

Guild Living Epsom. Epsom. Guild.

FIRE ENGINEERING

STAGE 2 REPORT

DRAFT

REVISION 00 – 13 DECEMBER 2019



STAGE 2

Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
00	2019-12-13	Draft issue for comment	CR	AC	MH

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Contents.

Audit sheet.	2
1. Introduction.	5
1.2 Development description	6
1.3 Types of uses	6
1.4 Legal and General Requirements.	7
2. Guild Living Residences and Key Worker Apartments.	8
2.1 B1 – Means of warning and escape	8
2.2 B2 – Internal fire spread (linings)	8
2.3 B3 – Internal fire spread (structure)	11
2.4 B4 – External fire spread	11
2.5 B5 – Access and facilities for the Fire Service	11
3. Guild Care Residences.	12
4. Guild Care Suites.	12
4.1 B1 – Means of warning and escape – fire engineered solution	12
4.2 B2 – Internal fire spread (linings)	13
4.3 B3 – Internal fire spread (structure)	13
4.4 B4 – External fire spread	13
4.5 B5 – Access and facilities for the Fire Service	13
5. Ancillary Accommodation.	14
5.1 B1 – Means of warning and escape	14
5.2 B2 – Internal fire spread (linings)	14
5.3 B3 – Internal fire spread (structure)	15
5.4 B4 – External fire spread	15
5.5 B5 – Access and facilities for the fire service	15
7. Commercial Accommodation.	16
7.1 B1 – Means of warning and escape	16
7.2 B2 – Internal fire spread (linings)	16
7.3 B3 – Internal fire spread (structure)	16
7.4 B4 – External fire spread	16
7.5 B5 – Access and facilities for the fire service	16
8. Summary.	17
8.1 For development in the next design stage	17

9. References.	18
10. Appendix A – Comments on GAs.	19
11. Appendix B – External Fire Spread Requirements.	20
11.1 Space separation analysis	20
11.2 External wall design	20

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1. Introduction.

The purpose of this report is to provide a RIBA Stage 2 outline Fire Safety Strategy for the Guild Living development in Epsom, Surrey. This report should be read in conjunction with the architectural plans produced by Marchese Partners, shown in Table 1. These drawings are provided in Appendix A with comments in respect of this report.

Where not explicitly described within this report, it is assumed that, in all other respects, the building will be designed to comply with the relevant sections in BS 9991:2015 [1], BS 9999:2017 [2] and Firecode HTM 05-02 2015 [3], or the supporting British Standards referenced therein. The report will outline the current guidance and proposed strategy for the development.

The principles within the report are subject to, and approval by, the Statutory Authorities, however this report is not suitable for Building Regulations submission.

Table 1: Architectural plans.

Drawing name	Drawing number	Date	Revision
Level 0 – Ground Floor	A2.01	22/11/2019	M
Level 1	A2.02	22/11/2019	M
Level 2	A2.03	22/11/2019	M
Level 3	A2.04	22/11/2019	M
Level 4	A2.05	22/11/2019	M
Level 5 – 8	A2.06	22/11/2019	M
Roof Level	A2.07	22/11/2019	M
Elevation 1-1	A3.01	22/11/2019	B
Elevation 2-2	A3.02	22/11/2019	B
Elevation 3-3	A3.03	22/11/2019	B
Elevation 4-4	A3.04	22/11/2019	B
Elevation 5-5	A3.05	22/11/2019	B
Elevation 6-6	A3.06	22/11/2019	B
Elevation 7-7 / 8-8	A3.07	22/11/2019	B
Elevation 9-9 / 10-10	A3.08	22/11/2019	B
Elevation 11-11	A3.09	22/11/2019	B
Site Sections	A4.01	22/11/2019	A
Building Section AA' / BB'	A4.02	22/11/2019	A
Building Section CC' / DD'	A4.03	22/11/2019	A
Building Section EE'	A4.04	22/11/2019	A

1.2 Development description

The Guild Living development in Epsom consists of two buildings, each of which are split into sections of different heights, as shown in Figure 1. The development will provide a variety of living accommodation for people with different and changing needs. Independent residential living will be provided as well as supported living and 24-hour care facilities. There will be on site ancillary accommodation including swimming pool, restaurant and lounge, as well as some commercial units such as childcare and retail.



Figure 1: Site Layout.

1.3 Types of uses

1.3.1 Residential accommodation types

This guidance covers the following accommodation types:

- Guild Living Residences (GLR) - independent living.
- Guild Care Residences (GCR) – independent living with support and care services.
- Guild Care Suites (GCS) – dependent occupants in care.
- Keyworker Apartments – independent living as per GLR.

1.3.1.1 Guild Living Residences (GLR) / Keyworker Apartments

The GLR residences will be long-term or adapted homes for residents who are capable of independent living and evacuation. When residents in GLR are no longer capable of independent living and evacuation, they will move to another residency type within the Guild Living facility.

The keyworker apartments are apartments for staff of the guild living development or the local hospital and are for residents who are independent of the rest of the development.

The fire strategy design for the GLR and keyworker apartments should therefore be based on a stay-put strategy, following current residential fire strategy design principles.

Residences and apartments in this category will be designed in accordance with the guidance in BS 9991:2015.

1.3.1.2 Guild Care Residences (GCR)

These residences will provide specialised housing for people who require support and care services. This may include sheltered / assisted living / extra-care facilities where residents are living independently with managed on-site care and support services, for example meals, domestic help, assisted bathing, occasional nurse visits.

It cannot be assumed that occupants are capable of independent escape, therefore the fire strategy should be developed on the basis of assisted evacuation with notification given to an on-site warden on activation of any fire alarm.

Where these residences have access to the care suites (GCS), they may need to follow the care suite guidance set out below; however, if the access between the GCR and GCS sections is only through the shared core lobby then each can be treated separately.

Accommodation in this category will be designed in accordance with BS 9991 including Section 8 'Means of escape from specialized housing'.

1.3.1.3 Guild Care Suites (GCS)

The care suites will house occupants who are dependent and require 24 hour nursing care and attendance.

The occupants cannot be assumed to be capable of independent evacuation, therefore the fire strategy will need to be developed on the basis of assisted progressive horizontal evacuation.

Fire strategies for accommodation in this category will be based on the guidance in HTM 05-02, and with fire engineered solutions as allowed in HTM 05-2 paragraphs 1.20 and 1.21. The guidance for occupants with mental health disabilities (such as dementia) will not be followed as the GCS are not a mental health facility.

1.3.2 Ancillary accommodation

The ancillary accommodation is on the Ground and first floor levels and is split between both buildings. It is understood that all residents will have access to the ancillary accommodation on the site. The ancillary accommodation will be designed in accordance with BS 9991:2015 and BS 9999:2017.

1.3.3 Commercial units

The commercial units will be treated independently of the rest of the development and will be designed in accordance with BS 9999:2017. Table 2 outlines the risk profiles adopted for each unit type.

Table 2: Commercial risk profiles.

Unit type	Occupancy type	Fire Growth Rate	Sprinklers?	Risk Profile
Childcare	Awake and unfamiliar (B)	Medium (2)	Yes	B1
Café / Retail	Awake and unfamiliar (B)	Fast (3)	Yes	B2

Childcare facilities should be situated adjacent to an external wall on the floor of discharge and should not have fewer than two exits.

1.4 Legal and General Requirements.

The Legal & General Real Assets 'Materials Selection and Specification Guidance' shall be applied in addition to the standards described herein. The Materials Selection and Specification Guidance document sets down particular requirements covering (but not limited to) the following topics:

- Building envelope design
- Level of detail required for fire strategies and design specifications (to prevent contractor substitution of products)
- Sprinkler protection
- Sprinkler pipework materials
- The document states that *"Fire engineering to facilitate the use of hazardous or substandard materials or to reduce the installation of firefighting equipment, fire compartmentation, fire resistance or fire controls is not permitted."*

This fire strategy and any future revisions will comply with the Legal and General guidance.

2. Guild Living Residences and Key Worker Apartments.

2.1 B1 – Means of warning and escape

2.1.1 Residence internal layout

- Category LD1 automatic fire detection and alarm system in bedrooms.
- Flat alarm systems should be linked to an on-site warden.
- Remain in place (stay-put) evacuation strategy in apartments.
- Flats with protected entrance halls to have maximum of 9m travel distance in the protected entrance hall.
- Open plan flats to have maximum dimensions of 16m x 12m if the kitchen is enclosed, and 8m x 4m if kitchen is open. Apartments larger than this will require a fire engineered justification.

2.1.2 Common corridor and stair layout

- Category L5 automatic fire detection and alarm system in common corridors to activate smoke venting systems. The detectors will not cause warning signals to the living units but will be registered to the on-site warden.
- Smoke ventilation should be achieved through natural or passive means which does not require mechanical smoke extract.
- Where multiple routes are available for escape as shown in Appendix A, then smoke ventilation requirements depend on the location of the stairs, as shown in Figure 2.
- Where multiple routes are available for escape as shown in Appendix A, then smoke ventilation requirements depend on the location of the stairs, as shown in Figure 3.
- The stairs should be provided with a 1.0m² free area automatic opening vent (AOV) at their head and the stairs should discharge directly to the outside at Ground floor level.
- No disabled refuges are proposed for this residential type.

2.2 B2 – Internal fire spread (linings)

Refer to section 20 of BS 9991 for further information on the below:

Table 3: Internal linings.

Location	European Class
Small rooms having an area less than 4m ²	D-s3, d2
Other rooms	C-s3, d2
Circulation spaces within dwellings	C-s3, d2
Other circulation spaces	B-s3, d2

Figure 6 Common escape routes in single stair buildings with a floor level more than 11 m above ground

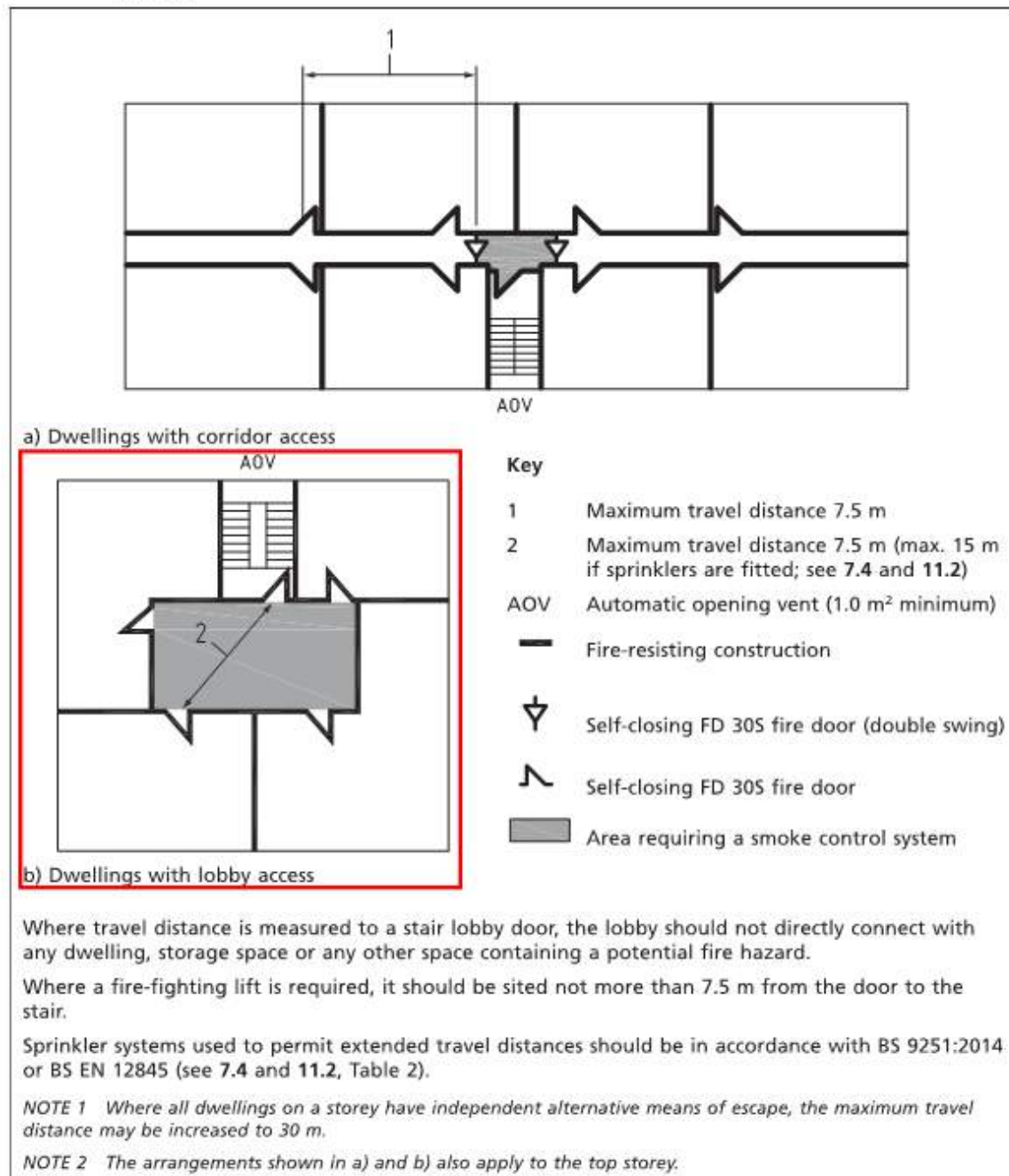


Figure 2: Common corridors with single escape stair (BS 9991 Figure 6b).

Figure 7 Common escape routes in multi stair buildings

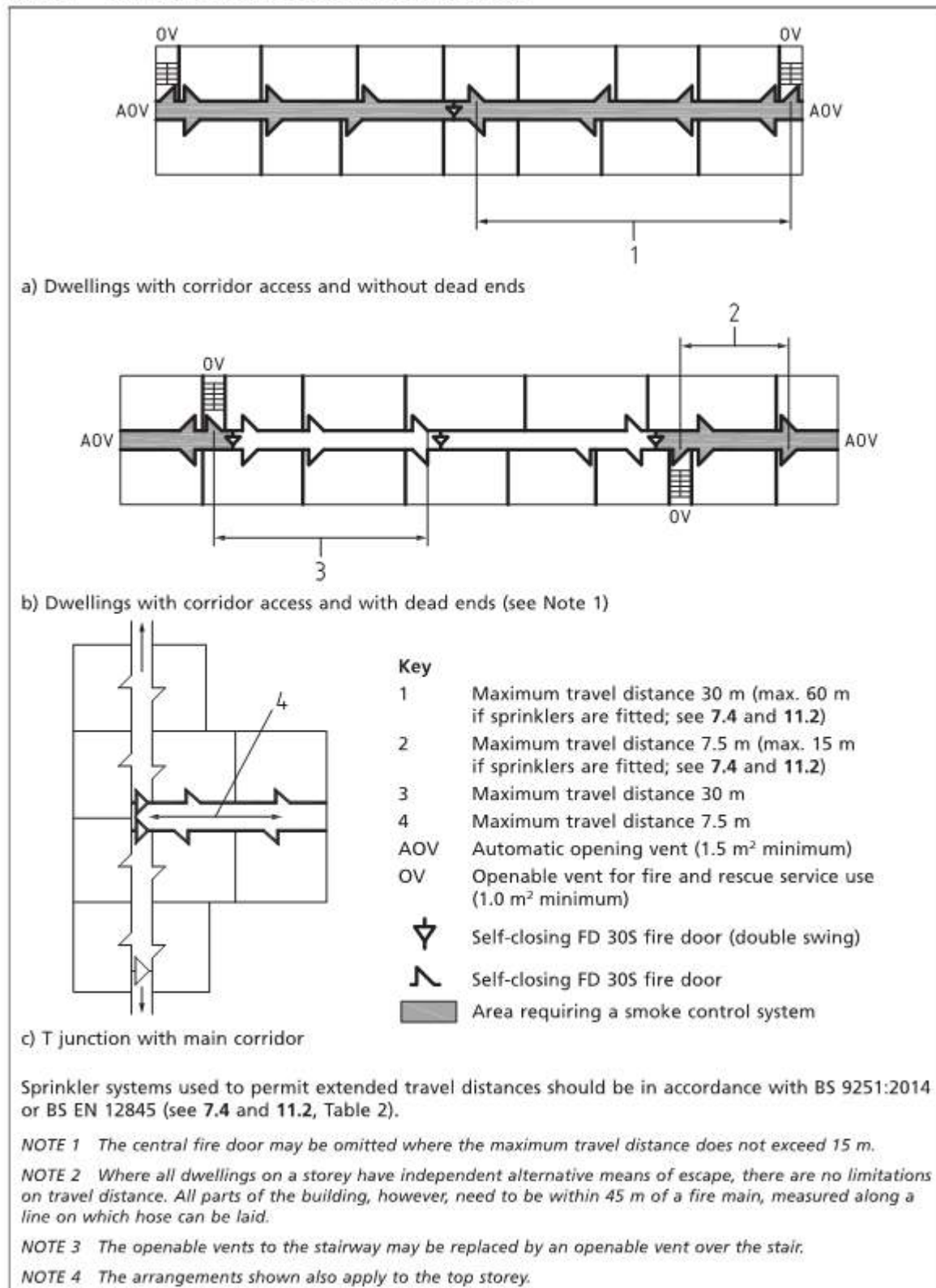


Figure 3: Common corridors with multiple escape stairs (BS 9991 Figure 7).

2.3 B3 – Internal fire spread (structure)

- Residential sprinklers (to BS 9251:2014 [4]) will be included.
- Elements of structure to achieve 60 minutes fire resistance (integrity and insulation) as all buildings less than 30m in height.
- Compartment floors at all levels with fire resistance equivalent to the elements of structure (60 minutes).
- Apartments to be enclosed in 60 minutes fire resistance with FD30S entrance doors.
- Firefighting shafts to be enclosed in 120 minutes fire resistance with FD60S stair doors.
- Any shafts and risers that pass through the compartment floors are to be enclosed in equivalent levels of fire resistance (60 minutes) with FD30S doors. Smoke shafts to have doors equivalent to the walls (FD60).
- The double height space above the reception area should be enclosed in fire resisting construction equivalent to the elements of structure (60 minutes integrity and insulation). A fire engineering case may be developed for fire integrity only glazed screens during the Stage 3 based on an assessment of smoke temperatures, risk of glass breakage and tenability of the escape route (radiation from glass surfaces).

2.4 B4 – External fire spread

Refer to Appendix B for external fire spread requirements.

2.5 B5 – Access and facilities for the Fire Service

- A firefighting shaft is required where the building height is 18m or more, as shown in Figure 1. This should contain:
 - Firefighting stair (min 1100mm wide) with AOV at head;
 - Firefighting lift;
 - Rising fire main (dry riser); and
 - Smoke ventilated lobby (common corridor).
- Where the building is less than 18m in height (such as the key worker apartments and other blocks as indicated in Figure 1) it is recommended to provide a dry riser in the stair, but no firefighting lift is required.
- Vehicle access for pump appliance to within 18m of the rising main inlet on the building façade adjacent to the entrance of the building.
- Dry fire mains should have outlets in the stair at every level including Ground. At ground level the outlet should be within 18m of the inlet.
- Firefighting hose laying distance to furthest point in apartments to be within 60m of the riser main outlet.
- Figure 4 provides the typical measurements of a fire service vehicle; however, these should be confirmed with the local fire service. Note the maximum reversing distance of a firefighting vehicle is 20m.
- Fire hydrants: where the building is being erected more than 100m from an existing fire-hydrant, additional hydrants should be provided within 90m of the dry fire main inlets.

Table 20 Example of measurements for a typical vehicle access route

Appliance type	Min. width of road between kerbs	Min. width of gateways	Min. turning circle between kerbs	Min. turning circle between walls	Min. clearance height	Min. carrying capacity
	m	m	m	m	m	t
Pump	3.7	3.1	16.8	19.2	3.7	12.5
High-reach ^{A)}	3.7	3.1	26.0	29.0	4.0	17.0

^{A)} Because the weight of high-reach appliances is distributed over a number of axles, their infrequent use of a carriageway or route designed to 12.5 t is not likely to cause damage. It would therefore be reasonable to design the road base to 12.5 t, although structures such as bridges should have the full 17 t capacity.

Figure 4: Fire Service typical vehicular requirements (Table 20 of BS 9999:2017 as referred to in BS 9991:2015)

3. Guild Care Residences.

The GCR and the GCS are separated, with shared access to the ventilated lobby only for GCS terrace users. Therefore, the GCR will be designed in accordance with BS 9991 as per the GLR, with the addition BS 9991 Section 8 'Means of escape from specialized housing' as follows:

- The maximum travel distance inside the apartments should be 9m.
- Common corridors should be sub-divided by 30 minutes fire resistance and FD30S fire doors every 7.5m.
- Evacuation lifts with refuges are recommended to be provided to allow people to evacuate independently or with assistance.

Should the GCR become linked to care suites (GCS), the GCR should be updated to follow the care suite guidance set out below.

4. Guild Care Suites.

The design of the Epsom development buildings is linear and therefore full compliance with the HTM 05-02 guidance is not practicable. A high-level fire engineered solution has been developed which generally follows HTM 05-02 guidance principles as follows.

4.1 B1 – Means of warning and escape – fire engineered solution

- Category L1 automatic fire detection. External spaces should be provided with beacons and sounders.
- A progressive horizontal evacuation strategy.
- Each Guild Care Suite floor should be separated into a minimum of three compartments with each a maximum size of approximately 500m² and having a maximum of 20 beds.
- Each compartment should be able to hold all of the occupants of the two largest compartments including any associated equipment necessary. (Note that this is an enhancement on the HTM 05-02 guidance.)
- Compartments at the remote ends of the block will be connected to only one other compartment (which departs from the HTM 05-02 guidance). To compensate, such compartments should each be provided with a stair and an evacuation lift (with associated refuge point). This will allow each compartment two alternative routes of escape. No stairs or lifts are required in the compartments with two horizontal means of escape routes; however, one of the compartments does have a stair as shown in Appendix A.
 - The stair and evacuation lift should be housed in a core with a common, ventilated lobby, sized suitably for manoeuvring residents to the evacuation lift. The stairs and evacuation lift can be shared with the GCR and the GLR floors. On the GCR and GLR floors the stair lobby is formed by the common corridor.
 - The stairs will not be sized for mattress evacuation since it is assumed that all occupants will be evacuated on foot or in wheel chairs.
- External terraces accessible to patients should have access into at least two separate compartments. This is currently provided with the third exit into the ventilated lobby of the GCR.
- The maximum travel distance before there is a choice of escape routes should be no more than 15m.
- The maximum travel distance from any point within a compartment should be no more than 60m to a stairway/final exit, as illustrated in Figure 2.
- Minimum width of corridors recommended in HTM 05-02 will not be applied since normal movement of occupants is expected to be on foot or in wheel chairs rather than bed movement, as would be typical in hospitals. Instead, the escape route width guidance in BS 9999 will be applied.
- All escape stairways should discharge directly to the outside or by way of a protected corridor. Connections between the stair exit passageway and ground floor rooms should be provided with a ventilated lobby.
- Consideration should be given in the management strategy to external provisions that may be required on the Ground floor if occupants should require to discharge outside.
- The kitchen area should be in a separate compartment but not in a remote-end compartment, as per the current design. The facilities should be electric and should be linked to detection to cut off upon activation of the detection system.

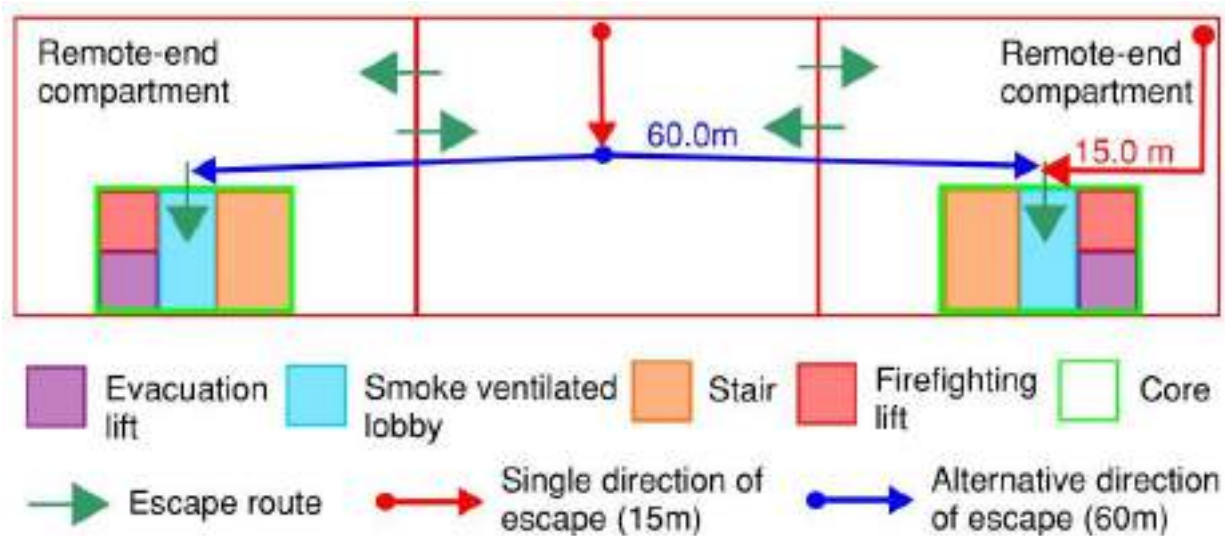


Figure 5: Fire engineered solution for Guild Care Suites

4.2 B2 – Internal fire spread (linings)

Location	European Class
Small rooms having an area not more than 4m ²	C-s3, d2
Circulation spaces	B-s3, d2
Other rooms	B-s3, d2

4.3 B3 – Internal fire spread (structure)

- Sprinklers are required. As the building has commercial sprinklers in ancillary areas, sprinklers should be provided to the GCS, designed in accordance with BS EN 12845:2015 [5].
- Elements of structure to achieve 60 minutes fire resistance (integrity and insulation). Note: the requirements of BS 9991 are more onerous than HTM and therefore these should be followed:
- Compartment floors at all levels with fire resistance equal to the elements of structure.
- Compartment walls should be separated by 60 minutes fire resistance (reduced to 30 minutes with sprinkler provision).
- Fire hazard rooms should be enclosed with 30 minutes fire resisting walls and FD30S doors including but not limited to: cleaners' rooms, kitchens, linen stores, laundry, disposal rooms, staff rooms and stores.
- Firefighting shafts to be enclosed in 120 minutes fire resistance with FD60S stair doors. Walls between elements of firefighting shaft to be 60 minutes with FD30S (FD30 lift door).
- Any shafts and risers that pass through the compartment floors are to be enclosed in equivalent levels of fire resistance (60 minutes) with FD30S doors. Smoke shafts to have doors equivalent to the walls (FD60).
- Furniture in the communal areas of the GCS should comply with the performance recommendations for hospital furniture in HTM 05-03: 'Operational provisions Part C: Textiles and furnishings.'

4.4 B4 – External fire spread

Refer to Appendix B for external fire spread requirements.

4.5 B5 – Access and facilities for the Fire Service

- As the stair cores are shared with the GLR, firefighting shafts are provided to the GCS accommodation.

- The firefighting shaft should be as per the GLR except that the ventilated lobby is not the common corridor, instead a smoke ventilated lobby should be provided which the lift and stair both open into, and the dry riser outlet should be housed in the stair main landing.
- All other aspects should follow the guidance for GLR set out in section 2.5 of this report.

5. Ancillary Accommodation.

5.1 B1 – Means of warning and escape

- Category L1 automatic fire detection and alarm system in ancillary areas.
- External spaces should be provided with beacons and sounders.
- Simultaneous evacuation strategy in all ancillary areas; however, each building will be treated separately.
- Ground floor ancillary accommodation should escape directly to the outside. Sufficient doors should be provided to meet travel distance and occupancy requirements.
- On the upper floors the stair can be shared with residential areas if a ventilated lobby/common corridor is provided. The stair should be sized according to the desired capacity.
- Disabled refuges or evacuation lifts should be provided where step free egress is not available. These should be in the protected stair lobby.
- Travel distances in ancillary areas depend on the risk of the contents – refer to Figure 6 (Table 14 of BS 9991).

Table 14 Maximum travel distances in areas of ancillary accommodation

Ancillary accommodation	Maximum part of travel distance within the room or area		Maximum travel distance to the nearest storey exit	
	Escape in one direction only	Escape in more than one direction, in directions 45° or more apart	Escape in one direction only	Escape in more than one direction, in directions 45° or more apart
	m	m	m	m
1. Engineering services installation rooms				
2. Boiler rooms	9	18	18	45 ^{A)}
3. Fuel storage areas				
4. Transformer, battery and switchgear rooms				
5. Communal lounges and common amenity areas	18	45 ^{A)}	18	45 ^{A)}
6. Covered car parks	18	45 ^{A)}	18	45 ^{A)}

^{A)} This may include up to 18 m with escape in one direction only.

Figure 6: Ancillary accommodation travel distances (Table 14 of BS 9991).

5.2 B2 – Internal fire spread (linings)

Refer to section 20 of BS 9991 for further information on the below:

Table 4: Internal linings.

Location	European Class
Small rooms having an area less than 4m ²	D-s3, d2
Other rooms	C-s3, d2
Circulation spaces within dwellings	C-s3, d2
Other circulation spaces	B-s3, d2

5.3 B3 – Internal fire spread (structure)

- Elements of structure to achieve 60 minutes fire resistance (integrity and insulation).
- Compartment floors at all levels with fire resistance equal to the elements of structure (60 minutes).
- Ancillary accommodation to be enclosed in fire resisting construction depending on the risk of contents as shown in Figure 7 (Table 15 of BS 9991).

Table 15 Structural fire protection of areas of ancillary accommodation

Ancillary accommodation	Structural fire protection
	Separation of area of ancillary accommodation from other parts of the building by:
1. Communal lounges	Robust construction having a minimum standard of fire resistance of 30 min ^{A1}
2. Transformer, switchgear and battery rooms for low voltage or extra low voltage equipment	
3. Engineering services installation rooms other than those covered by items 2 and 6 to 8 inclusive	Robust construction having a minimum standard of fire resistance of 60 min ^{A1}
4. Refuse chutes and refuse storage areas	
5. Covered car parks within or adjoining the building and not greater than 450 m ² in area	
6. Engineering services installation rooms, housing fixed internal combustion engines	Robust construction having a minimum standard of fire resistance equivalent to that required for the elements of construction and in no case less than 60 min ^{A1}
7. Boiler rooms and fuel storage spaces	
8. Transformer and switchgear rooms for equipment above low voltage	
9. Covered car parks within or adjoining the building and greater than 450 m ² in area	

^{A1} Any openings in the required construction should be protected by doors having a similar standard of fire resistance and capable of resisting the passage of smoke at ambient temperature.

Figure 7: Ancillary accommodation fire resisting enclosures.

- Firefighting shafts to be enclosed in 120 minutes fire resistance with FD60S stair doors. Walls between elements of firefighting shaft to be 60 minutes with FD30S (FD30 lift door).
- Any shafts and risers that pass through the compartment floors are to be enclosed in equivalent levels of fire resistance (60 minutes) with FD30S doors. Smoke shafts to have doors equivalent to the walls (FD60).
- Car park stacker systems should have sprinklers to BS EN 12845 with intermediate sprinklers at each level of the stacked parking and ancillary accommodation to have sprinkler protection to BS 9251.

5.4 B4 – External fire spread

Refer to Appendix B for external fire spread requirements.

5.5 B5 – Access and facilities for the fire service

- Ancillary accommodation on the ground floor should be accessed directly from the outside, with the hose laying distance of 60m being achieved from the fire service vehicle.
- Ancillary accommodation on the upper floors should be accessed from the residential firefighting shaft (shared with apartments accommodation), except that the ventilated lobby is not the common corridor, instead a smoke ventilated lobby should be provided which the lift and stair both open into, and the dry riser outlet should be housed in the stair main landing.
- All other aspects should follow the guidance for GLR set out in section 2.5 of this report.
- The car stacker system should be provided with a smoke ventilation system designed in accordance with BS 7346-7 [6] and having the objective of clearing smoke during a fire and/or after a fire has been suppressed. This could be a mechanical or a natural system.

7. Commercial Accommodation.

7.1 B1 – Means of warning and escape

- Category L1 automatic fire detection and alarm system in commercial units.
- Simultaneous evacuation strategy in each retail unit – there will be no interconnection between units.
- Travel distances in commercial units depend on the risk profile. Where the layout is unknown, 2/3 of the following distances should be taken as the maximum:
 - B1 (Childcare) : 24m single direction / 60m with alternative
 - B2 (Cafe / Retail) : 20m single direction / 50m with alternative
- Step free egress should be provided otherwise protected disabled refuges should be provided.
- All commercial units are single storey, therefore sufficient exits should be provided to meet travel distance and occupancy requirements:
 - Single exit limits capacity to 60 people.
 - An effective width of 500mm is available for capacity calculations for doors less than 1050mm wide.
 - B1 (childcare) : 3.06mm per person exit width.
 - B2 (Cafe / Retail) : 3.485mm per person exit width.
- Childcare should also have at least two exits. It is recommended that there is no interconnection between residential areas and childcare to avoid clashing escape flows. Sufficient management or provisions should be in place when children discharge to the outside.

7.2 B2 – Internal fire spread (linings)

Refer to section 34 of BS 9999 for further information on the below:

Table 5: Internal linings.

Location	European Class
Small rooms having an area not exceeding 30m ²	D-s3, d2
Other rooms	C-s3, d2

7.3 B3 – Internal fire spread (structure)

- Elements of structure to achieve 60 minutes fire resistance (integrity and insulation).
- Compartment floors and walls to be provided between commercial units, and between commercial units and residential accommodation. To achieve fire resistance equal to the elements of structure (60 minutes).
- Within the units, any storage rooms, kitchens and changing rooms are to be enclosed in 30 minutes fire resistance with FD30S fire doors.
- Each commercial unit should have sprinklers to BS EN 12845.

7.4 B4 – External fire spread

Refer to Appendix B for external fire spread requirements.

7.5 B5 – Access and facilities for the fire service

- The units will be accessed directly from the outside. Access should be provided to within 45m of every point of the unit or to 15% of the perimeter, whichever is less onerous.
- Every elevation to which vehicle access is provided should have a suitable door giving access with no more than 60m between each door and/or the end of the elevation.
- Vehicle access should be provided as per section 2.5 of this report.

8. Summary.

The Guild Living development in Epsom houses several different occupancy types: independent living, supporting living, 24-hour care, shared ancillary accommodation and separate commercial units. This report has considered the different levels of dependency of each occupancy type when determining which guidance to follow with respect to the functional requirements of B1 - B5. The information outlined herein should allow the development of the project into a Stage 3 scheme suitable for Regulatory Approval. This Stage 2 report is not suitable for a Building Regulations application. The following provides a summary of key features of the development:

- Automatic detection and alarm systems throughout the development.
- Commercial or residential sprinklers provided throughout all areas.
- Non-combustible external walls.
- 60 minutes fire resistance to the elements of structure.
- Firefighting shafts provided to all residential accommodation except the key worker apartments which are on the Ground - second floors only.

8.1 For development in the next design stage

- Detailed design of the GCS should be undertaken to ensure fire engineered solution is followed and shared fire service access routes are suitable.
- Car stacker design to be developed.
- Commercial units, particularly childcare, and ancillary accommodation are to be further developed.

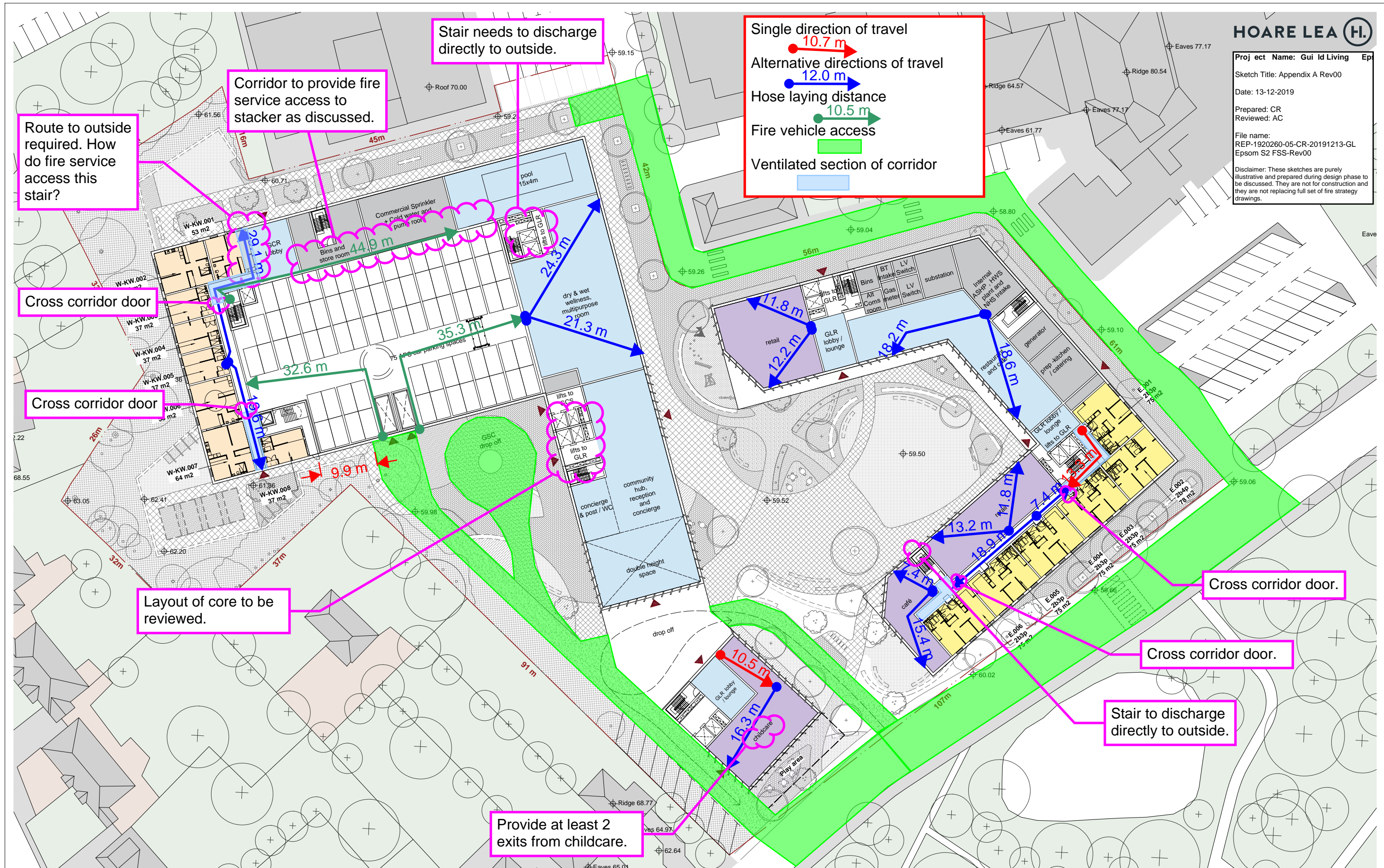
9. References.

- [1] British Standards Institution (BSI), *BS 9991 : Fire safety in the design, management and use of residential buildings - Code of practice*. BSI Global, 2015.
- [2] *BS 9999 : Fire Safety in the Design, Management and use of Buildings - Code of Practice*. British Standards Institution, 2017.
- [3] Department of Health, *Health Technical Memorandum HTM 05-02 : Firecode - Guidance in support of functional provisions (Fire safety in the design of healthcare premises)*. 2015.
- [4] British Standards Institution (BSI), *BS 9251 : Sprinkler systems for residential and domestic occupancies. Code of practice*. BSI Global, 2014.
- [5] British Standards Institution (BSI), *BS EN 12845 : Fixed firefighting system - Automatic sprinkler systems - Design, installation and maintenance*. BSI Global, 2015.
- [6] British Standards Institution (BSI), *BS 7346 - 7 : Code of practice on functional recommendations and calculation methods for smoke and heat control systems for covered car parks*. BSI Global, 2013.

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10. Appendix A – Comments on GAs.

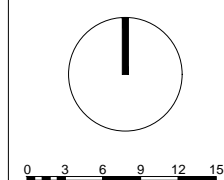
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DATE	DESCRIPTION	BY		DATE	DESCRIPTION	BY	
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02.05.19	CD - OPTION 1 - ISSUED FOR COORDINATION	BO		14.11.19	CD - OPTION 7	AM	
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25.06.19	CD - OPTION 1 - FOR INFORMATION	PL					
18.07.19	CD - OPTION 1 - 24 KEY-WORKER UNITS	AM					
30.07.19	CD - OPTION 2	PL					
16.08.19	CD - OPTION 3	PL					
19.09.19	CD - OPTION 4	PL					
15.10.19	CD - OPTION 4 - FIRE AND MEP	PL					
22.10.19	CD - OPTION 5 - HEIGHT REDUCTION	PL					

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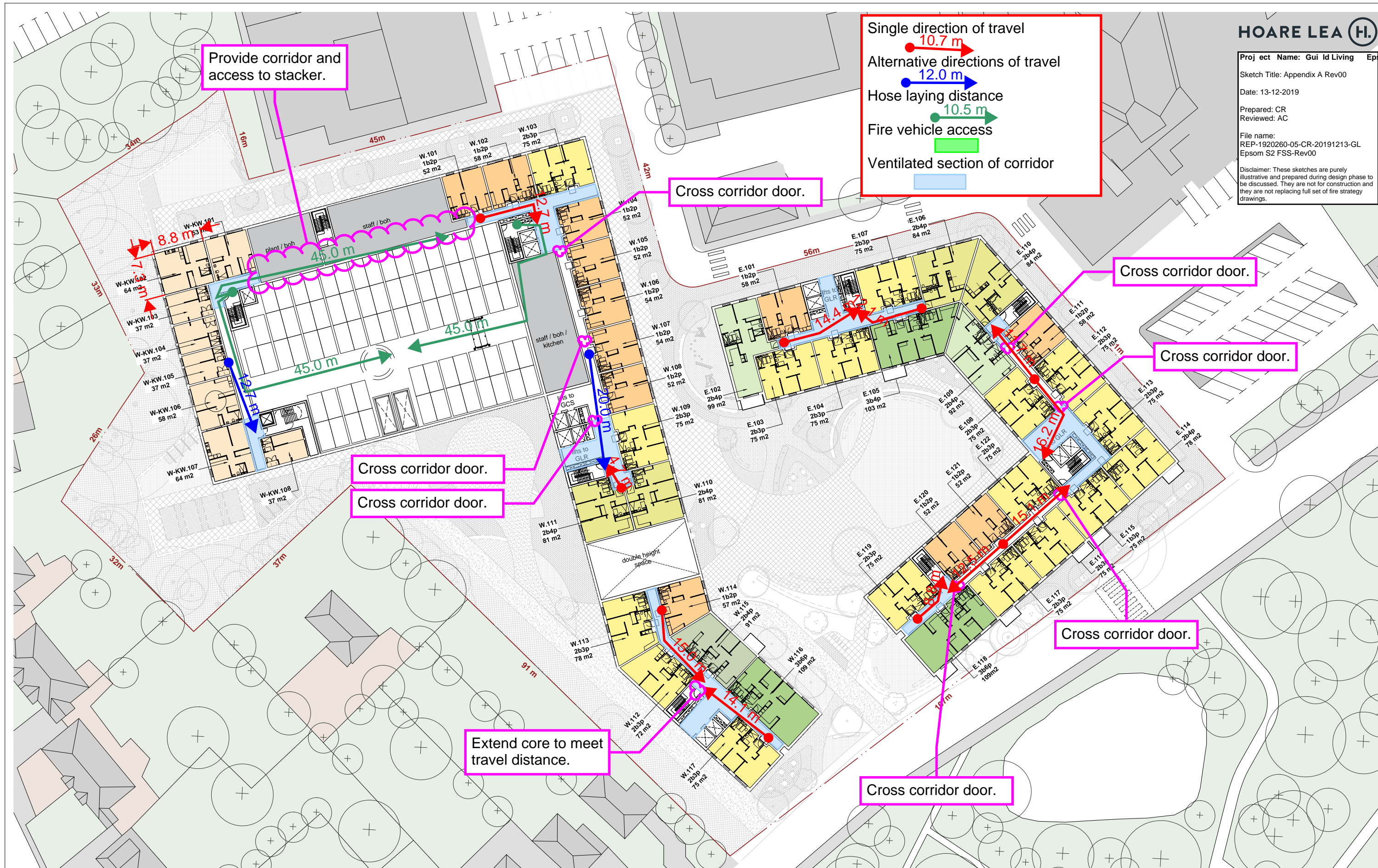
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CLIENT		DRAWING TITLE	
GUILD LIVING		LEVEL 0 - GROUND FLOOR	
PROJECT		SCALE	DATE
GUILD LIVING AT EPSOM		1:300 @ A1 1:600 @ A3	22.11.19
JOB		DRAWN	CHECKED
18120		AM	DR
DRAWING		REVISION	
A2.01		M	

DRAWING TITLE			
LEVEL 0 - GROUND FLOOR			
SCALE	DATE	DRAWN	CHECKED
1:300 @ A1 1:600 @ A3	22.11.19	AM	DR
JOB	DRAWING	REVISION	
18120	A2.01	M	

PRELIMINARY
NOT FOR CONSTRUCTION



HOARE LEA (H.)

Project Name: Guild Living Epsom

Sketch Title: Appendix A Rev00

Date: 13-12-2019

Prepared: CR

Reviewed: AC

File name: REP-1920260-05-CR-20191213-GL Epsom S2 FSS-Rev00

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D	25.06.19	CD - OPTION 1 - FOR INFORMATION	PL
E	18.07.19	CD - OPTION 1 - 24 KEY-WORKER UNITS	AM
F	30.07.19	CD - OPTION 2	PL
G	16.08.19	CD - OPTION 3	PL
H	20.09.19	CD - OPTION 4	PL
I	15.10.19	CD - OPTION 4 - FIRE AND MEP	PL
J	22.10.19	CD - OPTION 5 - HEIGHT REDUCTION	PL

REVISION	DATE	DESCRIPTION	BY
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CLIENT
GUILD LIVING
PROJECT
EPSOM
LATER LIVING DEVELOPMENT

DRAWING TITLE
LEVEL 1

SCALE
1:300 @ A1
1:600 @ A3

DATE
22.11.19

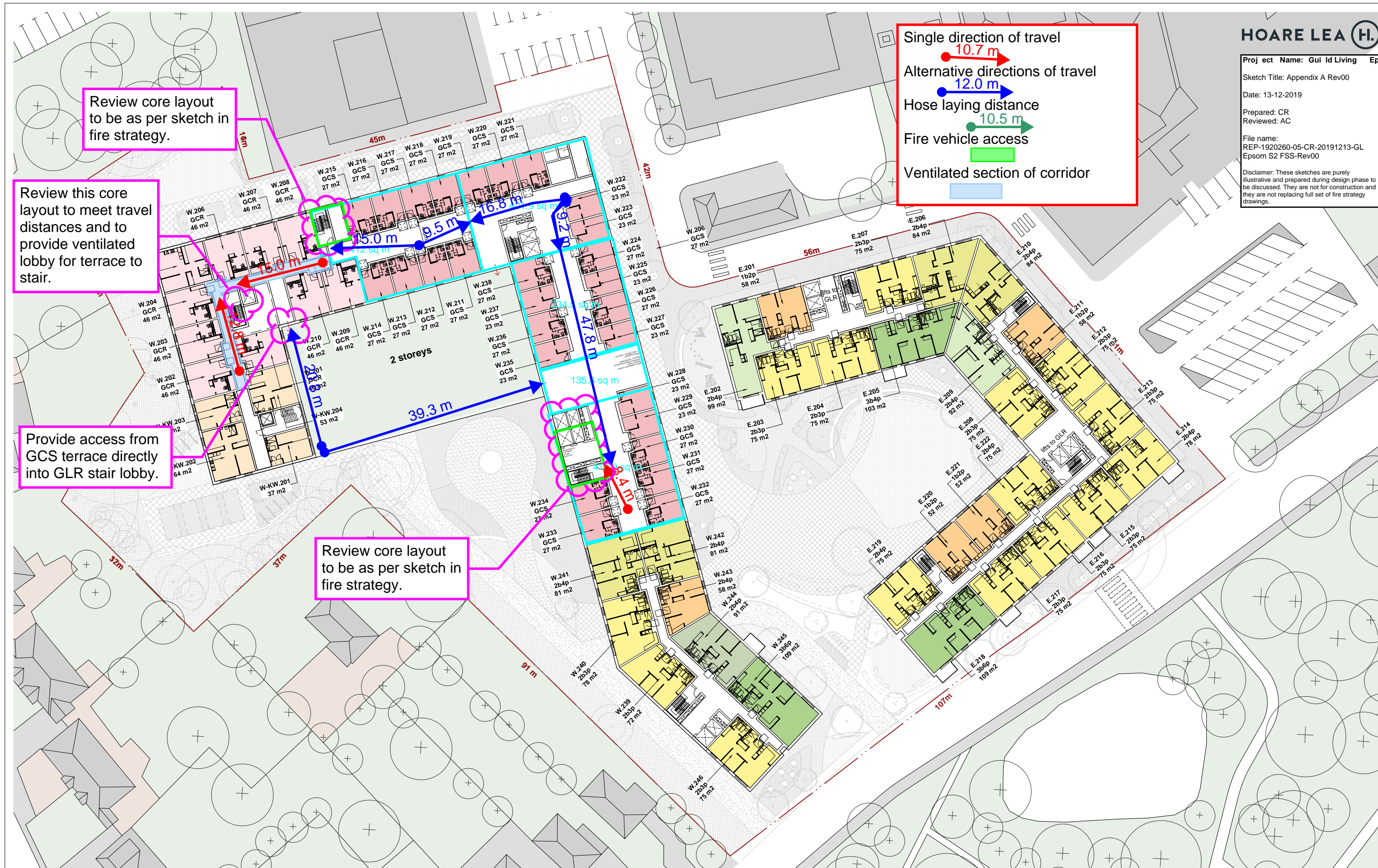
DRAWN
AM

CHECKED
DR

JOB
18120

DRAWING
A2.02

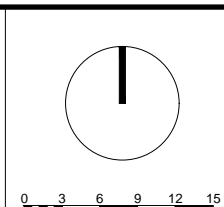
REVISION
M



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C	17.06.19	CD - OPTION 1 - FOR INFORMATION	PL
D	25.06.19	CD - OPTION 1 - FOR INFORMATION	PL
E	18.07.19	CD - OPTION 1 - 24 KEY-WORKER UNITS	AM
F	30.07.19	CD - OPTION 2	PL
G	16.08.19	CD - OPTION 3	PL
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I	15.10.19	CD - OPTION 4 - FIRE AND MEP	PL
J	22.10.19	CD - OPTION 5 - HEIGHT REDUCTION	PL

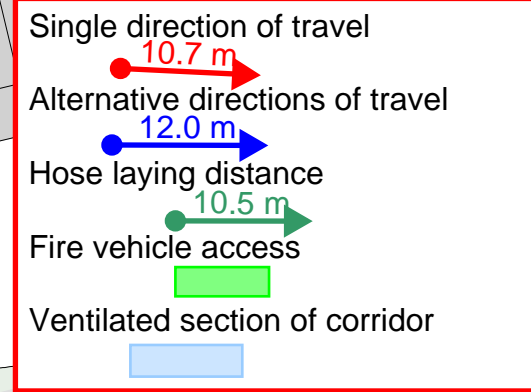
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GUILD LIVING
PROJECT
**EPSOM
LATER LIVING DEVELOPMENT**

DRAWING TITLE			
LEVEL 2			
SCALE 1:300@A1 1:600@A3	DATE 22.11.19	DRAWN AM	CHECKED DR
JOB 18120	DRAWING A2.03	REVISION M	

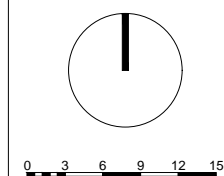


Travel distance exceeds 15m. Core should be reviewed to achieve 15m distance.

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				B	02.05.19	DD - OPTION 1 - ISSUED FOR COORDINATION BO	K
				C	17.06.19	CD - OPTION 1 - FOR INFORMATION	M
				D	25.06.19	CD - OPTION 1 - FOR INFORMATION	
				E	18.07.19	CD - OPTION 1 - 24 KEY-WORKER UNITS	AM
				F	30.07.19	CD - OPTION 2	PL
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				H	20.09.19	CD - OPTION 4	PL
				I	15.10.19	CD - OPTION 4 - FIRE AND MEP	PL
				J	22.10.19	CD - OPTION 5 - HEIGHT REDUCTION	PL

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GUILD LIVING



Legal & General

DRAWING TITLE

LEVEL 3

SCALE	
1:300@A1	
1:600@A3	

DATE	22.11.19
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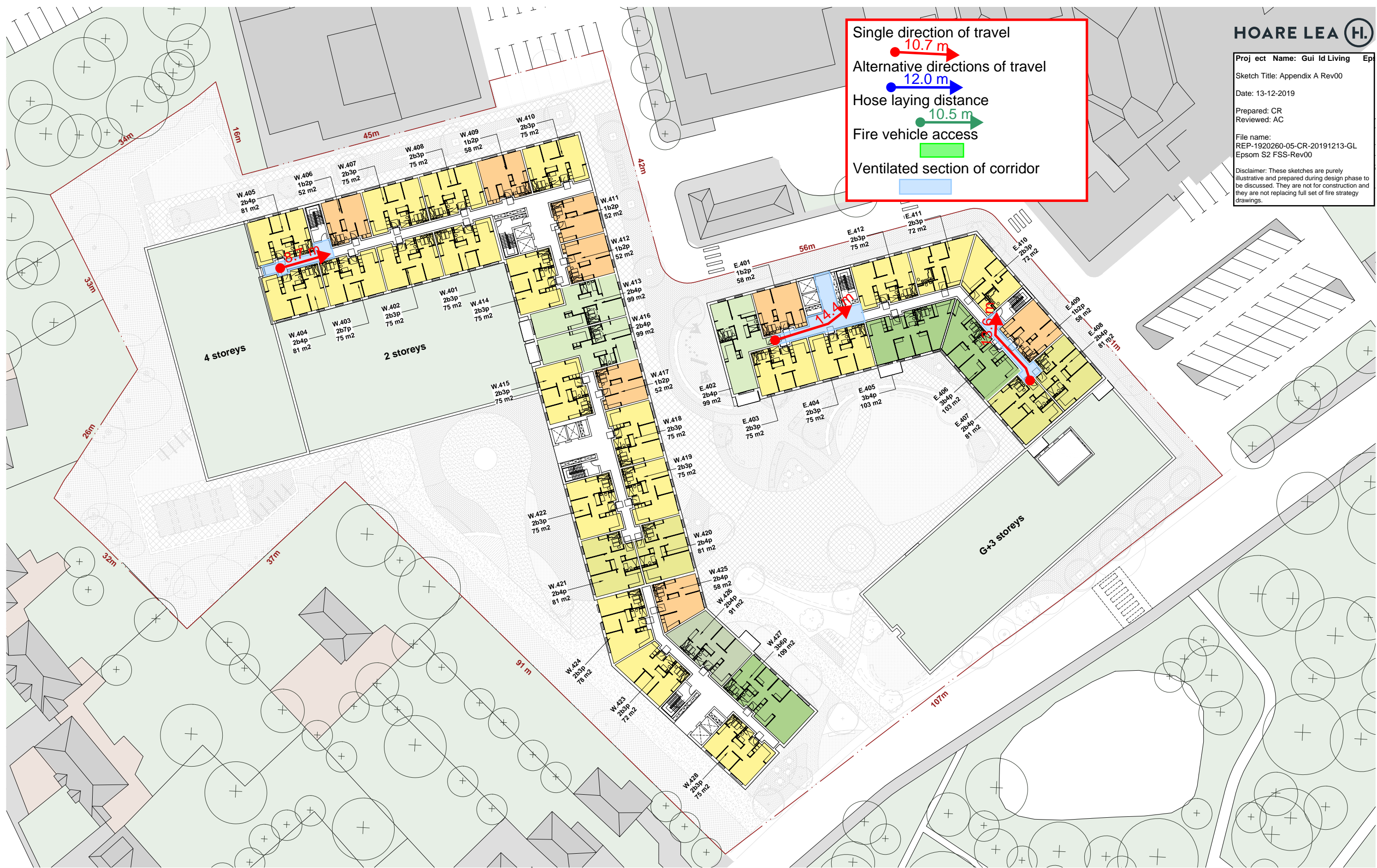
DRAWN
AM

CHECKED
DR

JOB	18120
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DRAWING
A2.04

REVISION
M



HOARE LEA (H.L.)

Project Name: Guild Living Epsom

Sketch Title: Appendix A Rev00

Date: 13-12-2019

Prepared: CR

Reviewed: AC

File name: REP-1920260-05-CR-20191213-GL Epsom S2 FSS-Rev00

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D	25.06.19	CD - OPTION 1 - FOR INFORMATION	PL				
E	18.07.19	CD - OPTION 1 - 24 KEY-WORKER UNITS	AM				
F	30.07.19	CD - OPTION 2	PL				
G	16.08.19	CD - OPTION 3	PL				
H	20.09.19	CD - OPTION 4	PL				
I	15.10.19	CD - OPTION 4 - FIRE AND MEP	PL				
J	22.10.19	CD - OPTION 5 - HEIGHT REDUCTION	PL				

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GUILD LIVING

Legal & General

PROJECT

EPSOM
LATER LIVING DEVELOPMENT

DRAWING TITLE

LEVEL 4

SCALE

1:300@A1
1:600@A3

DATE

22.11.19

DRAWN

AM

CHECKED

DR

JOB

18120

DRAWING

A2.05

REVISION

M



Project Name: Guild Living Epsom
Sketch Title: Appendix A Rev00
Date: 13-12-2019
Prepared: CR
Reviewed: AC
File name:
REP-1920260-05-CR-20191213-GL
Epsom S2 FSS-Rev00

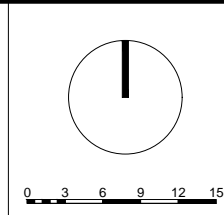
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J	22.10.19	CD - OPTION 5 - HEIGHT REDUCTION	PL				

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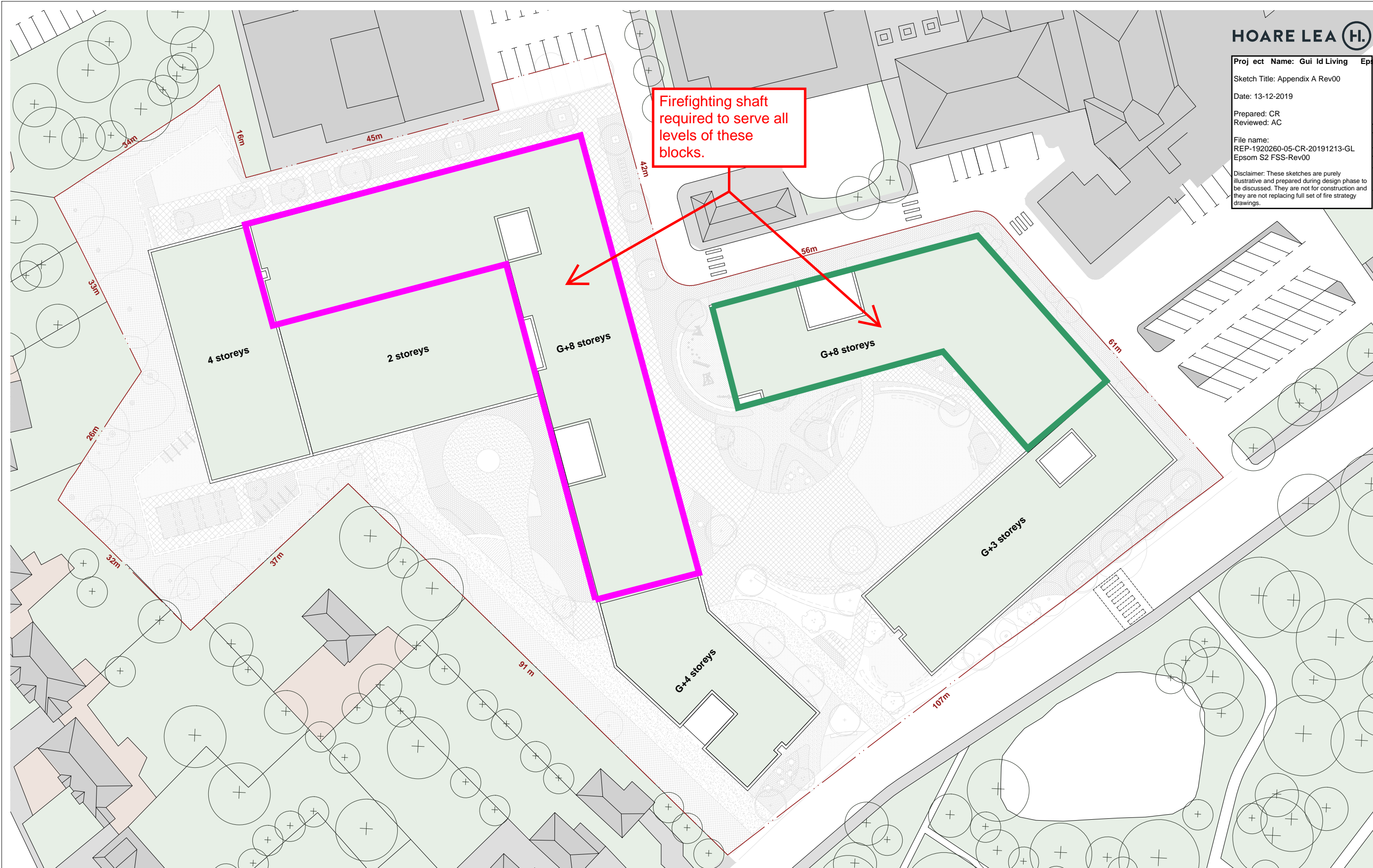
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PROJECT
GUILD LIVING AT EPSOM

DRAWING TITLE LEVEL 5-8			
SCALE 1:300 @ A1 1:600 @ A3	DATE 22.11.19	DRAWN AM	CHECKED DR
JOB 18120	DRAWING A2.06	REVISION M	



HOARE LEA (H.)

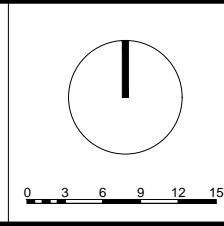
Project Name: Guild Living Epsom
Sketch Title: Appendix A Rev00
Date: 13-12-2019
Prepared: CR
Reviewed: AC
File name: REP-1920260-05-CR-20191213-GL Epsom S2 FSS-Rev00
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REVISION	DATE	DESCRIPTION	BY	REVISION	DATE	DESCRIPTION	BY
A	16.04.19	DD - PPA 1	BO	K	04.11.19	CD - OPTION 6 - HEIGHT REDUCTION	AM
B	02.05.19	CD - OPTION 1 - ISSUED FOR COORDINATION	BO	L	14.11.19	CD - OPTION 7	AM
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D	25.06.19	CD - OPTION 1 - FOR INFORMATION	PL				
E	18.07.19	CD - OPTION 1 - 24 KEY-WORKER UNITS	AM				
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G	16.08.19	CD - OPTION 3	PL				
H	20.09.19	CD - OPTION 4	PL				
I	15.10.19	CD - OPTION 4 - FIRE AND MEP	PL				
J	22.10.19	CD - OPTION 5 - HEIGHT REDUCTION	PL				

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PROJECT
EPSOM
LATER LIVING DEVELOPMENT

DRAWING TITLE			
ROOF LEVEL			
SCALE 1:300@A1 1:600@A3	DATE 22.11.19	DRAWN AM	CHECKED DR
JOB 18120	DRAWING A2.07	REVISION M	

Project Name: Guild Living Epsom
Sketch Title: Appendix A Rev00
Date: 13-12-2019
Prepared: CR
Reviewed: AC
File name:
REP-1920260-05-CR-20191213-GL
Epsom S2 FSS-Rev00
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ELEVATION 1-1

EXISTING TERRAIN

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	A	15.11.19	CD OPTION 7	AM								
	B	22.11.19	CD OPTION 7	AM								
<div>PRELIMINARY</div> <div>NOT FOR CONSTRUCTION</div>	<div></div> <div><div>marchesepartners</div><div>Marchese Partners International Pty Ltd Metal Box Factory, Unit GG, 212, 30 Great Guildford Street, London SE1 0HS P +44 020 735 9755 E info@marchesepartners.com www.marchesepartners.com London · Sydney · Brisbane · Canberra · Melbourne · Adelaide · Perth · Kuala Lumpur · Auckland</div></div>				<div><div>CLIENT</div><div><div> GUILD LIVING</div><div></div></div></div> <div><div>PROJECT</div><div>GUILD LIVING AT EPSOM</div></div>				<div>DRAWING TITLE</div> <div>ELEVATION 1-1</div>			
	<div>SCALE</div> <div>1:200@A1 1:400@A3</div>		<div>DATE</div> <div>22.11.19</div>	<div>DRAWN</div> <div>AM</div>	<div>CHECKED</div> <div>DR</div>							
	<div>JOB</div> <div>18120</div>		<div>DRAWING</div> <div>A3.01</div>		<div>REVISION</div> <div>A</div>							

Project Name: Guild Living Epsom

Sketch Title: Appendix A Rev00

Date: 13-12-2019

Prepared: CR
Reviewed: AC

File name:
REP-1920260-05-CR-20191213-GL
Epsom S2 FSS-Rev00

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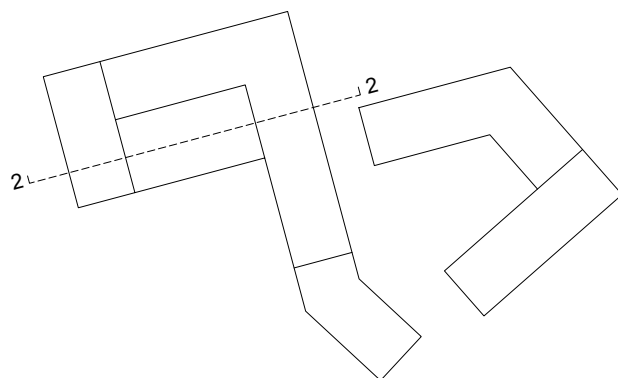
ELEVATION 2-2

--- EXISTING TERRAIN

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DRAWING TITLE

ELEVATION 2-2

PROJECT

GUILD LIVING AT EPSOM

SCALE
1:200@A1
1:400@A3

DATE
22.11.19

DRAWN
AM

CHECKED
DR

JOB
18120

DRAWING
A3.02

REVISION
A

Project Name: Guild Living Epsom

Sketch Title: Appendix A Rev00

Date: 13-12-2019

Prepared: CR
Reviewed: AC

File name:
REP-1920260-05-CR-20191213-GL
Epsom S2 FSS-Rev00

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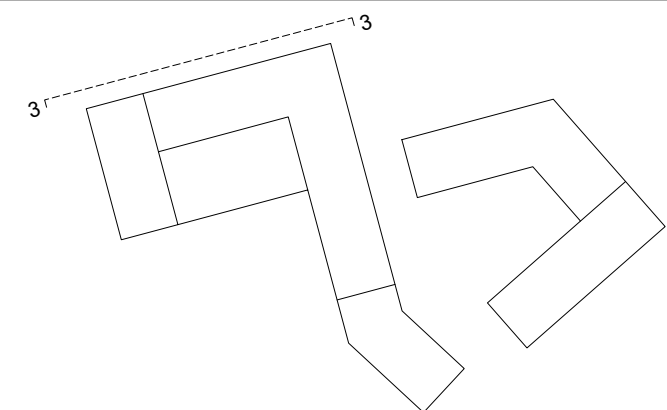
ELEVATION 3-3

EXISTING TERRAIN

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DRAWING TITLE

ELEVATION 3-3

PROJECT

GUILD LIVING AT EPSOM

SCALE

1:200@A1

1:400@A3

DATE

22.11.19

DRAWN

AM

CHECKED

DR

JOB

18120

DRAWING

A3.03

REVISION

A

Project Name: Guild Living Epsom
Sketch Title: Appendix A Rev00
Date: 13-12-2019
Prepared: CR
Reviewed: AC
File name:
REP-1920260-05-CR-20191213-GL
Epsom S2 FSS-Rev00
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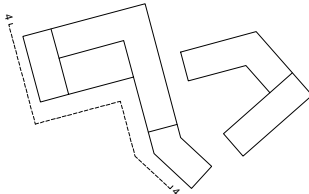
ELEVATION 4-4

EXISTING TERRAIN

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B	22.11.19	CD OPTION 7	AM



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CLIENT



DRAWING TITLE

ELEVATION 4-4

PROJECT

GUILD LIVING AT EPSOM

SCALE
1:200 @ A1
1:400 @ A3

DATE
22.11.19

DRAWN
AM

CHECKED
DR

JOB
18120

DRAWING
A3.04

REVISION
A