CONSTRUCTION INDUSTRY COUNCIL
建造業議會

Reference Material

Statutory Requirements for Modular Integrated Construction Projects

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October 2023

AMENDMENT NO. 1/2023

Revised Chapters 3, 4, 5, 6 and 7 for
Reference Material on the Statutory Requirements for Modular Integrated Construction Projects (September 2020)

Chapter	Department	New/Revised Documents, Guidelines, etc. on MiC Issued by the Respective Department Since September 2020	Amendments Made in the Revised Chapters
3	Buildings Department	The following documents have been revised/issued: (a) PNAP ADV-36 MiC (Apr 2022); (b) BD, LandsD & PlanD JPN No. 2 Second Package of Incentives to Promote Green and Innovative Buildings (July 2022); (a) BD, LandsD & PlanD JPN No. 8 Incentive to Promote Green and Innovative Buildings - Enhanced Facilitation Measures for Buildings Adopting Modular Integrated Construction (July 2022)	The following revisions have been made: (a) Approval of plans for MiC project was clarified in Section 3.3. (b) The enhanced/alternative arrangements for qualified supervision and quality audit for MiC as promulgated in Appendix B to PNAP ADV-36, including provision of quality audit checks arrangement by videotelephony, was updated in Section 3.4. A figure showing the critical stages of IPA application and plan submissions for MiC project was included. (c) The enhanced facilitation measures for buildings adopting MiC including increasing the concession of gross floor area and providing corresponding site coverage concession as well as supporting applications for exceeding building height limits as promulgated in JPN No. 8 were updated in Section 3.5. An example of GFA concession calulations was included.
4	Fire Services Department	The following document has been issued: (a) FSD Circular Letter No. 3/2020 - Facilitation Measures of Application for Approval of Portable Equipment and Acceptance of Fire Service Installations and Equipment (FSIs) and Fire Safety Products (Jul 2020).	Section 4.4 on Acceptance Inpection was revised to give more details on the revised application procedure for inspection and testing of fire service installations and equipment by FSI/501 submission.
5	Water Supplies Department	The following documents have been issued: (a) Guide to Application for Water Supply (December 2021 version); and	Section 5.4 on Final Inspection at Building Site and Commissioning Requirements and Section 5.5 on Effect of Water Supply were updated.

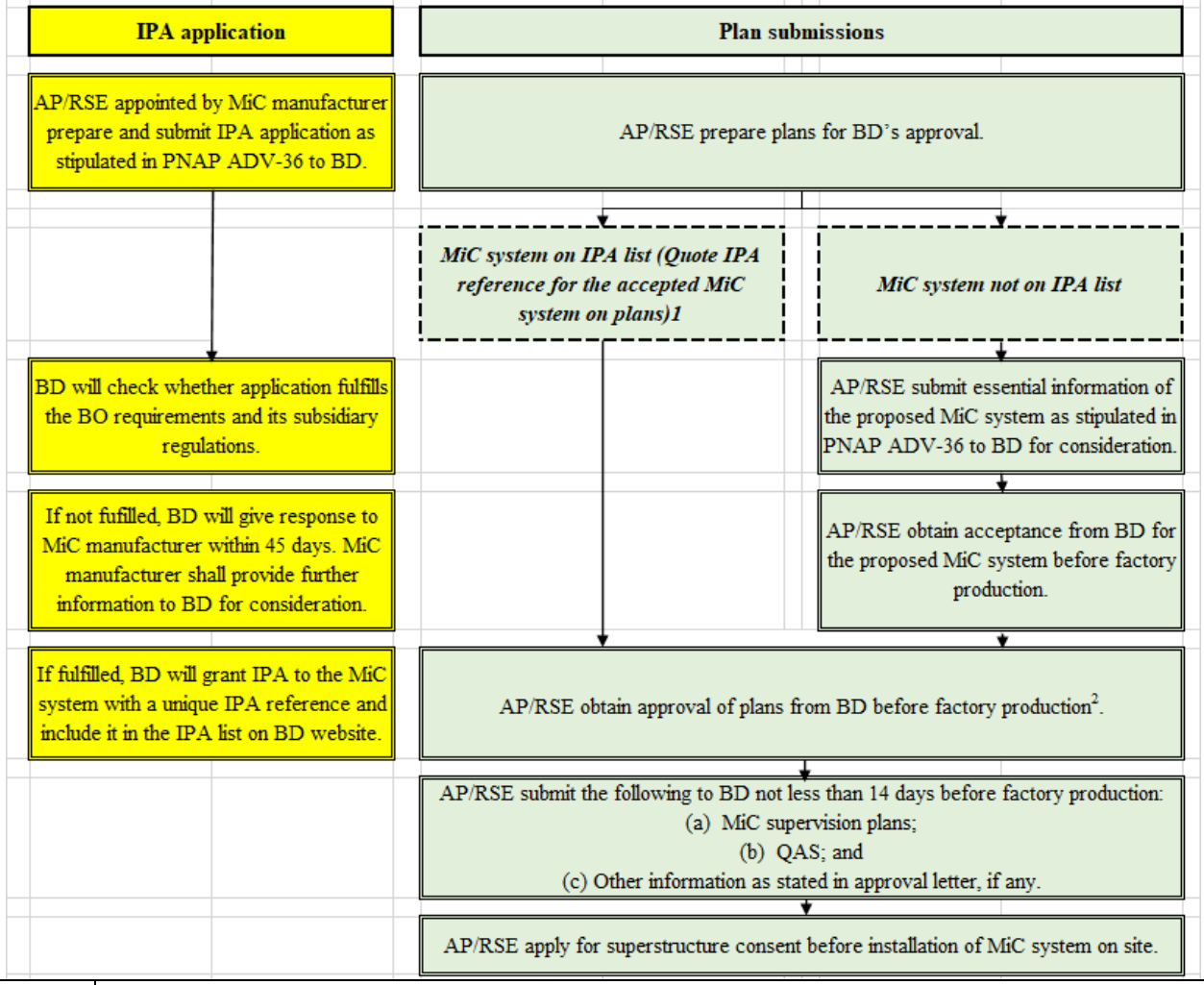
		(b) Technical Requirements for Plumbing Works in Buildings (December 2021 version).	
6	Electrical and Mechanical Services Department	The following documents have been issued: (a) Code of Practice for the Electricity (Wiring) Regulations (2020 Edition) (see Code 26T on Installation of MiC) (2020); (b) Code of Practice on Energy Labelling of Products (Dec 2020); and (c) Guideline on Submission of Product Information (Jun 2022).	Section 6.2 on Fixed Electrical Installations and Section 6.5 on Gas Supply Installations were updated.
7	Transport Department	The following documents have been issued: (a) Form TD 290 - Application for "Long Load" and "Wide Load" Permits; and (b) Guidelines on Application for Long/Wide Load Permit (July 2022).	Section 7.2 on Wide Load Permit was updated.

with the principles and guidelines given in PNAP ADM-19. The plans will be handled under the centralised processing system as stipulated in PNAP ADM-2, through which all interested government departments will be consulted and their comments will be collated by BD.

For a project adopting MiC system on the IPA list, re-assessment of the proposed MiC system in respect of the various performance aspects that have been pre-accepted will not be necessary unless alterative design and materials/construction methods, which deviate materially from the pre-accepted MiC system, component or testing criteria of the accepted test reports, are proposed.

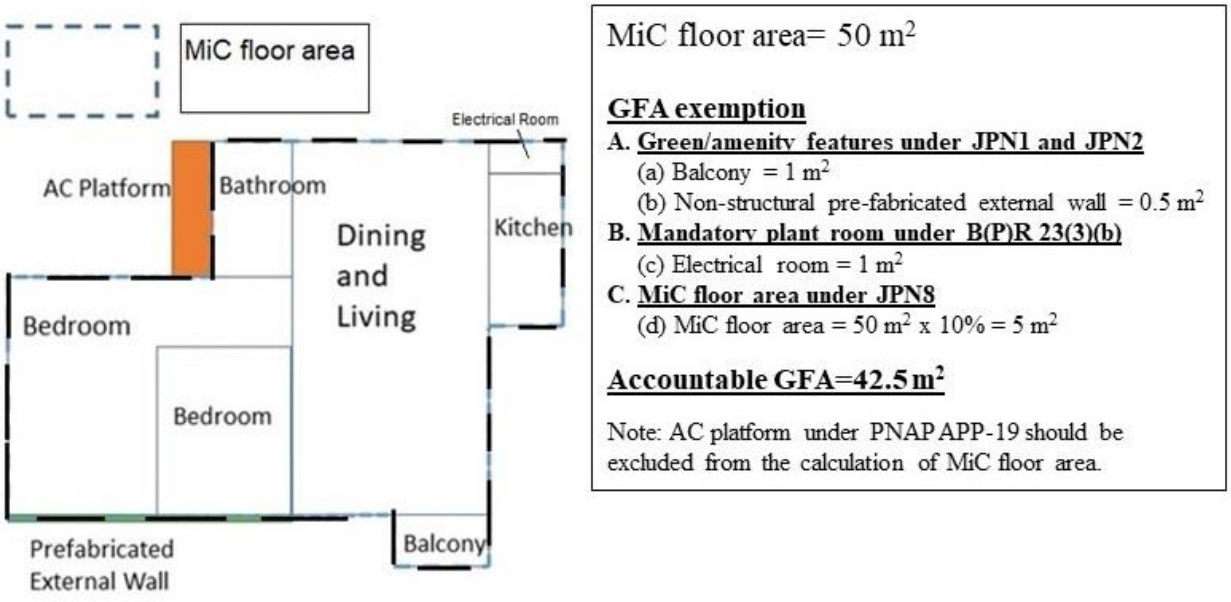
For a project adopting MiC system not on the IPA list, AP and RSE should submit essential information as listed in PNAP ADV-36 to BD for consideration of the performance and technical aspects of the proposed MiC system as mentioned in Section 3.2. While IPA is not a pre-requisite for the approval of plans, any MiC details not yet available at the plan submissions may be submitted later for BD's acceptance prior to factory production.

Critical stages of IPA application and plan submissions for MiC project are illustrated in Figure 3.1.



Notes:	1. Re-assessment of MiC system is not necessary unless it deviates materially from the pre-accepted MiC system. 2. While IPA is not a pre-requisite for approval of plans, any MiC details not yet available at the plan submissions may be submitted later for BD's acceptance prior to factory production.

Figure 3.1 – Critical Stages of IPA Application and Plan Submissions for MiC project



JPN No. 1: Green and Innovative Buildings (BD, LandsD & PlanD, 2019)
JPN No. 2: Second Package of Incentives to Promote Green and Innovative Buildings (BD, LandsD & PlanD, 2022)
JPN No. 8: Incentive to Promote Green and Innovative Buildings Enhanced Facilitation Measures for Buildings Adopting Modular Integrated Construction (BD, LandsD & PlanD, 2022)

Figure 3.2 – Example of GFA Concession Calculations

Table 8.1 – Contacts of Regional Offices of EPD[54]					
Office/ Regional Offices	**Address**	**Telephone**	**Fax Number**	**Email Address**	**Control Districts**
Regional Office (East)	5/F., Nan Fung Commercial Centre, 19 Lam Lok Street, Kowloon Bay, Kowloon.	2755 5518	2756 8588	hotline_e@epd.gov.hk	Kwun Tong, Wong Tai Sin, Sai Kung and Kowloon City
	8/F., Cheung Sha Wan Government Offices, 303 Cheung Sha Wan Road, Kowloon.	2402 5200	2402 8272	hotline_e@epd.gov.hk	Yau Tsim Mong
Regional Office (South)	2/F, Chinachem Exchange Square, 1 Hoi Wan Street, Quarry Bay, Hong Kong.	2516 1718	2960 1760	hotline_s@epd.gov.hk	Hong Kong Island and Islands
Regional Office (West)	8/F, Tsuen Wan Government Offices, 38 Sai Lau Kok Road, Tsuen Wan, New Territories.	2417 6116	2411 3073	hotline_w@epd.gov.hk	Tuen Mun, Tsuen Wan, Kwai Tsing and Sham Shui Po
Regional Office (North)	10/F, Sha Tin Government Offices, 1 Sheung Wo Che Road, Sha Tin, New Territories.	2158 5757	2685 1133	hotline_n@epd.gov.hk	Yuen Long, Sha Tin, Tai Po and North

[54] https://www.epd.gov.hk/epd/english/application_for_licences/sub_applic/application_maincontent38.html

furnish manifests in respect of the cargoes being imported or exported if they are requested to do so.

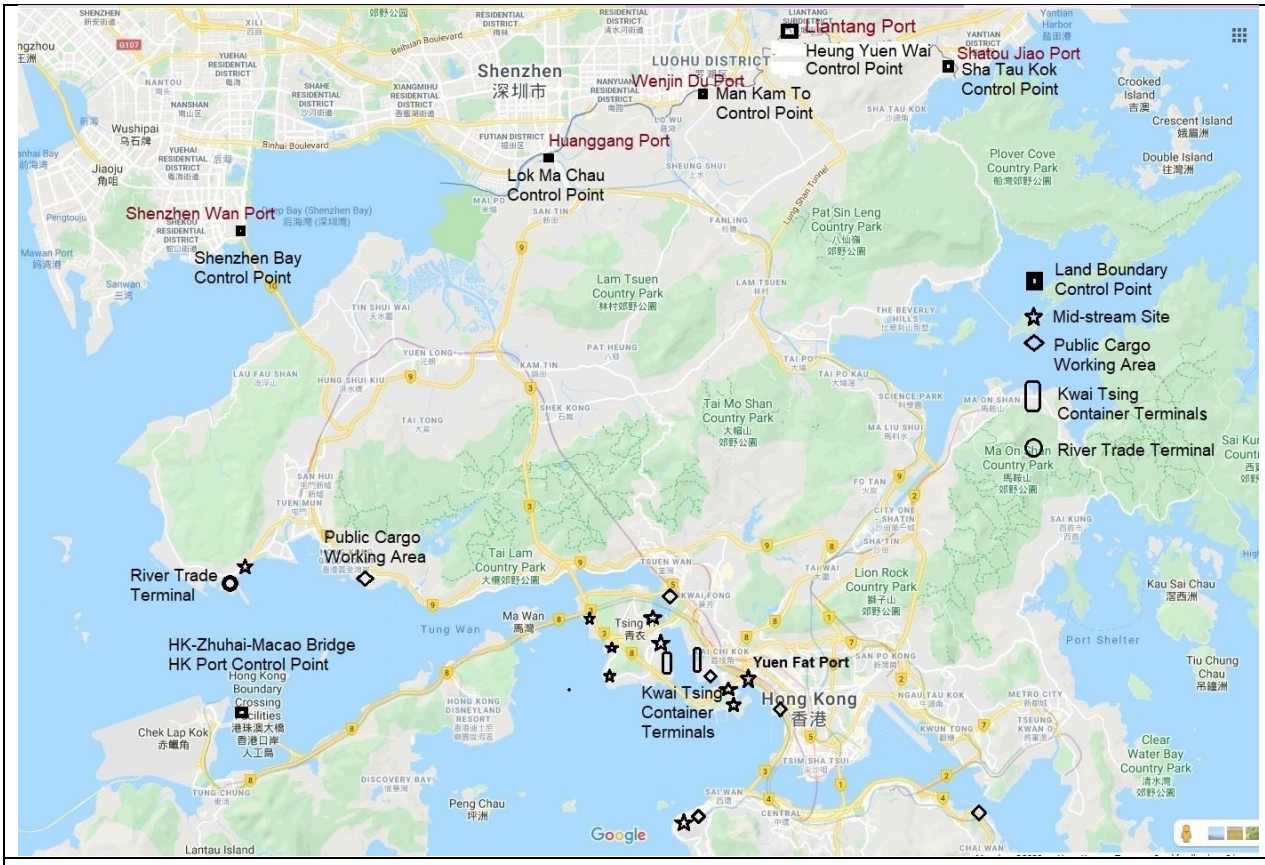
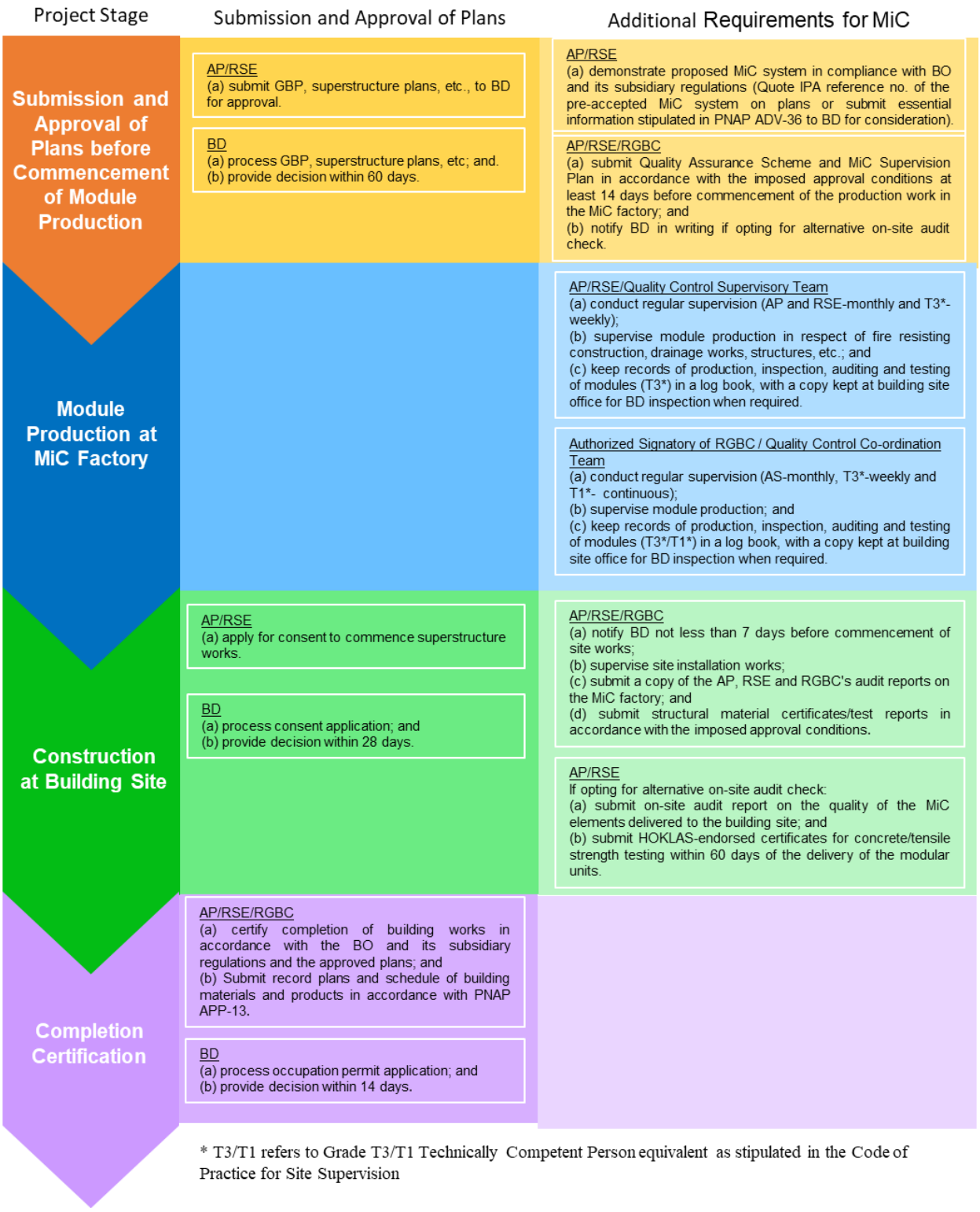


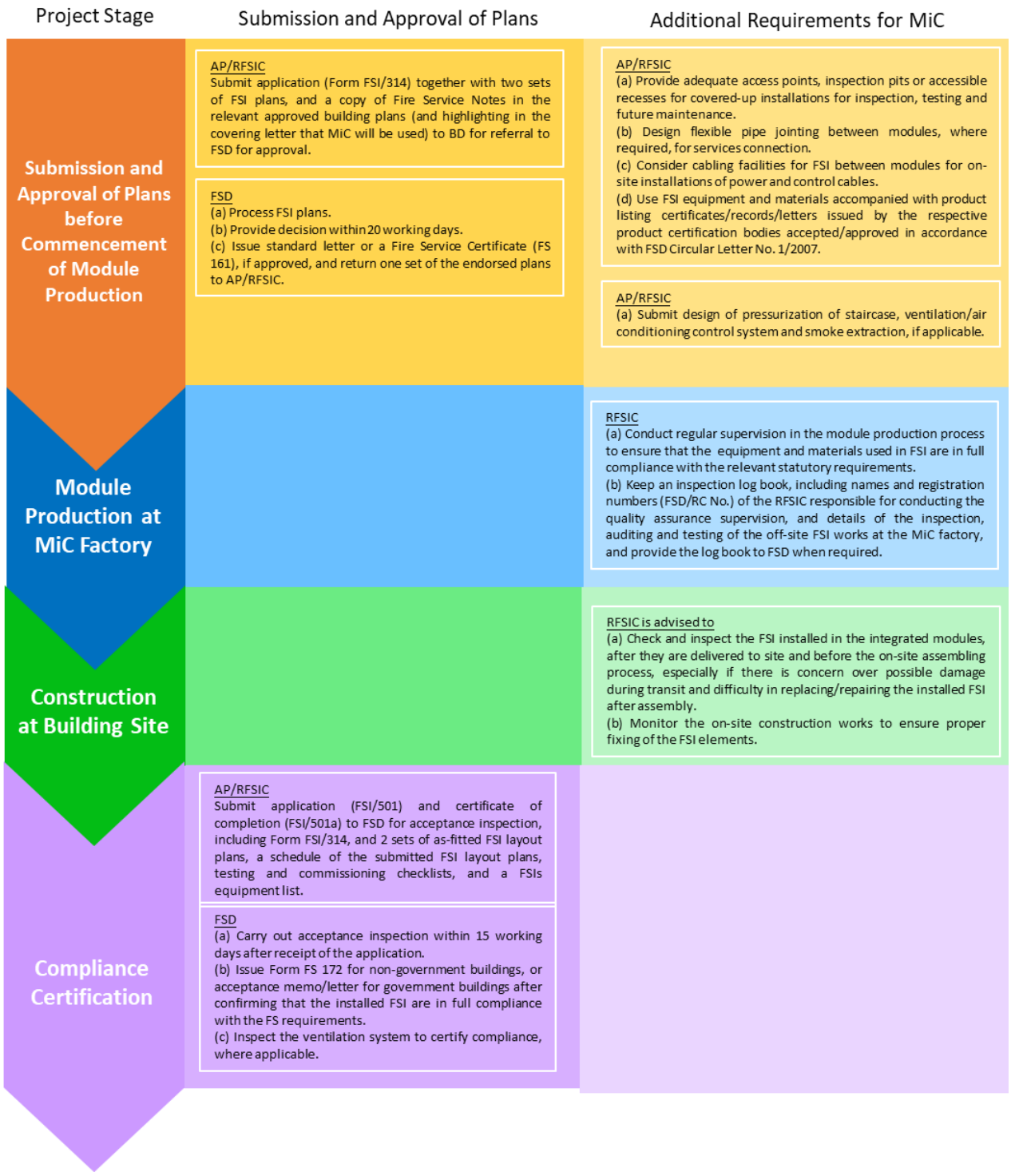
Figure 9.1 – Locations of Land Boundary Control Points, Kwai Tsing Container Terminal, mid-stream sites, River Trade Terminal and Public Cargo Working Areas (https://www.hkmpb.gov.hk/en/port.html)

APPENDIX B - WORKFLOW FOR SUBMISSION AND APPROVAL OF PLANS TO BUILDINGS DEPARTMENT AND ADDITIONAL REQUIREMENTS FOR MIC



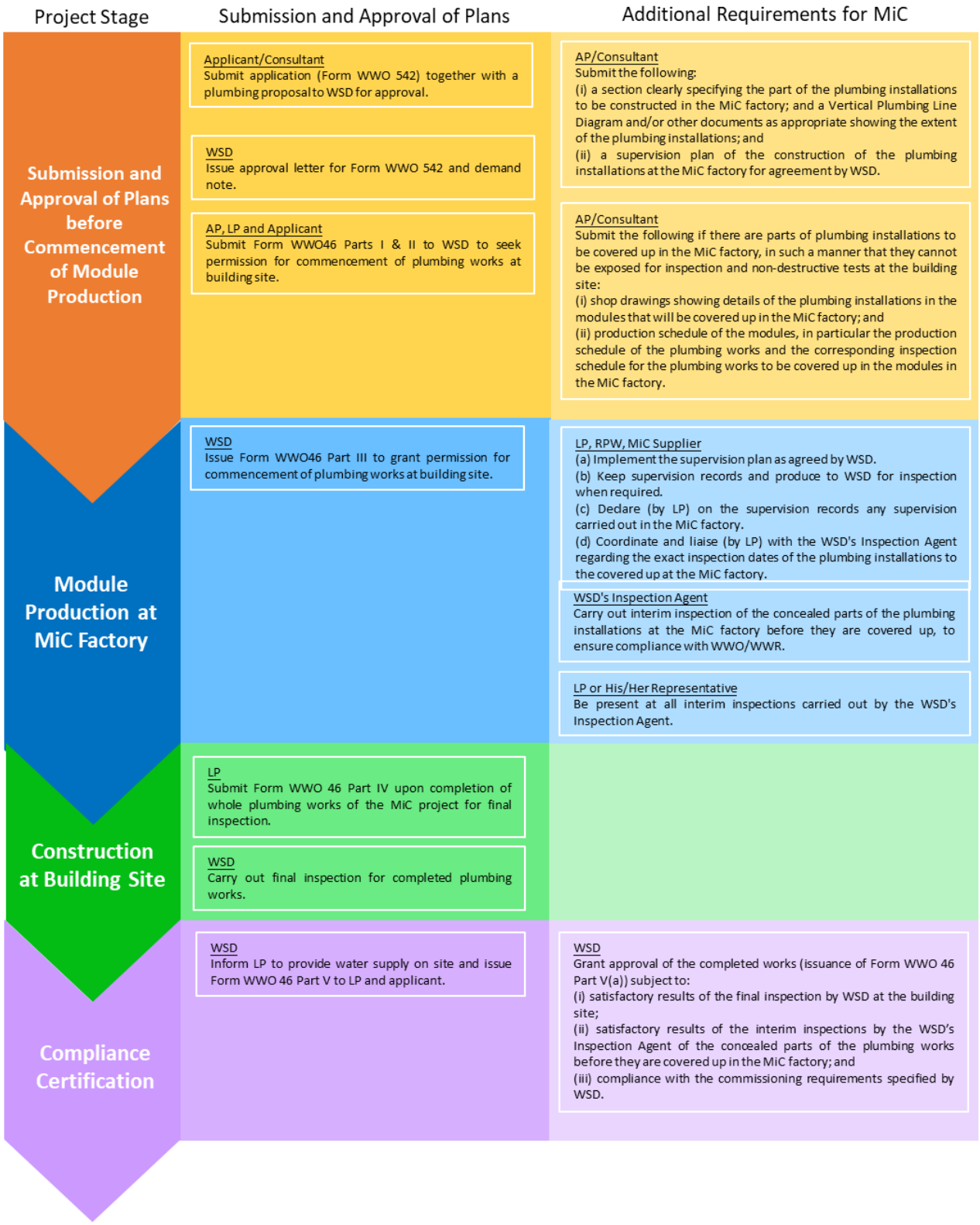
Note: Reference should be made to PNAP ADV-36 - Modular Integrated Construction.

APPENDIX C - WORKFLOW FOR SUBMISSION AND APPROVAL OF PLANS TO FIRE SERVICES DEPARTMENT AND ADDITIONAL REQUIREMENTS FOR MIC



Note: Reference should be made to FSD Circular Letter No. 3/2019 - Guidance Notes on Submission, Approval and Acceptance Inspection of Fire Service Installations and Equipment in Modular Integrated Construction Building Projects and FSD Circular No. 1/2020 - Revised Application Procedure for Inspection and Testing of Fire Service Installations and Equipment in New Building.

APPENDIX D1 - WORKFLOW FOR SUBMISSION AND APPROVAL OF PLANS TO WATER SUPPLIES DEPARTMENT AND ADDITIONAL REQUIREMENTS FOR MIC



Note: Reference should be made to Sections 3.12, 4.1.3, 4.2A, 4.3.2A and 4.3.3A and Appendices 2 and 26 of the WSD's Guide to Application for Water Supply (December 2021 version) (https://www.wsd.gov.hk/filemanager/en/content_1805/Guide%20to%20Application%20for%20Water%20Supply%20-%202021_Final.pdf)

APPENDIX D2 - RECORD FORM FOR SUPERVISION OF PLUMBING WORKS CONSTRUCTED AT OFF-SITE MIC FACTORY

Project Name: _____
Address of MiC factory: _____
WSD Reference No. (CCID/ASN): _____
Period of supervision of construction at MiC factory: / / to / /

A. Registered Plumbing Workers (RPW) Supervision Record:

Name of RPW	Registration no.	Date	Start Time	End Time

_____ _____
Signature(s) of RPW Date

B. Licensed Plumbers (LP) Supervision and Inspection Record:
Name of responsible LP: _____ LP No.: _____

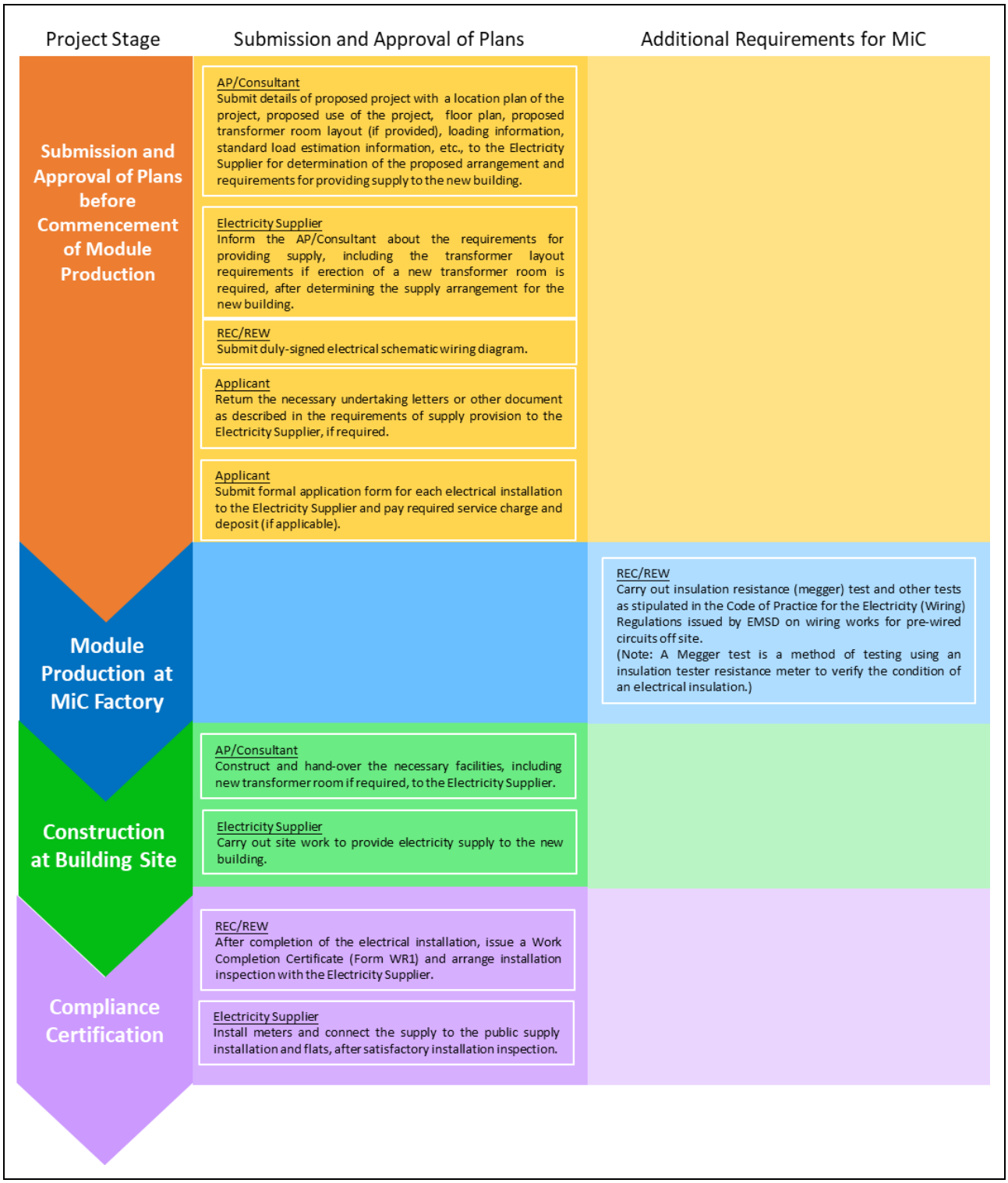
Date	Start Time	End Time

I, _____, declare that plumbing works carried out in the MiC factory mentioned above during DD/MM/YY to DD/MM/YY have been supervised according to the supervision plan accepted by the Water Authority under the CCID/ASN No. mentioned above. The supervision and inspection are carried out at the date and time as detailed in this record form.

_____ _____
Signature of LP Date

Note: This form is taken from Appendix 26 of the Guide to Application for Water Supply (December 2021 version) (WSD, 2021)

APPENDIX E2 - WORKFLOW FOR SUBMISSION AND APPROVAL OF PLANS TO ELECTRICITY SUPPLIER AND ADDITIONAL REQUIREMENTS FOR MIC



of delivery should be assessed. A summary of the findings for the hour with the heaviest traffic flow that should be presented is as given in Table 1. As shown in the table, the potential problematic link is Link L29. Link L29 has a V/C ratio of 1.16 for the hour of delivery with the heaviest traffic flow. This implies that there will be congestion along Link 29 for the hour of delivery examined but the congestion is manageable.

Table 1 - Link Capacity Analysis

Link Index	Road Name (Example)	Direction	Capacity (pcu/hr)	Existing Traffic Conditions		Forecast Traffic Conditions with Module Delivery	
				Flow (pcu/hr)	V/C	Flow (pcu/hr)	V/C
L1	Lung Cheung Rd between Kwun Ton Rd and Clear Water Bay Rd	N/B	6400	2088	0.33	2456	0.38
L29	New Clear Water Bay Rd near Shun Lee Tsuen Rd	W/B	1800	1315	0.73	2081	1.16
Note:	The flow is for the hour with the heaviest traffic flow as obtained from the traffic count.						
Legend:	pcu/hr = passenger car unit/hr						

3.5.2 Junction Capacity Analysis

(a) Junction types. There are three types of junctions: signal-controlled junctions[63], priority junctions[64] and roundabouts[65].

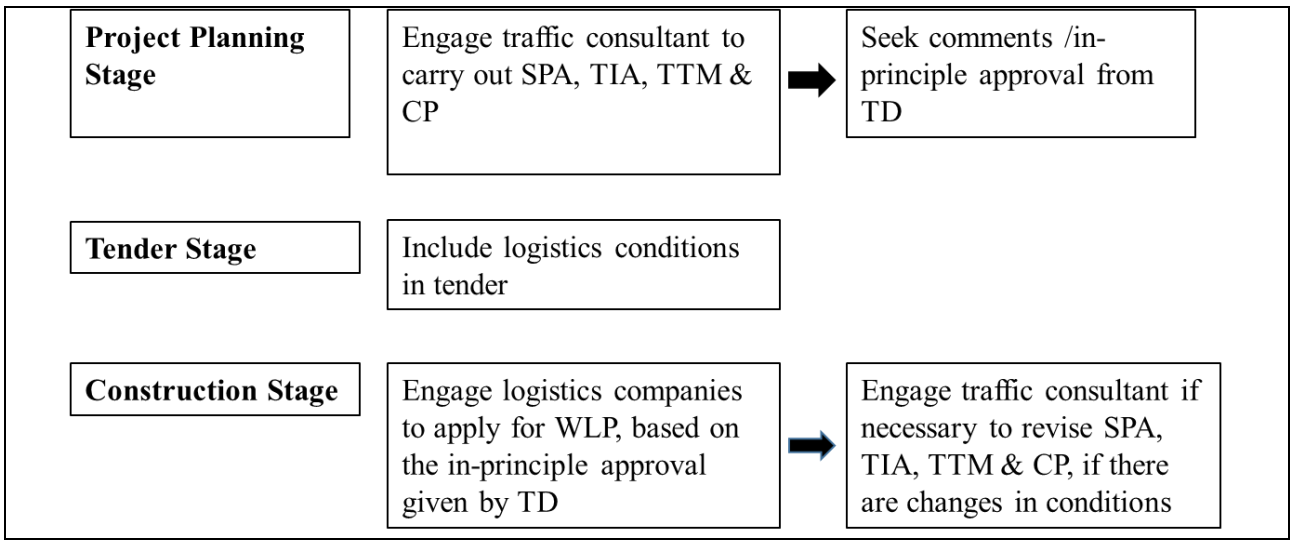
(b) Reserve Capacity (RC) (in %). For signal-controlled junctions, RC is used to evaluate the capacity of these junctions. The method of calculation can be found in Section 2.4 of TPDM Vol. 4. A positive RC figure indicates that the junction is operating with spare capacity, and *a negative RC figure indicates that the junction is overloaded*, resulting in traffic queues and longer travelling time.

(c) Design Flow to Capacity (DFC) ratio. For priority junctions and roundabouts, the DFC ratio is used to evaluate the capacity of these junctions. The DFC ratio compares the design flow to capacity of the junctions. The methods of calculation of the design flow and capacity can be found in Section 4.2.4, and Appendices 1 and 2 of TPDM Vol. 2 respectively. A DFC ratio of 0.85 indicates the junction has a reasonable capacity which would prevent queueing in the majority (85%) of cases. A DFC ratio of 0.7 indicates that queueing would theoretically be avoided in nearly all (95%) of cases at the junction. *A DFC ratio greater than 1.0 indicates that the junction is overloaded.*

(d) Presentation method. The capacity of the key junctions along the route for existing traffic conditions and forecast traffic conditions with module delivery during the selected hours of delivery should be assessed. A summary of the findings for the hour with the heaviest traffic flow that should be presented is as given in Table 2. As shown in the table, the potential problematic junctions are Junctions 11 and 21. Junction 11

[63] Signal-controlled junctions operate on a time sharing basis. Traffic streams are allowed to enter the junction for a period of time, indicated by an illuminated signals, and during which period conflicting traffic streams are halted.
[64] Priority junctions operate on the basis that traffic on the major road has continual priority over the traffic on the minor road. Minor road traffic is controlled by "stop" and "give way" signs and associated carriageway marking.
[65] Roundabouts could be considered as a form of channelized priority junction. Vehicles enter a one way carriageway and move in a clockwise direction around a central island. Entering vehicles give priority to those vehicles already circulating across their entry.

Annex A – Suggested Project Arrangement for MiC Projects



Annex B – No. of WLPs Issued (as of 31.3.2023)

In Terms of	Type	No. of WLPs Issued in						No. of Valid WLPs (as of 31.3.2023)
		2018	2019	2020	2021	2022	2023 (up to 31.3.23)	
Type of Vehicle	Medium goods vehicle	438	525	683	677	694	152	580
	Heavy goods vehicle	234	250	291	318	348	83	294
Registered Owner	Individual		100	135	144	157	27	110
	Business		675	839	851	885	208	764

Annex C – General Requirements for Delivery of Wide Load in Hong Kong

	Routine	Case by Case	Case by Case
	Overall Width ≤2.5m	2.5m<Overall Width≤3m	Overall>3m
WLP Required	No	Yes	Yes
TIA, TTM, SPA & CP Required	No	Yes	Yes (with more careful consideration of the traffic implications and proposal of more sophisticated TTM schemes)
Time of Delivery	No time restriction	The permitted hours of delivery will depend on the selected route, traffic flows, road conditions, etc., and the results of the TIA acceptable to TD	
Self-arranged Escort (Notes 1 and 2)	No	Yes	
Police Escort (Note 1)	No	No	

Notes:

1. Self-arranged escort is the practice recommended by the police. There are however situations where police escort may be needed, for example, when the delivery crashes with a VIP convoy on the day, there is an accident along the route, etc. Under the above-mentioned special situations, there is no charge for the police escort provided.
2. Reference can be made to Section 5.9 of the CoP for the Loading of Vehicles (TD, 2019) on the duties of escort vehicles.

Annex D – Contacts of the Operators of Eastern Harbour Crossing and Western Harbour Crossing

Tunnel	Operator	Telephone	Fax Number
Eastern Harbour Crossing (EHC)	Pacific Infrastructure Ltd.	2379 2358/ 2348 0011	2347 5037
Western Harbour Crossing (WHC)	Western Harbour Tunnel Co. Ltd.	2302 5760/ 2302 5888	2781 1729

CONSTRUCTION INDUSTRY COUNCIL
建造業議會

Feedback Form
Statutory Requirements for Modular Integrated Construction Projects (October 2023)

Thank you for reading this publication. To help us improve our future versions, we would appreciate your suggestions/feedback on the publication.

(Please put a " ✓ " in the appropriate box）

1. As a whole, I feel that this publication is:	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Informative	❑	❑	❑	❑	❑
Comprehensive	❑	❑	❑	❑	❑
Useful	❑	❑	❑	❑	❑
Practical	❑	❑	❑	❑	❑

2. Does this publication enable you to understand more about the Statutory Requirements for the Modular Integrated Construction Projects?	Yes	No	No Comment
	❑	❑	❑
3. Have you made reference to this publication in your work?	Quite Often	Sometimes	Never
	❑	❑	❑
4. To what extent have you incorporated the recommendations of this publication in your work?	Most	Some	None
	❑	❑	❑

5. Overall, how would you rate this publication?	Excellent	Very Good	Satisfactory	Fair	Poor
	❑	❑	❑	❑	❑

6. Other comments and suggestions (please specify and use separate sheets if necessary).

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