



Reserved Matters Fire Service Access and Hydrant Strategy

Project Information

Client	Rangeford Villages
Project Name	Kingscote Place
Address	Imberhorne Lane, East Grinstead
Description	Fire Hydrant Strategy

Document Issue

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Author	Sheren Rose

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Revision	Date	Description	Author	Technical review
P01	27-07-2026	Initial Draft for Design Team Comment	Sheren Rose	JE
P02	03-08-2026	Architectural changes to site wide layout	Sheren Rose	n/a

This report is formulated based on the information made available at the time of preparation. It is applicable to the aforementioned project only. If any further information is made available following the publication of this report, this report should be reviewed in full, unless otherwise agreed with PB Fire Safety Ltd.

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1. Introduction and Scope

PB Fire Safety Ltd have been appointed by Rangeford Villages to provide a Reserved Matters Hydrant Strategy.

The objective of this assessment is to identify the approximate proposed hydrant locations for consultation.

This report has been prepared following a desktop review of the proposed development, including the available drawings, construction details and relevant site information, and is based upon the proposed timber frame construction, surrounding site conditions and anticipated construction sequence.

The assessment has been undertaken in accordance with the methodology and principles contained within BS 9990:2015 Non-automatic fire-fighting systems in buildings – Code of practice and Approved Document B, Requirement B5: Access and facilities for the fire service, which requires that *The building shall be designed and constructed so as to provide reasonable facilities to assist fire fighters in the protection of life.*

2. Limitations

The assessment is based upon the drawings, construction information and project details available at the time of writing. No material testing or independent verification of third-party information has been undertaken unless otherwise stated.

This report does not constitute a completed fire strategy, a structural fire engineering assessment, or an assessment of property protection and business continuity risk.

The assessment assumes that the identified mitigation measures, proposed construction sequence, and site fire safety management procedures will be implemented and maintained throughout the construction period. Should the proposed design, construction sequence, occupancy arrangements, or surrounding site conditions materially change, this report shall be reviewed accordingly.

3. Project Details

Rangeford Villages is delivering a new later-living community within a wider hybrid-consented masterplan. The IRC parcel measures approximately 12.2 acres and will deliver 150 homes supported by landscaped grounds, internal access roads and parking.

The scheme mix includes a blend of apartments, bungalows and cottages, with a central pavilion providing the full suite of typical Rangeford amenities.

Rangeford Villages will lead the Reserved Matters Application for the C2 parcel, and the Fire Engineer will support planning, design development, regulatory engagement and construction through to handover and early occupation.

Key Project Metrics:

150 residential units: 21 x 1-bed apartments; 84 x 2-bed apartments; 30 x 3-bed apartments; 8 x 2-bed bungalows; 3 x 3-bed bungalows; 4 x 3-bed cottages

The site layout is illustrated in the figure below.

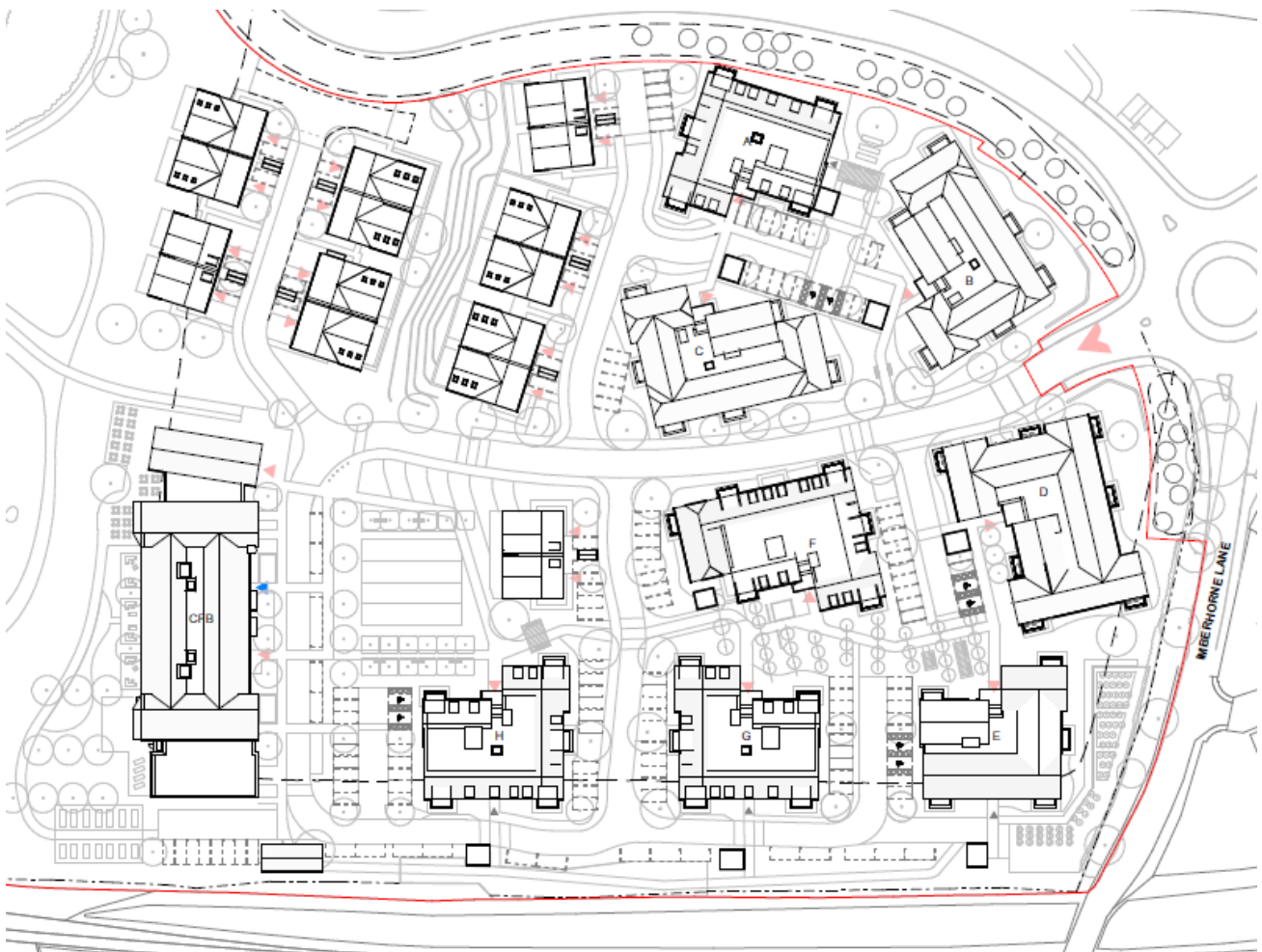


Figure 1 Site Layout Plan

The table below summarises the buildings considered under the hydrant strategy

Block Name	Block Type	Storeys	Riser Y/N
Block A	Type B	2.5	Y
Block B	Type A	2	Y
Block C	Type A	2	Y
Block D	Type C	2	Y
Block E	Type D	2	Y
Block F	Type E	2.5	NO
Block G	Type B	2.5	Y
Block H	Type B	1.5	Y
CFB	N/A	2	Y
Bungalows	N/A	1	NO

Figure 2 Kingscote Place Block Summary

4. Provided Information

The following relevant information has been made available by the client.

Table 1: Provision of Information

Document Title	Document Number	Author	Date
AL21010-P13-Indicative Site Layout	P15	PRP	31-7-206
KCP-PRP-SK150-Fire Appliance Access Sketch	P02	PRP	16-07-2026
Kingscote Place_Central facility_Initial Design Review_LKP01 (1)	P01	PBFS	
241300-CPW-ZZ-ZZ-DR-N-307001 - COMBINED EXTERNAL SERVICES LAYOUT	P01	CPWP	June 206
TPHS-458-KP-WKG-19.06.26 (Overview)	n/a	THPS	19-06-2026
KCP-PRP-0021-P03-Block Type A L00 Plan	P03	PRP	26-06-2026
KCP-PRP-0031-P02-Block Type B L00 Plan	P02	PRP	26-06-2026
KCP-PRP-0041-P02-Block Type C L00 Plan	P02	PRP	26-06-2026
KCP-PRP-0031-P01-Block Type D L00 Plan	P01	PRP	26-06-2026

KCP-PRP-0031-P01-Block Type E - L00 Plan	P01	PRP	26-06-2026
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5. Emergency Vehicle Access and water supplies for firefighting purposes

Vehicle Access

The proposed development comprising Blocks A-H, the bungalow units and the Community Facility Building (CFB) is served by a network of access roads connecting directly to Imberhorne Lane. Fire appliance access has been incorporated into the site layout and swept path analysis has demonstrated that fire appliances can enter, manoeuvre within and exit the development safely. A dedicated turning heads and reversing bays are provided within the development to facilitate fire service operations. Vehicle tracking undertaken under Drawing TPHS-458-KP-WKG-19.06.26 confirms suitable access arrangements throughout the site.

Fire appliance access arrangements have been designed such that a pumping appliance can be positioned within operational hose distance of all residential buildings. Access arrangements for individual buildings are summarised as follows:

- Block A is accessed directly from the internal spine road and is served by a dry riser inlet positioned to enable firefighting operations from the designated appliance standing area.
- Block B is served from the central site access road with appliance positioning provided adjacent to the building and dry riser inlet.
- Block C is accessed from the internal estate road network and is served by a dry riser inlet accessible from the designated appliance position.
- Block D is served by the central fire appliance route running through the development and includes provision for dry riser-fed firefighting operations.
- Block E benefits from direct access from the primary internal access road and is served by an adjacent appliance standing area and dry riser inlet.
- Block F does not require a dry riser. Access arrangements provide appliance attendance directly adjacent to the building and the maximum internal travel distance within any flat does not exceed 15 m.

- Block G is accessible from the perimeter access road linked to the main site circulation route and is served by a dry riser inlet accessible from the appliance standing area.
- Block H is served from the eastern section of the development via the internal access road network and includes dry riser provision for firefighting operations.
- The bungalow units do not require dry risers and are directly served by the internal road network. Internal travel distances do not exceed 15 m.
- The CFB benefits from direct access from the site entrance and principal estate road and is provided with a dry-riser.

For Blocks A-E and G-H, dry riser inlets are located on secondary access elevations and are accessible from the designated fire appliance standing areas. A reversing bay allows a fire appliance to position within approximately 17.9 m hose distance of the dry riser inlets, with a maximum reversing distance of approximately 18.2 m. This arrangement accords with accepted Fire and Rescue Service operational practice for dry riser-fed firefighting operations.

The FRS access strategy has been developed to ensure that a pumping appliance can be positioned such that all points within each flat are within 45 m hose distance, measured along the route of the hose. For the bungalow units and Block F, where dry risers are not provided, the maximum internal flat travel distance does not exceed 15 m, enabling direct firefighting access from the appliance position.

The provision of dry risers has been determined based on the fire appliance hose distances and building configuration. Block F and the bungalow units can be served directly from appliance positions without the need for riser installations, as all points within the dwellings can be reached within the applicable firefighting hose distance limitations

The fire appliance access layout, produced by PRP architects, is shown below:



Figure 3 Fire Appliance Access

All proposed fire appliance access roads serving the development will be designed in accordance with the requirements for pumping appliances, as per table 13.1 ADB (1). Access routes provide a minimum carriageway width, turning facilities, clearance heights and load-bearing capacity suitable for Fire and Rescue Service vehicles. Vehicle tracking undertaken as part of the access strategy demonstrates that fire appliances can safely access, manoeuvre within and exit the site. Requirements are shown below.

Appliance Type	Minimum Width of Road Between Kerbs (m)	Minimum Width Between Gateways (m)	Minimum Turning Circle Between Kerbs (m)	Minimum Turning Circle Between Walls (m)	Minimum Clearance Height (m)	Minimum Carrying Capacity (tonnes)
Pump Appliance	3.7	3.1	16.8	19.2	3.7	12.5

Figure 4 Table 13.1 ADB(1) Typical Fire and Rescue Service Vehicle Access Route Specification

Given the low-rise nature of the development, fire service vehicle access has been assessed against pumping appliance requirements. High-reach appliance access is not considered necessary for this development

A swept path analysis has been carried out, and is available within transport Statement provided by TSHP, however an extract is provided below.



Figure 5 Turning Head Swept Path Analysis

Fire Mains and Hydrants – Flats

Fire hydrant provision for the development should be designed in accordance with BS 9990:2015 and agreed with the statutory water undertaker and Fire and Rescue Service.

The project will be constructed to ensure that:

- Fire hydrants are located such that no part of the development is more than 90 m from a hydrant when measured along a suitable hose route.
- Hydrants are positioned between 6 m and 90 m from the buildings they serve.
- Hydrants are located adjacent to fire appliance access routes and are readily accessible to attending fire crews.
- Hydrant locations are coordinated with appliance standing areas and dry riser inlet positions serving Blocks A-E and G-H.

- An adequate and reliable water supply is available to support firefighting operations, typically providing a minimum flow rate of 1,500 l/min (25 l/s) unless otherwise agreed with the Fire and Rescue Service.
- Hydrants are unobstructed, protected from damage where necessary, and clearly identified by approved signage and marker plates.

Development-Specific Requirements

- Blocks A-E and G-H are provided with dry risers and hydrants should be located to support efficient connection between the hydrant, pumping appliance and dry riser inlet.
- Block F and the bungalow units are not provided with dry risers; however, appliance access arrangements allow firefighters to reach all parts of the flats within the maximum permitted hose distance, with internal travel distances not exceeding 15 m.
- The proposed internal road network enables fire appliances to access all hydrant locations and building entrances throughout the site.

A fire mains water supply is agreed with water board, which will consist of an 180 mm diameter water main located at the site entrance, as shown below. The statutory water undertaker is required to provide a minimum pressure of 0.8 bar at the site boundary. Confirmation that the available flow and pressure are sufficient to support firefighting operations will be obtained during detailed design.

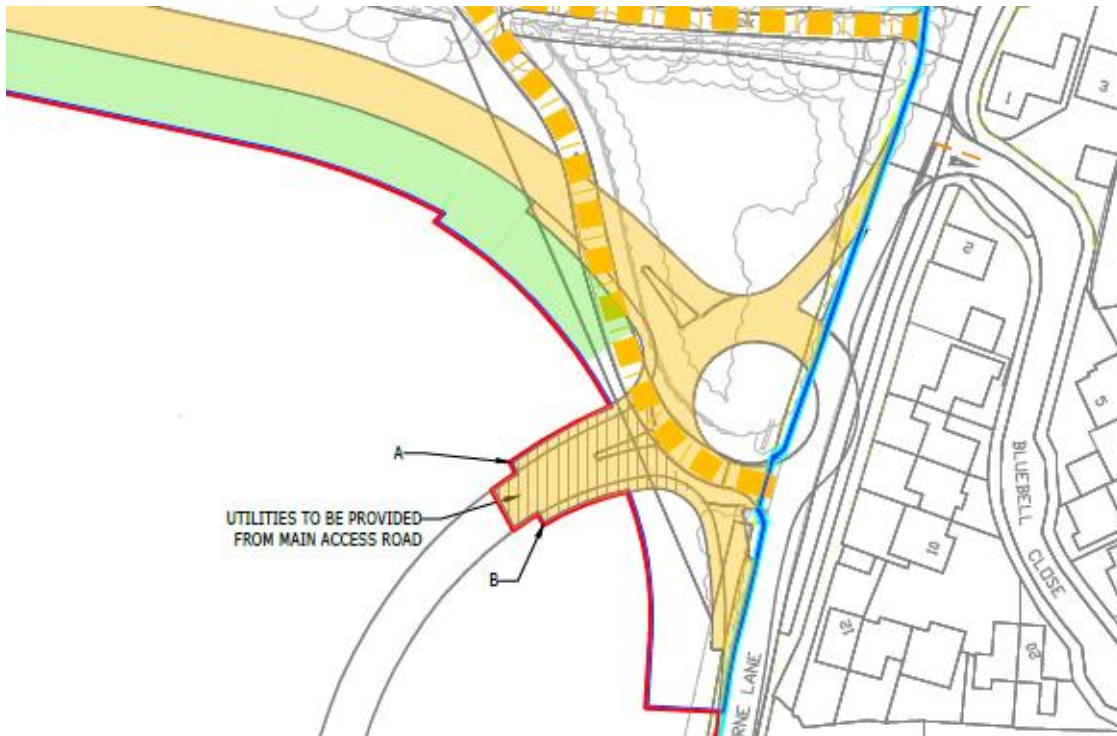


Figure 6 - fire mains supply with 180mm main pipe incoming at the site entrance

The proposed hydrant main will be extended throughout the development in conjunction with the site service infrastructure, as shown below, with unmetered branch connections provided to serve the required fire hydrants. The detailed hydrant layout will be coordinated with the proposed utility and service routes to ensure suitable coverage of all buildings and accessibility for firefighting operations



Figure 7 Proposed service routes

In accordance with BS 9990:2015 recommendations, the fire hydrant main should be configured as a ring main where there are a number of hydrants. Given the number of proposed hydrants serving the development, BS 9990 recommends that the hydrant main is configured as a ring main to provide resilience and continuity of supply. A ring main arrangement improves resilience by allowing water to reach hydrants from more than one direction, reducing the impact of isolated pipe failures or maintenance activities and providing greater reliability during firefighting operations. The MEP designer has proposed that unmetered branches are installed from the fire main to serve the development hydrants. The final pipework arrangements will be developed as part of the detailed engineering and utility design and agreed with the statutory water undertaker and Fire and Rescue Service.

Proposed fire hydrant locations are illustrated below and have been arranged to provide effective coverage of the development. The hydrant strategy has been designed such that all hydrants are located within 90 m of the next nearest hydrant, providing continuity of coverage across the site. In addition, all building entrances serving Blocks A-H and the Community Facility Building (CFB) are located within 6m-90 m of a fire hydrant,

measured along suitable access routes, The proposed hydrants are located adjacent to fire appliance access routes and within the siting distances recommended by BS 9990.

The proposed hydrant locations have been coordinated with the fire appliance access strategy, appliance standing areas and dry riser inlet positions to support efficient firefighting operations. Blocks A-E and G-H are provided with dry risers, with hydrants located to facilitate connection between the hydrant, pumping appliance and dry riser inlet. Block F and the bungalow units are served directly from the fire appliance access routes and do not require dry risers.

The final hydrant layout will be confirmed through detailed design in consultation with the statutory water undertaker and Fire and Rescue Service, with the fire main network configured in accordance with BS 9990 recommendations, including the use of a ring main arrangement where practicable.

Hydrant locations are shown on the Hydrant Strategy Plan below:



Figure 8 Hydrant Strategy Plan

6. Conclusion

The proposed development has been designed to provide suitable access and facilities for Fire and Rescue Service operations in accordance with the relevant principles of Approved Document B and BS 9990. Fire appliance access is provided to all buildings via the internal road network from Imberhorne Lane, with vehicle tracking demonstrating that fire appliances can safely enter, manoeuvre within and exit the site. Dedicated turning and reversing facilities are provided where required to support firefighting operations.

For Blocks A-E and G-H, dry riser provision has been incorporated and appliance standing positions have been coordinated to ensure that dry riser inlets can be reached within accepted operational hose distances. Block F and the bungalow units do not require dry risers, with internal flat travel distances limited to 15 m and appliance access arranged such that all points within the dwellings can be reached within the applicable firefighting hose distance requirements.

The proposed hydrant strategy is based on an incoming 180 mm water main at the site entrance, with the hydrant network to be extended throughout the development and coordinated with the proposed service infrastructure. Unmetered hydrant branches are proposed by the MEP designer, and the network will be configured in accordance with BS 9990 recommendations, including a ring main arrangement where practicable.

The proposed hydrant locations have been arranged such that all building entrances are located within 90 m of a fire hydrant and each hydrant is within 90 m of the next nearest hydrant, thereby providing effective firefighting coverage across the development. Hydrant locations have also been coordinated with fire appliance access routes, appliance standing areas and dry riser inlet positions.

Subject to detailed design and agreement with the statutory water undertaker and West Sussex Fire & Rescue Service, the proposed fire service access and hydrant arrangements demonstrate that the development can provide suitable access, water supplies and firefighting facilities to support effective emergency response throughout the site.



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