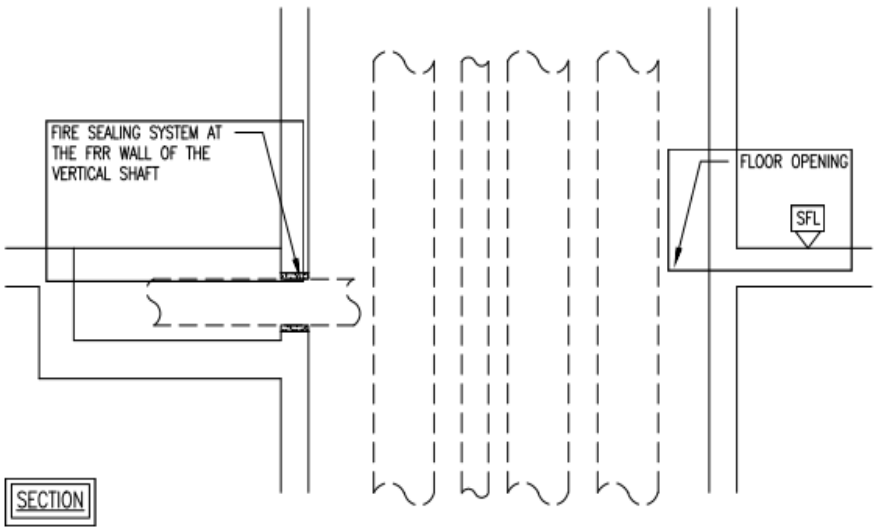
Summary of Items Discussed in 3/2023 APSEC Discussion Forum (ADF) on 4 August 2023

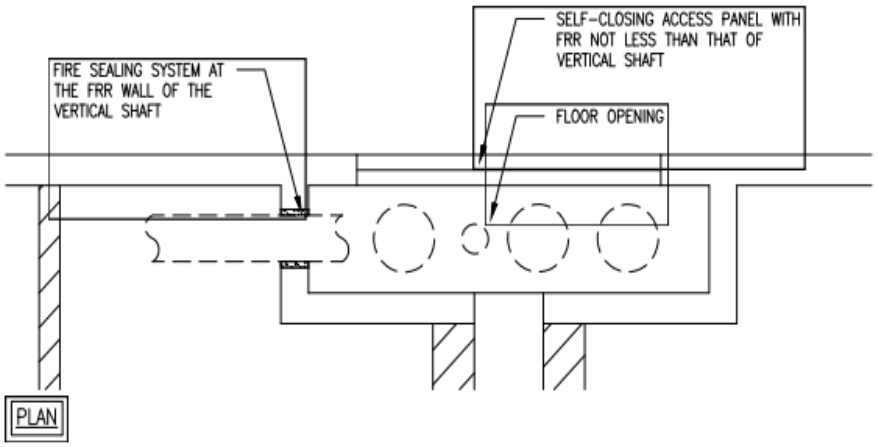
	Items proposed by Convenors for Discussion	Summary of Discussion and BD's Response
	Items raised by HKIA	
1.	**GFA Calculation of Covered Area under Portal above Driveway** Referring to item 18 of ADF 1/2023 held on 10 February 2023, *"the covered area under the portal for metal gate at main entrance of a development might be exempted from GFA calculation on case merits if the size of the portal was commensurate with the scale of the development."* By the same token, if a portal with adequate height and width is provided above an entrance driveway / emergency vehicular access (EVA), could the covered area under the portal be also exempted from GFA calculation?	BD advised that the covered area under the said portal might also be exempted from GFA calculation on case merits if the portal was genuine in design and its size was commensurate with the scale of the development.
2.	**Inaccessible Roof – Code of Practice on Access for External Maintenance 2021 (AfEM Code)** Regarding paragraph 4.2 - Inaccessible roof of Part 2 of the AfEM Code, it is our understanding that provision of safety measures under paragraph 4.2.3 shall not be required for the following inaccessible flat roofs so long as stepping onto them for routine maintenance and repair (M&R) works is not required: a) Cover of Combined Balcony / Utility Platform / AC Platform at the top floor b) Cover of Balcony / Utility Platform at the top floor c) Small flat roof reachable by power-operated elevating work platform or	BD advised that HKIA's understanding was correct, given that stepping onto the inaccessible flat roofs in question for routine M&R works was not required.

	suspended working platform Would BD please confirm if the understanding is correct?	
3.	**Protective Barrier** Further to item 1 of ADF 1/2023 held on 10 February 2023, we would like to clarify with BD that the provision of protective barrier is not required for maintenance trench or sunken filtration pit for swimming pool with depth exceeding 600 mm provided that the covers of the trench or pit are designed to withstand normal live load of pedestrian or vehicular traffic according to its location. It shall be common practice for ordinary manhole, services trench and cable draw pit, etc. located at pavement or driveway that no protective barrier will be required irrespective to the depth of trench or pit. Would BD please confirm if the understanding is correct?	BD advised that HKIA's understanding was correct.
4.	**Minor Amendments – PNAP ADM-19** According to PNAP ADM-19, AP/RSE/RGE can submit an application for modification of regulation 33(1) of the Building (Administration) Regulations (B(A)R) that prior approval and consent to the minor amendments of building, superstructure, drainage, foundation, pile cap, site formation, excavation and lateral support works, for which the first consent to the carrying out of works has already been given, would not be required	BD advised that HKIA's understandings were correct.

	except for the amendments described in Appendix G to the said PNAP. The application can either be made after obtaining the first consent or simultaneously with the application for the first consent. In some cases, the first consents for building and superstructure were granted without that for drainage works. It is our understanding that the modification of regulation 33(1) of the B(A)R for respective building and superstructure works can be granted without having obtained the consent for drainage works. For some cases, the first consent is a partial consent for a portion of the building and superstructure works and/or drainage works within a building development. It is our understanding that the modification of regulation 33(1) of the B(A)R can also be granted for the works with the partial consent granted, irrespective to that the consent for the remaining areas of the development has yet been obtained. Would BD please clarify if the above understandings are correct?	
5.	**<u>Openings through Vertical Shaft – Clause C8.3 of the Code of Practice for Fire Safety in Buildings 2011 (June 2023 Edition) (FS Code)</u>** Clause C8.3 of the FS Code states that *"where a vertical shaft linking different floors is formed by fire barriers, the openings within the vertical shaft for passage of air-conditioning ducts, ventilation ducts, electrical trunkings, conduits, pipes, cables and the like should be fire sealed. FRR to the floor enclosed by the vertical shaft is not required."* It is our	BD advised that HKIA's understanding was correct.

	understanding that the slab opening within these vertical shafts provided with self-closing access panels with FRR of not less than that of the vertical shaft can be left opened without any additional fire sealing material, and the requirement of fire sealing only applies to the ducts, trunking, pipes, etc. that pass through the vertical shaft horizontally as illustrated in the diagrams below. Please advise if our understanding is correct.	


FIRE SEALING SYSTEM AT THE FRR WALL OF THE VERTICAL SHAFT
FLOOR OPENING
SFL
SECTION


SELF-CLOSING ACCESS PANEL WITH FRR NOT LESS THAN THAT OF VERTICAL SHAFT
FIRE SEALING SYSTEM AT THE FRR WALL OF THE VERTICAL SHAFT
FLOOR OPENING
PLAN

6.	**<u>Refuge Floor – Clause B18.2(e) of FS Code</u>** Item 15 of the ADF 2/2022 held on 18 March 2022 refers. BD advised that structural elements or mullions of the curtain wall at the open-sided portions of refuge floor might be considered acceptable on case basis if they have no adverse impact to the provision of adequate cross ventilation and the performance of openings. We would like to enquire if there is any change in views or considerations by BD on this topic?	BD advised that the views and considerations mentioned in item 15 of the ADF 2/2022 held on 18 March 2022 remained unchanged.
7.	**<u>Discharge Value and Width of Required Staircase</u>** (a) It is quite common for a building to have its required staircases widened at the podium or lower storeys to comply with the means of escape requirements under the FS Code. For the sake of calculating the discharge value (DV) of each of such staircases with its width widened at the lower storeys, our opinion on calculating the total DV of such staircase is as follows: DV of required staircase serving upper storeys + DV of the same required staircase (with increased width) serving lower storeys For example, according to Table B3 of the FS Code extracted below, if a required staircase in a non-sprinkler protected building (1050mm in width) serving 10 storeys at upper floors is widened to 1500mm to serve 3 storeys at the lower floors, its DV will be 498 + 402 = 900.	(a) BD advised that the DV of the required staircase in the scenario described by HKIA should be calculated as follows: DV of required staircase (with increased width) serving lower storeys (above G/F) + DV of required staircase serving upper storeys by adopting the figures of "each additional storey add" in Table B3 or Table B4 of the FS Code as appropriate. In this regard, the DV of the required staircase in a non-sprinkler protected building in the example illustrated by HKIA should be calculated as follows: 402 (i.e. 1500 mm wide staircase serving 3 storeys above G/F) + 32 × 10 (i.e. 1050 mm wide staircase serving 10 additional storeys) = 722

Table B3

Table B3: Discharge Value of a Required Staircase in a Non-Sprinkler Protected Building

No. of storeys served	Width of required staircase					
	1050mm but under 1200mm	1200mm but under 1350mm	1350mm but under 1500mm	1500mm but under 1600mm	1600mm but under 1700mm	1700mm to 1800mm
1	210	240	270	300	320	340
2	242	278	315	351	377	402
3	274	316	360	402	434	464
4	306	354	405	453	491	526
5	338	392	450	504	548	588
6	370	430	495	555	605	650
7	402	468	540	606	662	712
8	434	506	585	657	719	774
9	466	544	630	708	776	836
10	498	582	675	759	833	898
Each additional storey add	32	38	45	51	57	62

Please advise if our interpretation is correct.

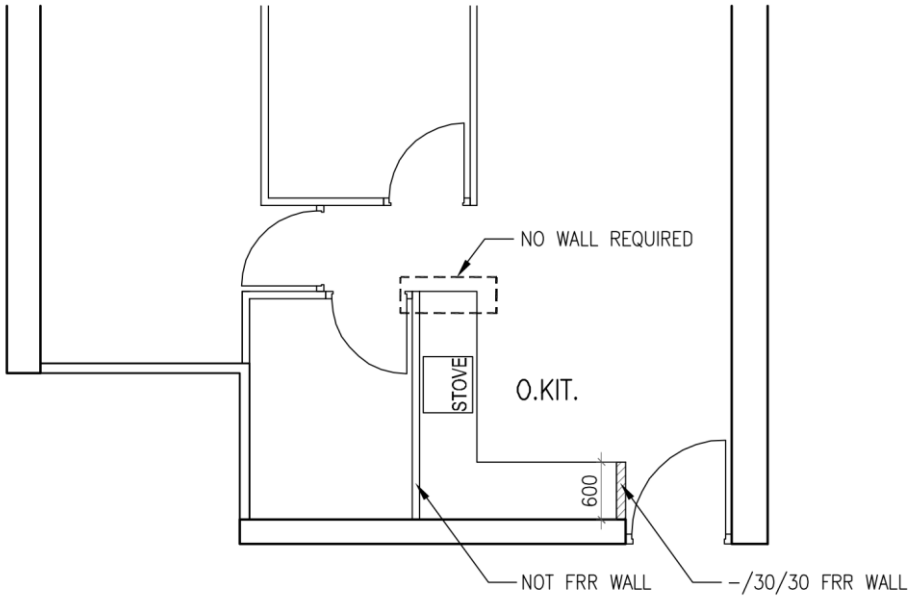
(b) For a required staircase passing through but not serving an intermediate storey, our understanding is that the intermediate storey concerned can still be included in the no. of storeys for the purpose of DV assessment, considering that the capacity of the required staircase to accommodate evacuees is actually increased. Please advise if our understanding is correct.

(b) BD advised that HKIA's understanding was correct.

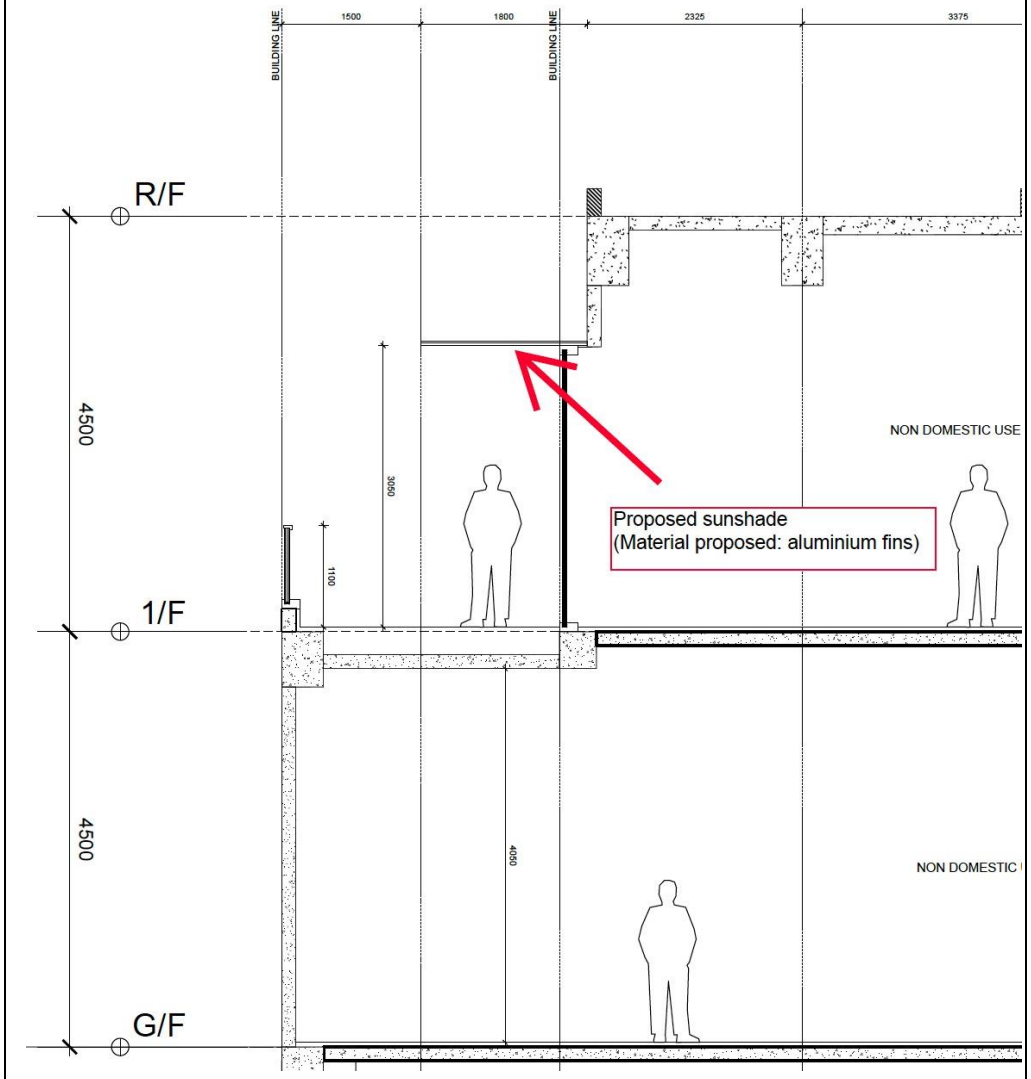
8. **<u>FRR wall at open Kitchen</u>**

Referring to Clause C13.4(d) of the FS Code, it is our understanding that full

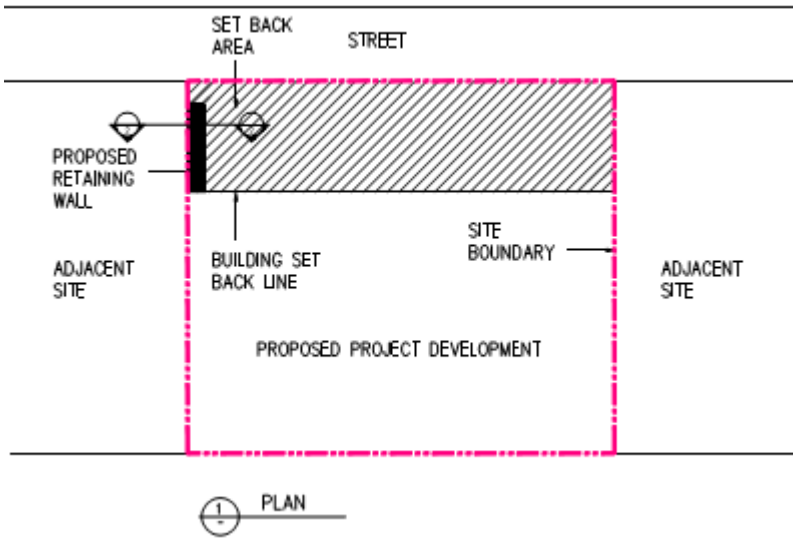
BD advised that HKIA's understanding was correct.

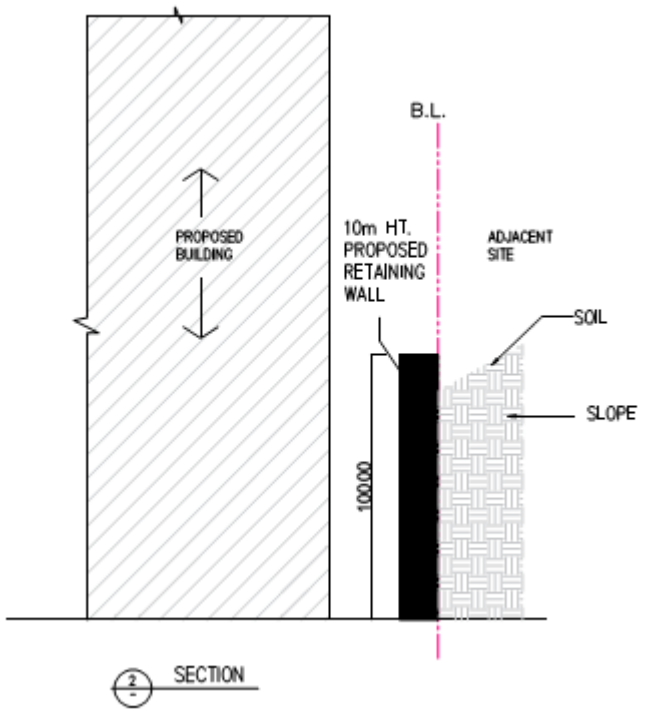
	height 600 mm wide fire rated wall should be provided adjacent to the flat exit door only. It is not necessary to provide wall or fire rated wall at locations indicated in the sketch below. Please advise if the above understanding is correct.  GENERAL LAYOUT OF DOMESTIC UNIT	
	Items raised by HKIS	
9.	**<u>Requirements on Sunshades – PNAP APP-19 and APP-67</u>** As illustrated in the section below, for sunshades solely used for the purpose of energy conservation projecting over 750 mm from the external wall of a	BD advised that according to PNAP APP-19, genuine sunshades solely used for the purpose of energy conservation projecting not more than 1.5

	non-domestic building , besides quantitative assessment on Overall Thermal Transfer Value (OTTV) reduction for meeting the criteria set out in PNAP APP-67 and subject to consideration by the Building Committee, are there any other requirements for the sunshades to be exempted from GFA calculation? There seems no specific requirement set out under PNAP APP-19 & APP-67.	m from the external wall complying with the criteria set out in PNAP APP-67 and APP-156 were not accountable for GFA and site coverage. According to paragraph 10 of PNAP APP-67, in determining whether the sunshades would assist in the reduction of the OTTV, quantitative assessment should be submitted to the Building Authority for consideration, if the sunshades project over 750 mm from the external walls. Similar requirements for sunshades which are conducive to the reduction of RTTV had also been promulgated in PNAP APP-156. In consideration of the design of the proposed sunshade illustrated in the the sectional drawing, the sunshade projecting more than 1.5 m from the external wall and over a flat roof should be accountable for GFA under regulation 23(3)(a) of the Building (Planning) Regulations.


BUILDING LINE
1500
1800
BUILDING LINE
2325
3375
R/F
4500
NON DOMESTIC USE
3050
1100
Proposed sunshade
(Material proposed: aluminium fins)
1/F
4500
4050
NON DOMESTIC
G/F

	Items raised by AAP	
10.	**<u>Structural Submissions for M&R Access</u>** The following elements do not form part of building structure nor serve as protective barrier and are solely for the access and safety for maintenance. Would BD please clarify if structural plan submissions for below cases are required: <u>Case 1</u> Guard rail for inaccessible flat roof. <u>Case 2</u> Metal grating platform, guard rail and cat ladder for internal pipe duct/ pipe well. <u>Case 3</u> Maintenance platform and guard rail for large size plant inside building.	For Case 1, BD advised that the design requirements of protective barriers stipulated in paragraph 6 of PNAP APP-110 were not applicable to guard rails at inaccessible flat roof which was intended to be accessible to personnel for maintenance or repair works only, thus structural submission for such guard rail was not required . For Case 2, structural plan submission for metal grating platform of size not more than 1200 mm x 1500 mm in pipe duct was not required, and structural plan submissions for guard rail and cat ladder in pipe duct or pipe well were also not required. For Case 3, considering the size of the maintenance platform for large size plant, structural plan submission for the platform was required, while that for guard rail was not required. Considering members' concern on the plan processing time of the maintenance platform, BD would explore streamlining measures to facilitate the plan approval and consent application for these secondary building elements.
11.	**<u>Calculation of Setback Area – PNAP APP-132</u>** Refer to paragraph 4 of PNAP APP-132, if the criteria in paragraph 3(a) to (f) of the said PNAP are fully met, 40% of site coverage is permitted for domestic buildings with height over 61 m from street level setback approach as per Appendix A to the said PNAP.	BD advised that according to paragraph 3(e) of PNAP APP-132, the setback area should contribute to improve the street environment, such as enhancing air ventilation and permeability as well as promoting connectivity and walkability.

	The diagrams below indicated that there is an existing slope in the adjacent site. A proposed retaining wall within the building setback area is required to support the slope for the adjacent site. Please advise if this retaining wall would be allowed to be built within the setback area and not affecting the calculation of the setback area.  	In case the retaining wall as illustrated in the diagram was essential in providing support to the adjacent slope, such wall was acceptable to be built within the setback area, provided that criteria laid down in paragraph 3(a) to (f) of the said PNAP were complied with and the area of such wall was excluded from the calculation of the setback area.

		
	Items raised by ACEHK	
12.	**<u>Site Supervision Requirement of Combined Works in the Same Site</u>** For a site with different types of works being carried out concurrently, e.g. superstructure, curtain wall, alterations and additions (A&A) and excavation and lateral support (ELS), the combined supervision input in Form C (Calculation Sheet for Combination of Technically Competent Persons (TCPs)) of the Code of Practice for Site Supervision 2009 (Supervision Code) will determine the required total man-day/month (frequency level of site supervision) for each grade of TCPs. However, as the inspection items may	BD advised that ACEHK's understanding was correct, provided that the TCP would provide sufficient supervision input to the site and the minimum supervision requirements for both individual works and combined works were fulfilled.

be specific/exclusive to each type of works, separate Form A (Record of Specific Tasks Performed by TCP) of the Supervision Code may be required to be filled in for each type of works. In our understanding, the frequency of inspection specified in Form A for each type of works only refers to that particular type of works, but not the combined works. Below is an example to illustrate our understanding:

RSE Stream T5 (no significant geotechnical content):

Type of Works	**Superstructure**	**Curtain Wall**	**A&A**	**ELS**	**Total Supervision Input for Combined Works**
Frequency Level of Site Inspection	3 (Fortnightly inspection)	3 (Fortnightly inspection)	3 (Fortnightly inspection)	3 (Fortnightly inspection)	-
Notional Supervision Input	2 man-days per month	2 man-days per month	2 man-days per month	2 man-days per month	-
Scale factor (say)	2	2	1	0.5	-
Adjusted supervision input	4 man-days per month	4 man-days per month	2 man-days per month	1 man-day per month	11 man-days per month (with

						reference to Table 8.3 of the Supervision Code, it is considered that the required frequency of site supervision is Level 4.2, i.e. 3 visits per week.)
	Submission of Form A (Frequency of Inspection specified in Form A)	Form A for superstructure only (Once per week)	Form A for curtain wall only (Once per week)	Form A for A&A only (Fortnightly visit)	Form A for ELS only; (Fortnightly visit)	No single Form A for the combined works. No need to specify the frequency of inspection for the combined works in Form A.

13.	**<u>Bondek Slab Design</u>** If the profiled steel sheets are adopted as permanent formwork, the typical details in the Code of Practice for the Structural Use of Steel 2011 (2021 Edition) (Steel Code) and in Bondek catalogue can be referred to such that the position bars / distribution bars are placed on the profile sheet ribs as shown in Figure 10.10 of the said Code extracted below:	BD advised that for the profiled steel sheets which acted as permanent formwork only, the reinforced slab thickness, i.e. Ds- Dp, should comply with the requirements of the Code of Practice for Structural Use of Concrete 2013 (2020 Edition) and the FS Code against the specified fire resistance rating. In accordance with Clause 10.4.3 of the Steel Code, nominal minimum slab thickness of concrete given in Table 10.9 and Table 10.10 were applicable to **composite slab** with profiled steel sheets. Notwithstanding, a full-scale structure fire tests were also required to demonstrate structural adequacy in load carrying capacity, insulation and integrity in fire limit state against specific fire resistance rating.

(4) Alternatively, the profiled steel sheets are designed to act only as permanent formwork which support the following types of loading during construction:

- self-weight of profiled steel sheets and wet concrete;
- construction loads; and
- storage loads.

In general, they are constructed without propping. Tensile reinforcement should be provided and the slab should be designed as a reinforced concrete slab as recommended in HKCC, without relying on composite action with the profiled sheets.

(5) Where service ducts are formed in the slab, due allowance should be made for the resulting reduction in load carrying capacity.

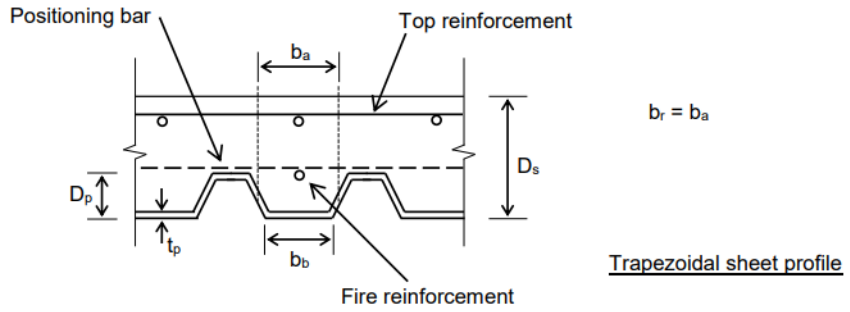


Figure 10.10 - Typical profiled steel sheets

Also, once the overall slab thickness of the Bondek slab fulfils the minimum thickness required in Table 10.10 of the Steel Code, the slab is deemed to have achieved the respective fire resistance period specified in the said Table, and there is no need to consider the effective slab thickness which is

	the thickness of the concrete above the re-entrant profile. Please advise if our understanding is correct.	
	AOB Items	
14.	**<u>Requirements of Building Setback – PNAP APP-132 and APP-152</u>** (Item raised by AAP) According to paragraph 3(a) of PNAP APP-132, one of the criteria for considering applications on the ground of setting back a building for its full height from a site boundary abutting on a street is that *"the setback of the building is of an area not less than 8% of the site area for non-domestic buildings and not less than 18% of the site area for domestic buildings. For a composite building, the non-domestic and domestic portions of the building should illustrate the required setback of 8% and 18% respectively"*.	BD advised that there was no requirement on minimum setback distance under PNAP APP-132 or under the alternative approach for building setback stipulated in Appendix E to PNAP APP-152 except for those stipulated in paragraph 7 of PNAP APP-152. The proposed setback areas illustrated in the diagrams should comply with the required full height and full frontage setback of the building with a total area not less than those stipulated in the said PNAPs and such setback area should contribute to the improvement of the street environment.

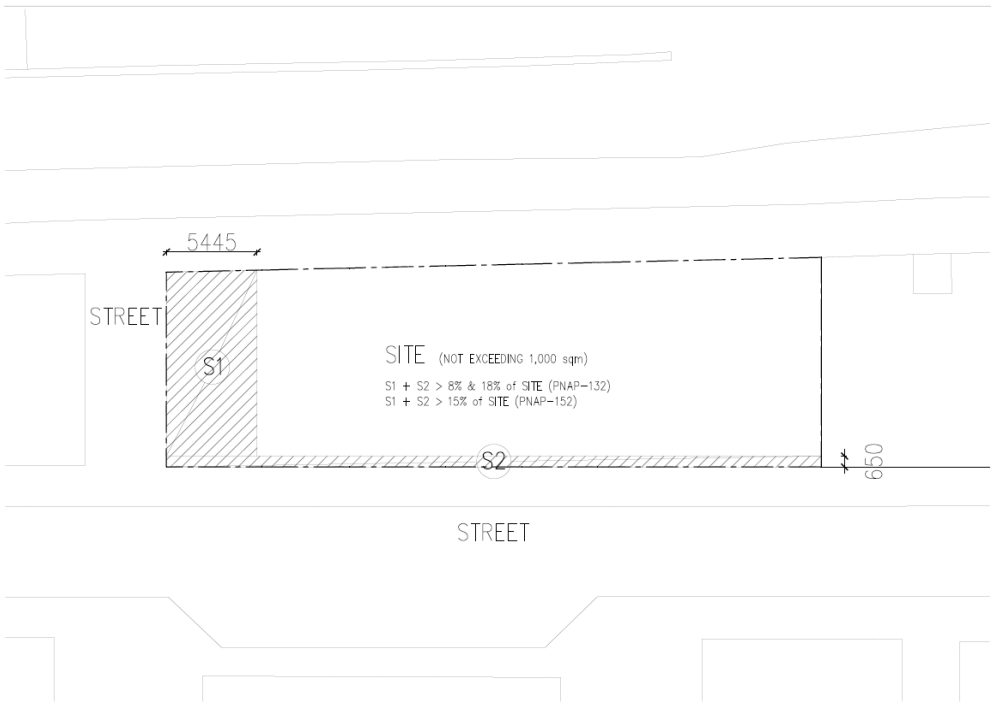


Diagram 1

In the above diagram 1, the requirements stipulated in paragraph 3(a) of PNAP APP-132 on set back approach have been complied with as the total setback areas of S1 on the left-hand side and S2 on the front side exceed 18% of the site area of the domestic portion.

According to paragraph 7(a) of PNAP APP-152, *"no part of the building up to a level of 15m above the street level should be within 7.5m from the centreline of the street"*. Alternative approach for building setback in paragraph 10(a) of Appendix E to PNAP APP-152 states that the requirement for building setback may be relaxed if compensatory measures of *"full*

height and full frontage setback of the building from the site boundaries abutting any narrow streets from the respective site boundaries with a total setback area which is not less than 15% of the area of the site provided that such area ***will contribute to improving the street environment****"*, and the greenery provision in paragraph 10(b) of the said Appendix are provided.

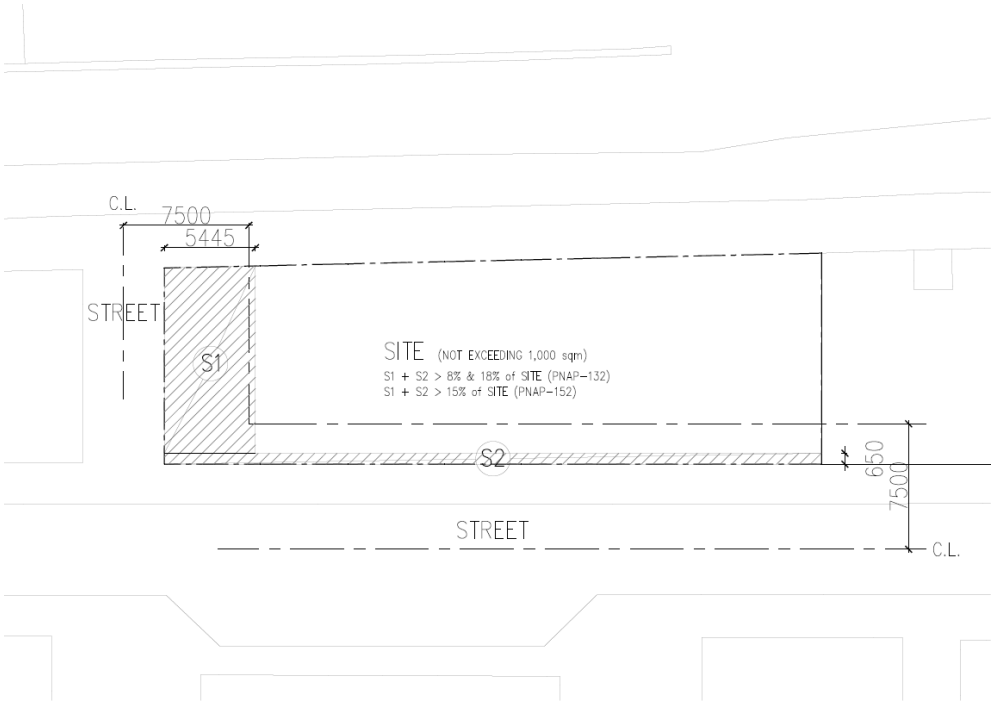


Diagram 2

In the above diagram 2, the required building setback of 7.5 m on the two sides of the building from the centreline of the 2 streets as required in paragraph 7(a) of PNAP APP-152, constitute total areas greater than 15% of the site area. In this regard, the requirements for building setback under

	PNAP APP-152 have also been complied with, as the total setback areas of S1 on the left-hand side and S2 on the front side exceed 15% of the site area (provided that paragraph 10(b) of Appendix E to PNAP APP-152 has been complied with). We observed that some BD officers do NOT require <u>minimum</u> distance of building setback facing each of the streets. However some BD officers require and impose a minimum <u>1 m</u> setback distance. What is the policy of BD when there is in fact <u>NO other requirements on minimum setback distance</u> apart from those stipulated in PNAP APP-132 and APP-152 above?	
15.	**<u>Combined Utility Platform (UP) and Balcony</u>** (Item raised by AAP) According to item 18 of ADF 2/2023 held on 5 May 2023, BD advised that washing machine may be placed at the combined UP and balcony. We understand that similar to the requirement on air-conditioner platform stipulated in Appendix B to the AfEM Code, a reinforced concrete plinth of 50 mm high from the finished floor can also be provided at the combined UP and balcony to facilitate fixing of the washing machine.	BD advised that AAP's understanding was correct.