

Fire Safety Engineering – Technical Note

Review of Fire Mitigation Proposals – South Heywood (Phase 6)

Project Title:	Review of Fire Mitigation Proposals – South Heywood (Phase 6)
Project Number:	029032-469
Prepared by:	Athanasios Melandinos MEng(Hons) MSc PhD CEng MCIBSE MIFireE MIMechE
Email:	thanos@ampyro.co.uk
Phone:	07957 307853
Issue No:	01
Date:	17.02.2023

Type of building work(s):	Review of Fire Mitigation Proposals (Fire Service Access/Hydrants)
---------------------------	--

Comments based on:	BS 9999:2017
--------------------	--------------

The purpose of this Technical Note is to provide a technical review to support the proposals of the fire mitigation measures for the South Heywood - Phase 6 project. The project is being developed by Russell Homes who will be providing residential homes throughout the designated area.

Introduction:

The developer Russell Homes have instructed AM Pyro Ltd. to review the present fire mitigation measures that are in place i.e. location of fire hydrants and fire service access, for the South Heywood - Phase 6 project. The Local Planning Authority have issued requirements to Russell Homes and have stated that until there are suitable fire arrangements for fire and rescue services for the project, no construction works shall commence. The planning condition stating the reasons is shown below:

- 4 No above ground construction works shall take place until details providing for fire services access or suitable alternative mitigation measures are submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved details.

Reason: In order to ensure suitable arrangements for fire and rescue services for residents of the new development in accordance policy P3 of the adopted Rochdale Core Strategy.

Figure 1: Local Planning Authority Condition

To support the proposal of Russell Homes so that they meet the requirements of the planning condition, the available details of fire hydrant locations and fire service access that have been obtained will be assessed.

Fire Hydrants:

The appointed water supplier for the region, United Utilities, have provided details and information for the location. The local area of the detailed project currently has an existing water main that is located along Hareshill Road. The existing 1932 cast iron water main has several fire hydrants along the pipe network which would be available for the South Heywood area.

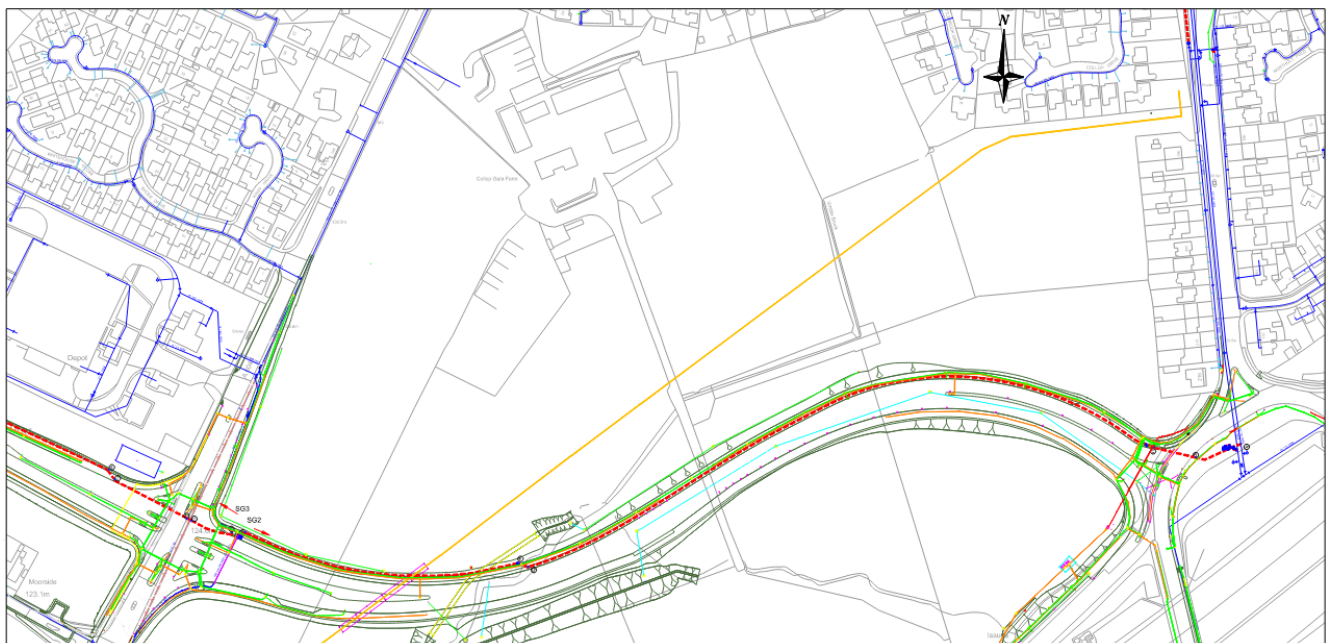
The following figure illustrates the existing fire hydrant locations along Hareshill Road and the connecting Manchester Road:



Figure 2: Existing Fire Hydrant Locations

During the course of the year, it has been confirmed that United Utilities will be installing a new water main in the area and if needed, this can also be utilised for the planned area.

The following figure shows the water mains network and the proposed locations of fire hydrants for the newly constructed link road, Queen Elizabeth II Way. This new link road connects Junction 19 of the M62 roundabout to Manchester Road (site location):



KEY					
Mains		Fittings		Services	
Legend	Description	Legend	Description	Legend	Description
	Opencut		Air Valve		Stop Tap & Service
	PIM		Prop Air Valve		Replace Ferrule & S/Tap
	Sipline		Meter		Meter & Service
	PU Lined		Prop Meter		Ferrule Only < 1.0
	Die Draw		Fire Hydrant		New Service > 1.0
	Thinwall		Prop Fire Hyd		Full Service Renewal
	Mole Plough		Washout		Remove Stop Tap Cover
	Directional Drill		Prop Washout		Remove Plug Tap Cover
	Abandoned		Shut Valve		Stop Tap Not Located
	Not in Scope		Prop Shut Valve		
	Trial Hole		Valve		
	Sample Cut		Prop Valve		
	Coupon		P.M.V		
	Tree		Remove FH Cover	UNLESS STATED OTHERWISE All services to be ferrule only connections	
	Method / Size Change		Remove WO Cover		
	Commercial Property		Remove SV Cover		

Figure 3: Junction 19 (M62 Roundabout) to Manchester Road

With the proposal to add a new water main and include additional fire hydrants to the project area, this will further enhance the mitigation measures and strengthen the arrangements for the fire and rescue services.

Fire Service Access:

The entry point to the project site is approached via Manchester Road which enables Fire Appliances to access all areas of the proposed site. The following figure illustrates the route and track layout for the Fire Service vehicles:



Figure 4: Fire Service Access – Track Layout

The standard guidance for Fire Service vehicle access recommends the following criteria for a pump appliance access route:

- Minimum width of road between kerbs: 3.7m;
- Minimum width of gateways: 3.1m;
- Minimum turning circle between kerbs: 16.8m;
- Minimum turning circle between walls: 19.2m;
- Minimum clearance height: 3.7m;
- Minimum carrying capacity: 12.5 tonnes;
- Maximum reversing distances of 20m for a pump appliance.

Project Construction:

Throughout the construction for the project and required works, all contractors and organisations who will be undertaking work on the site location will have to adhere to the Construction (Design & Management) Regulations (CDM 2015). The regulation applies to all building and construction work which includes new build projects.

The Government Legislation (Part 4 – General Requirements) sets out the requirements for fire detection and fire-fighting arrangements for all building and construction work:

Fire detection and fire-fighting

32.—(1) Where necessary in the interests of the health or safety of a person on a construction site, suitable and sufficient fire-fighting equipment and fire detection and alarm systems must be provided and located in suitable places.

(2) The matters in regulation 30(2) must be taken into account when making provision under paragraph (1).

(3) Fire-fighting equipment or fire detection and alarm systems must be examined and tested at suitable intervals and properly maintained.

(4) Fire-fighting equipment which is not designed to come into use automatically must be easily accessible.

(5) Each person at work on a construction site must, so far as is reasonably practicable, be instructed in the correct use of fire-fighting equipment which it may be necessary for the person to use.

(6) Where a work activity may give rise to a particular risk of fire, a person must not carry out work unless suitably instructed.

(7) Fire-fighting equipment must be indicated by suitable signs.

Figure 4: Government Legislation Part 4 – Clause 32

With the CDM regulation that must be complied with and the directive of fire-fighting arrangements for construction work, this will further alleviate the onsite fire risk and provide suitable support to the fire and rescue services while the project development is ongoing.

Conclusion:

This technical note relates to the proposal details of the fire service access and suitable mitigation measures i.e. fire hydrants on site, that are currently available for the new residential development of South Heywood - Phase 6.

The availability of several existing fire hydrants along Hareshill Road and Manchester Road will provide adequate water supply for the fire and rescue services and the proposed development. To further add, the introduction of a new water main by United Utilities will have a positive contribution to the current mitigation measures that are in place. The fire tender vehicle access route is achieved via Manchester Road which allows the fire service personnel access to all buildings within the proposed site. The accessibility to the internal areas of the project site will be of benefit and further assist the emergency services.