HAMPSHIRE FIRE AND RESCUE SERVICE

PROTECT - INTERNAL

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Service Delivery

Supporting Policy

7/3/4/4 Water Supplies

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Version and review history table

Version	Date	Changes made
1.0	01/2016	Reviewed with no changes.

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1 SO/7/3/4/4 – Water supplies

Owner: AM Response
Author: SM (Risk)
Date reviewed: 01/2016
Next review date: 01/2018

- 1 Policy

Hampshire Fire and Rescue Authority will meet their responsibilities under the Fire and Rescue Services Act 2004 for ensuring the adequacy of water supplies for firefighting within the Fire Authority boundary. HFRS will achieve this by providing adequate numbers of fire and washout hydrants, arranging access to suitable open water supplies and liaising with owners of private water supplies for the use of their water for emergency firefighting purposes. Where this is not practicable an enhanced pre-determined attendance (PDA) may be considered. The continuing adequacy and availability of all such water supplies will be ensured by regular inspection and recording of appropriate details. Only in exceptional circumstances, where a hydrant is considered to be at risk, will a programmed routine flow test be carried out.

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- 2 Procedure

Detailed information on the procedures to be followed is detailed in the Policy Directive PD/7/3/4/4.

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- - End -
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- **PD/7/3/4/4 - Water supplies**

Author: SM (Risk)
Date reviewed: 01/2016

- 1 Procedure
- **1.1 CFOA Memo of understanding**

Hydrants will be provided and maintained in accordance with the CFOA and regional Water Companies Memorandum of Understanding and Dear Chief Officer Letter 1/2001 item D 'Fire Hydrants - Guidance on Inspection, Testing and Abandonment'. Copies will be held by the Property Services Manager and in the Fire Safety Technical Reference Unit (TRU Ref. L6.10.26.23).

- **1.2 Installation of new hydrants**

The Property Services Manager will, on receipt of new hydrant schemes from the water company, arrange for a Hydrant Technician (see Appx D) to allocate such hydrants as are considered necessary. All pending schemes will be managed at Service HQ by the Property Services Manager.

- **1.3 Following installation or repair of hydrants**

The Property Services Manager is responsible for ensuring that as soon as notification has been received from the water company that a hydrant has been installed or repaired, the hydrant is tested or inspected by a Hydrant Technician and, if satisfactory, notify the appropriate station via e-mail and update Hydra.

- **1.4 Open water supplies**

Station Managers are responsible for ensuring that where inadequate mains water supplies exist they notify the Watch Manager Risk of all possible alternative sources of open water supplies capable of being used for firefighting purposes, together with their location. After approval from the Watch Manager Risk the details of these open water sources will be

forwarded to the Property Services Manager so that the information can be entered into HYDRA (see Appendix B).

- **1.5 Private hydrants**

Where private hydrants would benefit the Service, they may be considered for use for firefighting purposes and subsequent regular inspection, but only after approval by the relevant Group Manager and Property Services Manager. No approved private hydrants will be inspected or tested (after installation) unless the owner has specifically requested such in writing and has absolved the Service of any costs of repairs to damaged or defective hydrants, mains or ancillary equipment, however caused. In these circumstances private hydrants will be included in HYDRA and regularly inspected with details of any necessary repairs of defects forwarded via the Property Services Manager to the appropriate owner (see also Appendices A, B and C).

- **1.6 Risk assessment of hydrants**

All hydrants will be Risk Assessed and then be tested on a 1,3 or 5 yearly basis by response personnel dependant on the outcome of the Risk Assessment. Appendix C.

- **1.7 Inspection and maintenance**

Response Personnel will carry out inspections in accordance with the procedures as detailed in Appendix B. General maintenance and repairs will be carried out by hydrant technicians as detailed in Appendix E.

- 2 Appendices

Appendix A - Installation of new hydrants
Appendix B - Inspection, testing and recording of water supplies for fire fighting
Appendix C – Hydrant risk assessment
Appendix D - Notification of defects
Appendix E - Hydrant technicians

- 3 Further information

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Fire and Rescue Service Act 2004, Section , Part 5
British Standard BS 750: 1984
DCOL 1/2001
New Roads and Street Works Act 1991

- End -

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PD/7/3/4/4 Appendix A - Installation of new hydrants

Author: SM (Risk)
Date reviewed: 01/2016

- 1 New main and replacement main schemes

Arrangements have been made for water companies to forward three copies of plans showing the proposed layout of new main and replacement schemes and all washout hydrants which they intend to provide.

The Property Services Manager in conjunction with a Hydrant Technician will determine the hydrants considered necessary in the circumstances.

- **1.1 Marking up of plans**

A plan of the development will be marked in the following way:

Nearest existing hydrant(s)	**X**
Proposed hydrant sited in accordance with :ance criteria	H (point to indicate exact position main)

- **1.2 Distance criteria**

To assist in assessing the number of hydrants required, the following guidance is offered of approximate distances that should apply in different areas:

Type of area	**Maximum distance from any point on public/private hway/road**
Commercial and ustrial	100 metres (i.e. max distance between hydrants 200 metres)
Residential/urban	300 metres (i.e. max distance between hydrants 600 metres)
Rural	To be decided by risk assessment of the need in each particular se

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These distances are for guidance only, risk assessment of the area may influence the number and location of hydrants required. In commercial and industrial developments it is vital to take account of the largest anticipated fire.

Where larger mains are subsequently provided at a later date, either in or close to the development then consideration for additional or replacement hydrants on those mains must be made.

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- 2 Guideline flow requirements for fire fighting

The following flows represent the ideal (see Section 4) on new developments and during permanent system change.

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- **2.1 Housing**

2.1.1 Housing developments with units of detached or semi detached houses of not more than two floors should have a water supply capable of delivering a minimum of eight litres per second through any single hydrant.

2.1.2 Housing developments with units of more than two floors should have a water supply capable of delivering a minimum of 20 to 35 litres per second through a single hydrant.

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- **2.2 Transportation**

Lorry/coach parks, multi-storey car parks, service stations etc, should have a water supply capable of delivering a minimum of 25 litres per second through any hydrant on site or within a vehicular distance of 90 metres of the site.

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- **2.3 Industry**

To ensure an adequate supply in a fire situation the network would normally be supplied by at least a 150mm main capable of delivering:

Up to one hectare 20 l/sec
One - two hectares 35 l/sec
Two - three hectares 50 l/sec
Over three hectares 75 l/sec

- **2.4 Shops, offices, recreation and tourism**

These developments should have a water supply capable of delivering between 20 to 75 litres per second.

- 3 Following installation

3.1 Once installed the hydrant technician will carry out a full test and inspection. The Property Services manager will inform the relevant station via e-mail, and update HYDRA accordingly.

3.2 Where private hydrants are provided, the Property Services Manager will notify the relevant station concerned via e-mail with details of location, and update HYDRA accordingly.

- 4 General
- **4.1 Provision of hydrants on existing mains**

4.1.1When requested by a Station Manager/Officer in Charge, the Property Services Manager will consider the need for additional hydrants on existing mains and where required will take appropriate action.

- - End -

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- **PD/7/3/4/4 Appendix B - Inspection, testing and recording of water supplies for fire fighting**

Author: SM (Risk)
Date reviewed: 01/2016

- 1 Hydrants
- **1.1 Responsibility**

The three reasons normally offered for the Fire Service to test hydrants are:

- To ensure the hydrant is fully operational.
- The hydrant is conspicuously marked.
- To provide topographical knowledge for response personnel.

Responsibility for ensuring that hydrants remain operational is the duty of every water undertaker as required by Section 57 of the Water Industry Act 1991.

The Property Services Manager is responsible for ensuring that all hydrants within Hampshire are inspected. These tests will be carried out by Response Personnel and the Hydrant Technicians and suitable records maintained.

- **1.2 Objectives**

The objective of both the Fire Service and the Water Companies with regard to fire hydrants are:

To ensure that there is an adequate provision of water for firefighting.

- **1.3 Hydrant inspection and testing procedure**

1.3.1 The inspection and testing of hydrants should consist of one or all of the following:

- Above ground

- Below ground
- Wet test
- Pressure test by hydrant technicians only

When response personnel carry out any of the above tests the following MUST be strictly adhered to:

1.3.2 When working off the highway i.e. pavement, footpaths, verges, etc, with the vehicle parked in a permitted location:

- A minimum of two response personnel will be required to carry out the test, all response personnel are to make themselves aware of the risk assessment.
- Care should be taken not to limit access and ensure pedestrians can pass safely without crossing the road or stepping into a live carriageway" and it may be necessary to allow them to pass before completing any inspection/test.
- Personnel must wear a conspicuity surcoat and safety shoes/boots

1.3.3 Mobile works and minor works carried out from a vehicle working on the highway (When testing hydrants either on the carriageway, pavement, footpaths, verges, etc)

The nature of risk and impact of the works are similar to the mobile works undertaken by utility companies operating under the New Roads and Street Works Act 1991. As a consequence the following basic requirements as laid down in the Safety at Street Works and Road Works, A Code of Practice" should apply.

These include continuous mobile operations, as well as those which involve movement and periodic stops and short duration static works. They also include minor works, carried out from a single vehicle or a small number of vehicles.

Works in this category may omit the use of cones and traffic barriers provided that safe working methods are used i.e.:

- Using a single vehicle
- A minimum of two response personnel will be required to carry out the test, all response personnel are to make themselves aware of the risk assessment.

- Personnel must wear Conspicuity surcoat and safety shoes/boots.
- Peak traffic times should be avoided i.e. 07:00 to 09:30 and 15:30 to 18:00
- Carry out work when there is good visibility and during periods of low risk.
- Vehicle must be conspicuously coloured.
- Have one or more roof-mounted beacons operating.
- Display a Keep Right/Left sign to drivers approaching on the same side of the carriageway. This must tell drivers which side to pass on.

1.3.4 If the vehicle does not meet the above criteria or:

- There is a likelihood of vehicular or pedestrian congestion.
- The vehicle cannot be seen clearly because of hills, bends, etc
- There is not enough space for traffic to move past the HFRS vehicle.

Work must cease immediately and either be rescheduled using a fire appliance or passed to the Property Services Manager, who will make arrangements for the test to be carried out by the Hydrant Technicians.

Hydrants must not be tested during icy conditions or where the temperature is likely to fall below freezing

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- **1.3.5 Above ground**

Visual inspection of the hydrant frame, cover, surface surrounding the hydrant and the indicator plate. Special attention is to be given to the proper indication of hydrants so that they can be found in all conditions of weather and light. Indicator plates must be easily visible and not obstructed by vegetation, fences or walls. When a plate is found to be missing, in bad condition, too high or wrongly placed to indicate the hydrant, it should be reported as defective as detailed in appendix C. Hydrant plates should be cleaned and repainted as necessary. On no account must any other item e.g. kerb, highway, vegetation etc. be painted to additionally indicate the hydrant without specific approval from the Property Services Manager.

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- **1.3.6 Below ground**

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Visual inspection of hydrant pit and hydrant itself. Remove any mud/silt with hand trowel first, be aware of discarded needles, if found place in the sharps box provided in the hydrant testing kit bag. If there is any doubt replace cover and defect to property services. Connect the stand post to the hydrant outlet.

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- **1.3.7 Wet test**

Remove stand post. Attach key and bar, ascertain direction of open (as marked on underside of hydrant pit cover) WITHOUT using excessive force crack hydrant open to allow a very small amount of water flow from outlet (no more pressure than turning on domestic tap slowly). As soon as water flows turn off. If hydrant does not open, DO NOT force it, replace cover and defect.

Finally clean off any loose debris and spray cover and indicator post with quick drying paint.

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- **1.3.8 Risk assessment**

Risk Assess hydrant and provide testing frequency recommendation using risk assessment process as detailed in Appendix C.

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- **1.4 Operational use of hydrants**

Where a defective hydrant is found during training or operational duties it should be reported to Property Services immediately on service form FM/7/4/2/1.

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- **1.5 Defects to hydrants reported by other means**

When information is received from members of the public or other bodies the defect should be reported to the Property Services Manager in accordance with Appendix D.

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- **1.6 Hydrant test kit**

The hydrant test kit will include the following equipment:

- 1 x Hydrant Holdall

- 1 x Standpost
- 1x Key and Bar
- 2 x False Spindles
- 1 x Small hand fork and trowel
- 1 x Canvas Bucket
- 1 x Wire Brush
- 1 x Sharps Box
- 2 x Conspicuity Surcoats
- 2 x Pairs Rigger gloves
- 1 x Box of Disposable Gloves
- Quick Drying Hydrant Paint (Yellow)
- 1 x Paint Applicator
- 1 x Keep Right/Left sign
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- 2 Open water supplies

Open water supplies should be inspected by stations. The following information should be verified against that information contained in HYDRA:

- Location
- Satisfactory access for primary pumping appliance
- Approximate quantity of water
- Seasonal, tidal etc.
- HYDRA walk number

A special note must be made of those locations where the access to the supply may be disrupted by severe weather etc.

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- 3 HYDRA database

A register of all hydrants, including adopted washout and private hydrants, and open water supplies in a station's area will be maintained by service delivery administrators on HYDRA and contain the following:

- The number and location of each public and private hydrant or washout

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- Dates of inspection and where appropriate testing of each hydrant
- Details of open water and other supplies.
- The frequency of test for each hydrant i.e. 1, 3 or 5 yearly.
- Additional information regarding the hydrants location, main size and distance from plate.

- End -

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- **PD/7/3/4/4 Appendix C - Risk assessment of hydrants**

Author: SM (Risk)
Date reviewed: 01/2016

Hydrants will be assessed as to the serviceability of the hydrant and not the area or risk that is covered by individual hydrants.

They will be divided into three groups, these being High, Medium and Low, when the hydrant has been checked/tested, the risk rating must be entered onto the HYDRA report,

- HIGH – Tested/checked annually – liable to silt up and/or overgrow within a 1 year period
- MEDIUM – Tested/checked every 3 years - liable to silt up and/or overgrow over more than a 2 year period
- LOW - Tested/checked every 5 years – highly unlikely to silt up and/or overgrow
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- - End -

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- **PD/7/3/4/4 Appendix D - Notification of defects**

Author: SM (Risk)
Date reviewed: 01/2016

- 1 Notification of defects

Defects of an urgent nature (particularly where a hydrant is considered to be a danger to the public) should be reported immediately to the relevant local water authority using their emergency telephone contact number and the Property Service Manager at SHQ must be informed using form FM/7/4/2/1.

Defects that are found when carrying out routine inspections need to be raised through the 'Routine Inspection Form' and handed to the Service Delivery Administrator to enter onto Hydra.

Defects that are found through any other means for example post incident and are not deemed as dangerous need to be reported using form FM/7/4/2/1.

- 2 Defect recording code

The following codes must be used when completing form FM/7/4/2/1 and when being entered onto the 'Routine Inspection Form'. Care should be taken to ensure that the fullest details are given. If more than one reason is required then clearly state.

- **2.1 Hydrants, plates and covers**
- D – Dry
- FD – Frame damaged
- LCP – Leaking in closed position
- LB – Lid broken
- LM – Lid missing
- LC&F – Lower cover and frame
- PC – Pit collapsed
- PF – Pit flooded
- PS – Pit silted

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- PB – Plate broken
- PM – Plate missing
- PFL – Poor flow
- PFXL – Poor flow due to excessive leak
- MPM – Marker post missing
- MPB – Marker post broken
- RC&FP – Raise cover & frame (Path)
- RC&FR – Raise cover & frame (Road)
- RC – Rebuild chamber
- RC&F – Re-new cover & frame
- RH – Renew Hydrant
- RG – Repack gland
- RP – Re-site post
- SB – Spindle bent
- SR – Spindle rounded
- ST – Spindle tight/seized
- S – Sunken
- TH – Tripping hazard
- UC – Unable to close easily
- UFS – Unable to fit standpipe
- ULH – Unable to locate
- UTS – Unable to ship
- Unknown
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- - End -

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- **PD/7/3/4/4 Appendix E - Hydrant technicians**

Author: SM (Risk)
Date reviewed: 01/2016

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- 1 Technicians

1.1 Hydrant Technicians will be instructed by the Property Services Manager to assess new hydrant schemes, carry out minor repairs and inspections.

1.2 Vans are provided for each Technician, fully equipped to Water Company standards.

1.3 The Technicians will be trained to the New Roads and Street Works Act 1991 Code of Practice.

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- 2 Scope of work

2.1 The Technicians will allocate hydrants in new developments and carry out minor repairs.

2.2 Technicians will carry out commissioning inspections and testing of all new hydrants and follow up inspections after water company repairs.

2.3 Technicians will have the ability to alter the Risk Rating Assessment for hydrants during inspections.

2.4 Technicians will carry out routine tests on hydrants that cannot be tested by Response personnel as detailed in Appendix B 1.3.4.

- End -

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