course in modules one to eleven or the whole of the Drilling Certificate and Training Course.

“national qualifications” means the Australian Qualification Framework in respect to:

- Class 1 and Class 2 - Certificate III (including units relevant to water well drilling); and
- Class 3 - Certificate IV (including units relevant to water well drilling).

An **“equivalent driller’s licence”** means the National uniform system of water well drillers licensing as adopted by states and territories. An unrestricted drillers licence issued in another state or territory is deemed to be equivalent, in accordance with the national uniform standards of water well drillers.

Required skills, experience and abilities

Class 1 Licence: An applicant for a Class 1 Drillers’ Licence must be capable and have knowledge and skills, as they apply to the drilling method endorsement, in:

- Administrative requirements and responsibilities - the provisions of the legislation and regulations relating to groundwater and groundwater drilling in the state or territory in which they are proposing to operate; an understanding and appreciation of bore construction licence application procedures and licence conditions; and
- Bore design and common types - designing and constructing bores for domestic and stock, groundwater monitoring and irrigation purposes in single aquifer systems; and
- Siting a bore - recognising potential contamination sources to water supply bores and appropriately site a bore to prevent contamination; and
- Drilling - correctly choosing and using equipment, having regard to such factors as rotational speed and proper annular velocities having regard to the drilling method; and
- Formation sampling and description - obtaining representative lithological samples; and labelling and describing them; and
- Casing - casing types and their applications in single aquifer systems; and
- Maximising bore efficiency and water entry - selecting the appropriate slot size, screen length and diameter; and procedures for screen installation. Selection and installing stabilising fill material; and
- Bore sealing - methods of sealing casing in single aquifer systems; and
- Bore development – use of chemicals, mechanical methods, determining sand content; and
- Bore yield testing - determining static water level, drawdown and bore yield; and
- Recording and reporting data - correctly filling in a “bore completion” report; and
- Bore completion, headworks and site restoration - headworks design and completion of the bore site in single aquifer systems; and
- Bore decommissioning - designing and selecting appropriate materials for the decommissioning of bores in single non-flowing aquifers systems.

Class 2 Licence: An applicant for a Class 2 licence must have the knowledge and skills required of a Class 1 driller together with knowledge and skills as they apply to the aquifer type for the licence class and drilling method endorsement, in:

- Bore design and common types - designing and constructing bores in multiple aquifers with emphasis on designs and methods used to exclude waters that are not requires; and

- Casing - casing types and their applications in multiple aquifer systems; and
- Maximising bore efficiency and water entry - skill in the design of high yielding bores is required. This entails overcoming entrance velocity problems and carrying out sand sieve analysis in order to select appropriate gravel pack material and screens (i.e. screen length, diameter and aperture); and
- Bore sealing - methods of sealing casing in multiple aquifer systems, including grouting casing, plug selected zones, effect of cement additives; ability to calculate hole volume and slurry volumes, hole preparation, casing installation and circulation requirements; and
- Bore decommissioning - designing and selecting appropriate materials for the decommissioning of bores in multiple aquifers systems.

Class 3 Licence: An applicant for a Class 2 licence must have the knowledge and skills required of a Class 1 driller together with knowledge and skills as they apply to the aquifer type for the licence class and drilling method endorsement, in:

- Bore design and common types- designing and constructing bores in aquifer systems that have high pressure conditions; and
- Drilling - correctly choosing and using equipment and fluids, methods, procedures and calculations required for fluid pressure control; and
- Casing - casing types and their applications in high pressure aquifer systems; and
- Bore sealing - methods and procedures and calculations required in carrying out pressure cement jobs; and
- Bore yield testing - determining bore yield and flow and static head pressure for flowing high pressure aquifer systems; and
- Bore completion, headworks and site restoration - headworks design and completion of the bore site in flowing and high-pressure aquifer systems; and
- Bore decommissioning - designing and selecting appropriate materials and procedures for the abandonment of bores having high-pressure conditions.

Examinations

A significant part of the assessment process involves examinations. The Board's examinations will consist of a written examination and an interview examination to test the applicant's skills, competence, experience and abilities as appropriate to the class and endorsement.

State Water Act – Consists of approximately eight multiple choice and short answer questions relating to legislation governing groundwater drilling in the Victoria.

Written - made up of approximately 30 short answer type questions relating to drilling and bore designs.

Interview - tests applicants on the methods and procedures used in drilling and bore construction. It consists of approximately 40 oral interview questions.

Application process

The type of licence application shall determine what examination(s) a person is required to undertake. There are three application types:

	New Applications or Higher Class	Additional Endorsement	Interstate Conversion
Application Description	Applicants who are not current licence holders or applicants seeking a higher class of licence	Current licence holders who are applying for an additional endorsement at the same class level	Licensed interstate drillers who are applying for a licence in another state (same class and endorsement)
Examinations to be undertaken	Written and interview (If the applicant's written exam is satisfactory)	Written and interview	Written - relevant state legislation and requirements.

Licence application forms are available from the Secretary of the Drillers' Licensing Board. The form needs to be completed in full and returned to the Board together with the application fee and a passport photo of you.

Fees and charges

Driller's Licence application fee and examination charges are:

Application for a Driller's Licence fee	\$162.90
Written Examination charge	\$700.00
Interview Examination charge	\$250.00
Interstate Conversion Examination charge	\$250.00

	New Applications or Class	Additional Endorsement	Interstate Conversion
Fees & charges to be paid on application	\$862.90 (Application fee and written)	\$862.90 (Application fee and written)	\$162.90
Application	Examination charge	Examination charge	Examination charge
Additional charges - to be paid on request	\$250.00 (Oral/practical examination charge)	\$250.00 (Oral/practical examination charge)	\$250

Reading list Victoria

Minimum Construction Requirements for Water Bores in Australia Edition 3 February 2012.

Victorian Water Act (1989) - Relevant Sections 3, 67, 71, 75, and 310-317

Information Victoria Tel: (03) 9651 4100

Southern Rural Water – Drillers Licensing Application package

For further information

**Secretary, Drillers Licensing Board C/- Southern Rural Water
PO Box 153 MAFFRA, VIC 3860**

Tel: (03) 5139 3100

Fax: (03) 5139 3150

Email: srw@srw.com.au

DX: 212849 MAFFRA

Application for a Victorian Driller's Licence Water Act 1989. Section 311

1 Applicant and licence details

Surname: _____

Given name: _____

Date of birth: _____ / _____ / _____

Address: _____

Postcode: _____ Telephone: _____ Mobile: _____

Email: _____

Class of licence sought:

Class 1 Class 2 Class 3

Type of licence endorsement sought:

Non-drilling rig Cable Tool Auger Rotary Air Rotary Mud Sonic

Is this application:

A New Application or Higher Class An Additional Endorsement to an Existing Licence An Interstate Conversion

Current driller's licence details: *(Answer only if you have held a licence in another State or Country)*

Type of licence: _____

How long held: _____

If no longer held, state reason: _____

Employers contact details:

Business name: _____

Business address: _____

Postcode: _____ Telephone: _____ Mobile: _____

Contact person: _____

Email: _____

