Identification of Street Hydrants for Firefighting Purposes
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1.0 Acknowledgements

The fire service Guidelines for the Identification of Street Hydrants for Firefighting Purposes were jointly developed by Country Fire Authority and the Metropolitan Fire and Emergency Services Board with the support of the Department of Sustainability and Environment.

The fire services gratefully acknowledge all the organisations who contributed to the development of these guidelines.

Disclaimer

Every effort has been made to ensure the information contained in this publication is free from error and / or omissions. No responsibility can be accepted by Country Fire Authority (CFA), the Metropolitan Fire and Emergency Services Board (MFB), Department of Sustainability and Environment (DSE) or their employees involved in the preparation of this publication, for any claims that may arise from a person acting on information contained herein.
2.0 Introduction

Hydrants provide the means for drawing water from mains. One of the key reasons for their installation on water mains is for use by fire services during firefighting operations for life and property protection and fire suppression. These operations may include all manner of fire service emergencies and other situations requiring access to water ranging from those involving residential dwellings to major bush fires.

The objective of these guidelines is to provide the position of the fire services in Victoria, in respect of the identification of street hydrants installed for firefighting purposes throughout the State. For the purpose of these guidelines the Victorian fire services are the Country Fire Authority (CFA), Department of Sustainability and Environment (DSE) and the Metropolitan Fire & Emergency Brigade Board (MFB).

The aim of these guidelines is to provide a reference source for municipalities, water utilities (their consultants and contractors) and other parties responsible for provision and maintenance of identification components of street hydrants for firefighting purposes. They are provided to complement accepted water supply technical references such as the Water Industry Technical Standards (WITS) Manuals and appropriate National Codes. Importantly they ensure a move towards state wide consistency of hydrant identification.

In developing these guidelines, the fire services have been mindful of the financial considerations associated with the specification of particular identification systems and the ongoing maintenance.

NOTE: These guidelines are not intended for the purpose of identifying fire protection systems provided on private properties in accordance with the various Building regulations and codes that apply within Victoria.

Enquiries regarding the application of these guidelines should be directed to the relevant fire service.

CFA Area: the appropriate CFA District Manager of, Community Safety or CFA Fire & Emergency Management Directorate, 8 Lakeside Drive, Burwood East on (03) 9262 8444.

PO Box 701, Mt Waverley, 3149

MFB Area: the appropriate MFB District Command or MFB Fire Safety Department, 450 Burnley Street, Burnley on (03) 9420 3874

DSE Area: the appropriate DSE District Fire Management Officer or DSE Fire Management, 6/240 Victoria Parade, East Melbourne on (03) 9412 4777.
3.0 Definitions

Above Ground Hydrant
Includes an L type hydrant, pillar hydrants, millcocks and dry riser.

Aesthetic or Historical Significance
A building/structure that by way of its design is of aesthetic significance to the local community, or a building that has historical significance to the community.

Alpine Area
As defined in the National Construction Code (NCC), means land -
(a) likely to be subject to significant snowfalls;
(b) more than 1200 m above the Australian Height Datum.

Below Ground Hydrant
Includes ground ball and spring loaded hydrants (fire plug).

Bushfire Prone Area
An area designated by State Government of Victoria as having a level of risk of bushfire.

Country Fire Authority (CFA) Area
The area designated as the country area of Victoria within the Country Fire Authority Act.

Hydrants
Includes below ground and above ground hydrants.

Large Open Areas
A paved or concreted area within an urbanised environment that consists of a large open space. This includes facilities such as outdoor shopping malls and pedestrian walkways.

Metropolitan Fire Brigade (MFB) Area
The area designated as the metropolitan fire district within the Metropolitan Fire Brigade Act.

Department of Sustainability and Environment (DSE) Area
The area designated as the fire protected area within the Forests Act.

Raised Reflective Road Marker (RRRM)
Commonly referred to as cat’s eyes.

Relevant Fire Service
The Country Fire Authority (CFA), Department of Sustainability and Environment (DSE) or the Metropolitan Fire Brigade (MFB).

Valve Controlled Hydrant
A below ground hydrant which consists of a fire plug and associated isolation valve. These are generally installed on water mains with diameters greater than 300mm.

White Reflective Triangle Road Marker
A white triangle installed on the road pavement to assist with the identification of the location of a fire hydrant

W.I.T.S.
Water Industry Technical Standards.
4.0 Provision of Hydrant Identification

4.1 Scope of guidelines

The following are recommendations for the identification of street hydrants for firefighting throughout Victoria. The objectives are to ensure a high level of consistency that provides for efficient and effective location at any time.

4.2 Performance criteria

For a hydrant identification system to be successful it must satisfy all of the following performance criteria:

- it must ensure that the hydrant is identifiable as a hydrant;
- the system must ensure ease of location by fire appliances approaching from any direction;
- the exact location of the hydrant must be determined;
- the identification system integrity is maintained; and
- it must be suitable for special areas such as bushfire prone areas, alpine areas and large open areas.

4.2.1 Identifiable as a hydrant

(i) All hydrants are to be identified by blue reflective material, including the hydrant cover, cats eyes and post reflectors, to ensure that the hydrant can be identified at night; and

(ii) All post type markers and above ground hydrants are to have a red, non-reflective marking, around the top of the post, or the defined head of the above ground hydrant body or cover.

(iii) Fire hydrants located in or adjacent to paved roadways are to have a white reflective triangle road marker installed to assist with the locating of the fire hydrant

(iv) Valve operated hydrants that are normally in the off position must have black markings in lieu of red.

Explanatory notes

The standardisation of a colour to indicate hydrants ensures quick and easy location, and provides consistency throughout the State. Blue delineators have been utilised in the past therefore alleviating the need to change markings on many hydrants and also reducing possible confusion between these and other markers, such as those used for traffic management.

The use of a reflective material ensures the efficient location of any identifying marker at night.

The red top on above ground hydrants, above ground hydrant covers and markers posts ensures that they are positively identified as being for firefighting purposes, and provides for efficient identification during daytime operations.

The cats eyes are to be supplemented by a white reflective triangle to provide additional identification for the location of the hydrants. The cats eyes and reflective triangles are located near the centre of the road so they are not obscured by parked vehicles. Emergency vehicles generally drive in the right hand lane of multi-lane carriageways.
4.2.2 Identifiable by fire appliances approaching from any direction

Hydrants are to be identified in such a way as to make the indicators visible from any direction of approach.

Explanatory notes:

By ensuring that the hydrant is indicated in some way so as to make it identifiable to responding crews from any direction of approach, the time required to locate it is reduced. It also permits the identification of hydrants from greater distances.

4.2.3 Exact location of hydrant is identified

Hydrants are to be identified in such a way as to ensure the exact location of the hydrant can be determined. The method utilised must take into account the location in relation to the roadway and the type of hydrant used.

Explanatory notes:

The purpose of this performance criterion is to ensure that the location of hydrants are indicated on the roadway and may have some form of additional marker adjacent to the hydrant, if some distance from the road. Consideration must be given to the fact that if hydrants are installed this way, maintenance programs may not always keep the indicator adjacent to the hydrant clear.

4.2.4 Hydrant identification system integrity is maintained

Hydrant identification systems should be constructed and installed in a manner that ensures that they cannot have their effectiveness reduced by vandalism or due to excessive road wear.

Explanatory notes:

Vandalism poses a significant threat to the continued integrity of hydrant identification systems and as such every effort should be made to reduce the likelihood of this occurring. Posts should be securely installed (eg. Concreted or as per manufacturers specifications), covers and caps should be installed and replaced correctly after maintenance.
4.2.5 Special area hydrant identification

(i) Bushfire prone areas

Hydrants in designated bushfire prone areas are to be identified by a system which will not be adversely affected by the passage of fire.

Explanatory notes:

This performance criterion is appropriate to areas where the identification of hydrants after the passage of a bushfire would be necessary as firefighting operations move in reaction to the bushfire. Some traditional methods of hydrant identification do not perform well if exposed to fire, especially in areas where fuel levels are high.

(ii) Alpine areas

Hydrants in designated alpine areas are to be identified by a system which will not be adversely affected by the presence of snow.

Explanatory notes:

This performance criterion is appropriate to areas where the identification of hydrants will be, for parts of the year, hampered by the presence of snow.

(iii) Large open areas

Below ground hydrants in large open areas, where marker posts or other markers such as blue raised reflective road markers or triangles are either impractical or unsuitable, are to be identified by a system which will provide adequate hydrant identification.

Explanatory notes:

This is applicable to areas where the installation of modern identification systems would not be complimentary to the surroundings. An application must be provided to the relevant fire service detailing the reason for the variation and the proposed identification system. An application must be provided to the relevant fire service through the offices detailed on page five of these guidelines. Applications need to identify why compliance with these guidelines cannot be achieved and the proposed alternative identification to be used.

Appendix A contains details which must be submitted to the relevant fire service.

4.2.6 Special buildings

In cases where hydrants are to be positioned near buildings of aesthetic or historical significance, variations to the identification requirements of these guidelines may be approved by the relevant fire service.

Explanatory notes:

This is applicable to areas where the installation of modern identification systems would not be complimentary to the surroundings. An application must be provided to the relevant fire service detailing the reason for the variation and the proposed identification system. An application must be provided to the relevant fire service through the offices detailed on page five of these guidelines. Applications need to identify why compliance with these guidelines cannot be achieved and the proposed alternative identification to be used.

Appendix A contains details which must be submitted to the relevant fire service.
5.0 Identification Installation Requirements
The following details relating to hydrants are divided into three sections:

General
- requirements that relate to all hydrant types;

Above ground hydrants
- identification installation requirements relative to above ground hydrants only (ie: L type hydrant, pillar hydrants, millcocks and dry riser); and

Below ground hydrants
- identification installation requirements relative to below ground hydrants only (ie: ground ball, spring loaded hydrants [fire plug] and valve controlled hydrants).

5.1 General

Total compliance with the applicable identification installation criteria of this section is deemed to satisfy the requirements of the relevant fire service, and as such no approval of the defined identification system is necessary.

However, this does not limit in any way other approval requirements which may be imposed from time to time, by the relevant fire service in relation to other matters associated with the identification of street hydrants for firefighting purposes.

5.1.1 Hydrant markings - General
(i) All hydrants are to be identified by blue reflective markers each with a surface area of at least 50cm² and manufactured either generally or in accordance with the specific provisions of:
- for reflective tape - of AS/NZS 1906.1 - 2007 - Retroreflective materials and devices for road traffic control purposes - Class 1 Retroreflective materials,
- for post mounted discs - AS 1906.2 - 2007 - Retroreflective materials for road traffic control purposes - Retroreflective devices (non-pavement application); and
- for raised reflective road markers - AS 1906.3 - 1992 - Retroreflective materials and devices for road traffic control purposes - Raised pavement markers (retroreflective and non-retroreflective).

The number and their location are as contained in these guidelines.

(ii) All post type markers and above ground hydrants are to have a red (PMS 185), non-reflective marking of at least 200 mm around the top of the post, or the defined head of the above ground hydrant body or cover. (The Pantone Management System, PMS, is an internationally accepted system for matching colour)

(iii) All hydrants must have a white triangular road marking being 450mm ± 50mm long and 250mm ± 50mm wide meeting the requirements of AS 4049.2 - 2005 - Paints and related materials - Pavement marking materials - Thermoplastic pavement marking materials - For use with surface applied glass beads.
5.1.2 Raised reflective road markers (Cats Eyes)

Blue raised reflective road markers, when used, must comply with AS 1906.3 - 1992 - Retroreflective materials and devices for road traffic control purposes - Raised pavement markers (retroreflective and non-retroreflective), and are to be installed 25mm from the centre line of the road for single carriageways on the hydrant side or 25mm from the lane marking line on the hydrant side from multiple carriageways and divided roads in accordance with figure 5.1.2 A, 5.1.2 B or 5.1.2 C.

5.1.3 White Reflective Triangle Road Markers

All hydrants located in or next to paved roadways are to have white triangular reflective road markings meeting the requirements of AS 4049.2 - 2005 - Paints and related materials - Pavement marking materials - Thermoplastic pavement marking materials - For use with surface applied glass beads, approximately 450mm long and 250mm wide pointing to the location of the hydrant and are to be installed 25mm on the hydrant side of the cats eyes in accordance with figure 5.1.2 A, 5.1.2 B or 5.1.2 C.
5.1.4 Marker posts

(i) Marker posts used for the identification of any type of hydrant are to have a red non-reflective top in accordance with section 5.1.1(ii) of at least 200 mm in length, blue reflective markers in accordance with section 5.1.1(i), and be installed in such a manner as to have the reflective markers visible to any direction of approach.

(ii) Marker posts are to be at least 1000 mm in height above the finished ground level and be installed in such a manner as to ensure they will not be easily removed (eg. concreted or to manufacturers specifications)

(iii) Marker posts used to identify hydrants are to be installed not less than 500 mm and not more than 750 mm from the hydrant or they must include a method of indicating the direction and distance to the hydrant.

(iv) Any marker posts which have tapered top designed to indicate the direction of the hydrant must be installed with the taper facing towards the hydrant.

(v) Any marker post associated with the identification of any hydrant (either above or below ground) installed in a bushfire prone area is to be of metal, concrete or some other material that will not be affected by the passage of fire.

(vi) Any marker post associated with the identification of any hydrant (either above or below ground) should have the body coloured either white to designate potable drinking water (DW) or lilac to designate non-potable non-drinking water (NDW).

Explanatory notes:
The purpose of specifying these materials for the construction of marker posts is to ensure that they survive the passage of bushfire intact and can be identified after the fire front has passed.
This ensures that firefighters are not hindered in any way in identifying reticulated water sources.
5.1.5 **Vertical Surface Hydrant Indicators**

(i) Vertical surface hydrant indicators are primarily for identification of hydrants where the installation of posts is unsuitable. This identification system must consist of both a primary and a secondary marker.

(ii) Indicators used are to be either:

- a zinc coated steel sheet, pre-painted white with blue reflective material (in accordance with 5.1.1(i)) fixed in the centre of the marker. This type of marker is to be nailed onto the surface; or
- a white scotchcal vinyl sheet with blue reflective material (in accordance with 5.1.1(i)) fixed in the centre of the maker. This type of marker is to be fixed onto the surface with adhesive backing.

(iii) The blue reflective material on vertical surface hydrant indicators are to be in the following two sizes. Primary markers are to be 100mm x 100mm and secondary markers are to be 100mm x 50mm, both on a white background.

(iv) The primary marker is to be installed on a vertical surface directly in front of the hydrant location in a position which identifies it from the most likely direction of approach. The secondary marker is to be installed on the off side of the vertical surface (where possible) to indicate the location of the primary marker.

(v) The preferred height of installation is between 1800mm and 2000mm, however this height may be varied depending on the location of the installation in consultation with the relevant fire service. The indicators are required to be installed at an appropriate distance from the hydrant but must still identify it.
5.2 Above Ground Hydrants

5.2.1 General

(i) All above ground hydrants installed for the purpose of providing water for firefighting purposes are to have incorporated on them the following method of identification.

- **L type hydrants** Fig 5.2.1(a) are to have a cover with a red top and blue reflective markers complying with sections 5.1.1(i) and 5.1.1(ii).

- **Pillar hydrants** Fig 5.2.1(b) are to have a red non-reflective top and blue reflective markers complying with sections 5.1.1(i) and 5.1.1(ii).

- **Millcocks** Fig 5.2.1(c) provided as street hydrants are to have a red non-reflective top of at least 200 mm and blue reflective markers complying with sections 5.1.1(i) and 5.1.1(ii).

- Any above ground hydrant installed in an **alpine area**, and not enclosed in a cabinet, is to have a red non-reflective body or riser and blue reflective markers complying with sections 5.1.1(i) and 5.1.1(ii). If installed in a cabinet, the cabinet is to be red in colour and have blue reflective strips complying with sections 5.1.1(i) on the front and both sides of the cabinet - see Fig 5.2.1(d).

**Explanatory notes:**

The purpose of ensuring that hydrants for firefighting purposes are indicated by a red top is to reduce confusion with those hydrants placed on water mains for maintenance purposes. The reflective blue markers provide for positive identification of the hydrant at night.

It must be noted that black top hydrants are not provided for nor should be used for firefighting purposes without permission of the appropriate water supplier.

In alpine areas, the requirements for a red body or riser when hydrants are not installed in cabinets and the use of red cabinets is to ensure positive identification when surrounded by snow. The reflective strips again aid in locating the hydrants at night.
5.2.2 Areas with sealed pavement road, kerb and channelling

In addition to the identification requirements on the above ground hydrant cover, riser or body, hydrants installed in areas with sealed pavement roads, kerbing and channelling, are to be identified by a blue raised reflective road marker (blue cats eye) and white reflective triangle road marker.

Explanatory notes:
The use of blue raised reflective road markers (blue cats eye) and white reflective road triangles is already widespread and where appropriate provides the most effective methods of identifying the position of hydrants. The use of these markers in addition to the identification on the cover or body of the above ground hydrant ensures that the location can be determined even if some obstacle, for example a car, is blocking the line of sight of firefighting personnel.
5.2.3 Areas with sealed pavement road, but no kerb and channelling

In addition to the identification requirements on the above ground hydrant cover, riser or body, above ground hydrants installed in areas with sealed pavement but no kerb and channelling are to be identified by:

- a blue raised reflective road marker (blue cats eye) and white reflective triangle road marker; and
- if more than six metres from the normally maintained road edge, an additional marker post (in accordance with 5.1.4) shall be installed in such a position as to ensure that approaching fire appliances are directed to the location of the hydrant.

Figure 5.2.3

Explanatory notes:

The specification of blue raised reflective road markers (blue cats eye) and white reflective triangle road marker in urban areas ensures consistency in environments with structural development where the likelihood of obstructions is increased. The provision of additional marker posts, if the hydrant is some distance from the road edge, ensures these hydrants can be efficiently located.
5.2.4 Areas with unsealed roads
In areas without sealed pavement roads, above ground hydrants, if more than six metres from the normally maintained edge of the road, are to be identified by a marker post (in accordance with 5.1.3) installed in such a position as to ensure that approaching fire appliances are directed to the location of the hydrant. This marker post is in addition to the standard identification requirements for the above ground hydrant cover, riser or body.

Figure 5.2.4

Explanatory notes:
Given the nature of the road surface, blue raised reflective road markers (blue cats eye) and white reflective triangle road markers cannot be used in this application and subsequently marker posts offer the most appropriate method. It is expected that in these areas, if hydrants are less than six metres from the road edge they should be easily located (subject to clearing of undergrowth or other obstacles, which should be addressed as part of ongoing maintenance) however, if greater than this distance, it may be difficult to locate the hydrant.
5.2.5 Areas where hydrant is concealed

When an above ground hydrant is installed in any area more than three metres from the normally maintained road edge and above the road level by more than three metres or below the road level by more than one metre, it is to be identified by a marker post (in accordance with 5.1.3) installed in such a position as to ensure that approaching fire appliances are directed to the location of the hydrant. This marker post is in addition to the standard identification requirements of the above ground hydrant cover, riser or body.

Explanatory notes:
The need to provide marker posts if the hydrant is above or below the road surface by the specified distances provides for situations where the hydrant may be located in a drain, at the top of a cutting or remote to a particular location (hydrants provided in adjacent streets to serve freeways), thus being concealed to firefighting personnel.

Figure 5.2.5
5.3 Below Ground Hydrants

5.3.1 Below ground hydrants identified by L type hydrant covers

L type hydrant covers installed to cover below ground hydrants are to have a red non-reflective top and blue reflective markers complying with sections 5.1.1(i) and 5.1.1 (ii) and an additional 25mm thick strip of blue reflective marking around the entire perimeter of the hydrant cover. This additional marking strip is to be approximately 200mm below the blue reflective marker.

Explanatory notes:

It is the practice in some parts of the State to install L type hydrant covers above below ground hydrants.

The use of these covers to protect below ground hydrants presents a concern to the fire services, as the operating procedures for above ground and below ground hydrants differ. Currently, when a responding fire service is confronted with a normally identified L type hydrant cover, it is assumed that an above ground hydrant is installed however this may not be the case. This has the potential to have serious consequences in an emergency.
5.3.2 **Hydrant installed in roadways**

Below ground hydrants, if installed in a sealed pavement roadway, are to be identified by a blue raised reflective road marker, white reflective triangle road marker and the hydrant cover, including 100mm all around, is to be coloured white, yellow or lilac. (In accordance with water industry guidelines). If positioned in parking bays hydrants are also to be provided with a cleared area of at least 2m (1m either side of hydrant), appropriately delineated with yellow diagonal lines or protected with parking barriers.

**Explanatory notes:**

Specifying blue raised reflective road markers and white reflective triangle road markers for below ground hydrants installed in roadways provides for positive identification during the night and day in a position where it is impossible to provide a marker post. Authorities and municipalities should continue to use both cats eyes and triangles to allow for quicker and more accurate identification.

The different coloured hydrant covers designate the size of potable water main (white <250mm, yellow >250mm) and the quality of water (lilac for NDW).

For below ground hydrants installed in roadways within the parking strip, the delineation or protection of the hydrant by using yellow diagonal lines is to reduce the potential for parked vehicles reducing access to the hydrant.
5.3.3 Areas with sealed pavement road, kerb and channelling

Below ground hydrants installed in areas with sealed pavement roads, kerb and channelling are to be identified:

- if installed in a nature strip they are to be identified by white or yellow or lilac access cover, including 100mm all around, a marker post (in accordance with 5.1.4), a white reflective triangle road marker (in accordance with 5.1.3) and a blue raised reflective road marker (in accordance with 5.1.2); or

- if installed in a footpath they are to be identified by a white or yellow or lilac access cover, including 100mm all around, a marker post (in accordance with 5.1.4), a white reflective triangle road marker (in accordance with 5.1.3) and a blue raised reflective road marker (in accordance with 5.1.2). Vertical surface hydrant indicators (see 5.1.5) may be used only where it is not possible to provide a marker post in accordance with 5.1.4.

Figure 5.3.3
Explanatory notes:

This method of identifying the position of below ground hydrants has been used successfully for many years. The use of blue raised reflective road markers only provides for identification at a distance, however they do not provide more specific location identification and this can lead to delays in locating hydrants if covered or buried. The triangle points directly to the location of the hydrant. Coloured access covers clearly show the location. The different coloured hydrant covers designate the size of potable water main (white <250mm, yellow >250mm) and the quality of water (lilac for NDW).

Vertical surface hydrant indicators provide an effective means of identification in areas where the use of marker posts is an impractical option. Such situations where their use may be required is in shopping malls and large paved open areas. The advantage of the vertical surface hydrant indicators is the variety of surfaces upon which they can be affixed. These indicators can be affixed to glass shopfronts, power poles or light poles in appropriate areas to provide adequate identification of the hydrant.

The use of painted markings on the kerb between a raised reflective road marker, triangle and the hydrant should not be used as a primary identification system but as an additional identification.
5.3.4 Areas with sealed pavement road but no kerb and channelling

Below ground hydrants installed in areas with sealed pavement roads but no kerb and channelling are to be identified by:

- a blue raised reflective road marker (in accordance with 5.1.2), a white triangle (in accordance with 5.1.3) and marker post (in accordance with 5.1.4)
- if the hydrant is more than 6m from the normally maintained edge of the road, they are to be identified by an additional marker post (in accordance with 5.1.4) installed in such a position as to ensure that fire appliances are directed to the location of the hydrant.

Explanatory notes:

Again, the purpose of specifying blue raised reflective road markers (cats eyes) and triangle is to promote consistency. The purpose of a marker post is to positively identify the hydrant location between the road and property. It is important that marker posts are appropriately marked and positioned to provide for efficient location.

Figure 5.3.4
5.3.5 Areas with unsealed roads
Below ground hydrants installed in areas without sealed pavement roads are to be identified by a marker post (in accordance with 5.1.4) and if more than six metres from the normally maintained road edge, by an additional marker post (in accordance with 5.1.4) in such a position as to ensure that approaching fire appliances are directed to the location of the hydrant.

Explanatory notes:
The most appropriate and proven method in this situation is the use of marker posts. The requirement for an additional marker post in situations where the hydrant is more than six metres from the road is to ensure that a marker post installed adjacent to the hydrant is not missed, especially at night. It may also be that these installations are in rural areas where there are fewer hydrants or where they are provided for special risks only.

Figure 5.3.5
5.3.6 Areas where a hydrant may be concealed

Below ground hydrants, when installed in any area more than three metres from the normally maintained road edge and above the road level by more than three metres or below the road level by more than one metre, are to be identified by a marker post (in accordance with 5.1.4) adjacent to the hydrant and an additional marker post (in accordance with 5.1.4) installed so as to ensure that approaching fire appliances are directed to the location of the hydrant.

Explanatory notes

As with above ground hydrants, the need to provide marker posts if the hydrants are above or below the road surface by the specified distances provides for situations where the hydrant may be located in a drain, at the top of a cutting or remote to a particular location (hydrants provided in adjacent streets to serve freeways), thus being concealed to firefighting personnel.

Figure 5.3.6
6 Maintenance

Hydrant identification systems are only effective while the performance criterion for identification continues to be met. All identification systems require regular maintenance to ensure their effectiveness.

All authorities responsible for the maintenance of hydrants should implement a program that will ensure:

- all hydrants are inspected on a regular basis;
- all aspects of the identification system are maintained in a condition that will ensure that the performance criteria outlined in Section 4.0 of these guidelines is met (e.g., posts cleared of obstructions, covers and hydrants painted where appropriate, reflective marker and triangle provided, etc).

Programs involving the community (nearby property owners) in the immediate vicinity of hydrants are an excellent way of reducing the frequency of inspections. Educating people to ensure the identification system remains visible and the hydrant accessible can reduce the need to undertake frequent inspections. Also, encouraging nearby property owners to contact the responsible authority when a problem occurs can influence the frequency of inspections.

Councils and Water Suppliers should consider the implementation of such community education programs to assist with ongoing maintenance of identification systems.
Appendix A

Application Requirements For Hydrant Identification Variation

Applicant Details
- Applicants name
- Contact number
- Company
- Postal address
- Email Address (if available)

Information Regarding General Area of the Site
- Type of property in question
- Address of property
- Layout of property
- Responsible Municipality
- Responsible Water authority
- Responsible Fire Service

Information Regarding Hydrant Identification
- Description of the building
- Surrounding environment
- Reasons why alternative hydrant identification is required
- Description of the alternative hydrant identification system proposed

In addition to this, site plans and diagrams must be provided where possible.

Diagrams and plans of the alternative hydrant identification system must be provided in all cases.

A formal agreement with the responsible Fire Agency may need to be written and approved by all parties involved.
Appendix B

STREET HYDRANT MAINTENANCE REQUIREMENTS
BELOW GROUND HYDRANTS

1. Inspection and maintenance of street hydrants includes:
   a. All works are to meet the requirements of the Fire
      Services Guideline – Identification of Street Hydrants for
      Firefighting Purposes (FSG).
   b. Any asset found to be in a dangerous condition or is likely
      to cause injury, must be reported to the Water Authority or
      Council immediately, for action. The contractor or
      contractors representative is not to leave the site
      unattended until the risk of injury has been reduced or
      removed
   c. Locating the asset using the Water Authority asset
      mapping system or other system
   d. Removing the cover or lid and;
      i. If a metal lid, apply a light coat of grease to the
         rim
      ii. If a plastic lid, ensure that it can be opened using
         a fire service combination spanner
      iii. Ensuring that the cover or lid and at least 100mm
         around, be painted white.
   e. Clearing the recess of all vegetation, debris and dirt to
      make the hydrant operational
   f. Clear vegetation for distance of up to one metre all around
      pit
   g. Place fire service approved standpipe into hydrant
      housing to ensure that hydrant is not off centre. Shipping
      handles must be greater than 100mm above finished
      surface of pit cover
   h. Adjust and reset cover levels found too high or too low
      located in earth surrounds (ie nature strip or road
      reserves). Any hydrant or surround requiring adjusting or
      resetting in a footpath, roadway or other paved area, shall
      have the asset number recorded and a fault notification
      forwarded to the appropriate authority for future
      maintenance programming
   i. Any hydrant not found shall have the asset number
      recorded and a fault notification forwarded to the
      appropriate authority for immediate action and rectification
   j. Any hydrants without a pit cover shall have the pit cover
      replaced or the asset number recorded and a fault
      notification forwarded to the appropriate authority for
      immediate action and rectification. If in an unsafe location
      the asset is to have safety tape installed around the pit.
   k. Caps on below ground hydrants are not required.
   l. If there is not blue reflective markers visible from any
      approach on a marker post, they shall be installed in
      accordance with the FSG
   m. If there is no blue reflective road marker (blue cats eye)
      on the roadway directly opposite the hydrant, one shall be
      installed in accordance with the FSG
   n. Marker posts must be installed in accordance with the
      FSG. Old posts are to be removed once the new posts
      have been installed.
   o. All marker posts are to have a red top in accordance with
      the FSG
      i. Marker posts on potable water mains are to have
         a white body
      ii. Marker posts on a non-drinking water main are to
         have a lilac body
   p. In locations where marker posts are not able to be
      installed, vertical surface markers are to be installed in
      accordance with the FSG
   q. If there is no road marking triangle near the road centre
      pointing to the hydrant, one shall be installed in
      accordance with the FSG requirements.
   r. Any defect that cannot be rectified with approximately 20
      minutes must have the asset number and type of fault
      recorded, and the servicing coordinator must be notified
      immediately for further direction
   s. Any leaking hydrant must have the asset number and fault
      recorded, and the water authority must be notified
      immediately for further direction
   t. Inspection and maintenance results shall be recorded on
      the reporting system/s provided
STREET HYDRANT MAINTENANCE REQUIREMENTS
ABOVE GROUND HYDRANTS

2. Inspection and maintenance of street hydrants includes;
   a. All works are to meet the requirements of the Fire
      Services Guideline – Identification of Street Hydrants for
      Firefighting Purposes.
   b. Any asset found to be in a dangerous condition or is likely
      to cause injury, must be reported to the Water Authority or
      Council immediately, for action. The contractor or
      contractors representative is not to leave the site
      unattended until the risk of injury has been reduced or
      removed.
   c. Locating the asset using the Water Authority asset
      mapping system or other system.
   d. Removing the cover or lid.
      i. Apply a light coat of grease to the latch pin of an
         “L” type cover.
   e. Clearing the recess of all vegetation, debris and dirt to
      make the hydrant operational
   f. Clear vegetation for distance of up to one metre all around
      pit
   g. Adjust and reset cover levels found too high or too low
      located in earth surrounds (i.e. nature strip or road
      reserves). Any hydrant or surround requiring adjusting or
      resetting in a footpath, roadway or other paved area, shall
      have the asset number recorded and a fault notification
      forwarded to the appropriate authority for future
      maintenance programming
   h. Any hydrant not found shall have the asset number
      recorded and a fault notification forwarded to the
      appropriate authority for immediate action and rectification.
   i. Any “L” type hydrants without a cover shall have the cover
      relaced or the asset number recorded and a fault notification
      forwarded to the appropriate authority for immediate action and rectification.
   j. Caps on “L” type hydrants are required to be replaced.
   k. If there is not blue reflective markers visible from any
      approach on an “L” type cover, they shall be installed in
      accordance with the FSG.
      If there is no blue reflective road marker (blue cats eye) on
      the roadway directly opposite the hydrant, one shall be
      installed in accordance with the FSG.
   l. Marker posts must be installed in accordance with the
      FSG. Old posts are to be removed once the new posts
      have been installed
   m. All marker posts are to have a red top in accordance with
      the FSG.
      i. Marker posts on potable water mains are to have
         a white body
      ii. Marker posts on a non-drinking water main are to
         have a lilac body
   n. In locations where marker posts are not able to be
      installed, vertical surface markers are to be installed in
      accordance with the FSG.
   o. If there is no road marking triangle near the road centre
      pointing to the hydrant, one shall be installed in
      accordance with the FSG requirements.
   p. □ Any defect that cannot be rectified with approximately
      20 minutes must have the asset number and type of fault
      recorded, and the servicing coordinator must be notified
      immediately for further direction.
   q. □ Any leaking hydrant must have the asset number and
      fault recorded, and the water authority must be notified
      immediately for further direction.
   r. Inspection and maintenance results shall be recorded on
      the reporting system/s provided.