



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

Reference Material



Statutory Requirements for Modular Integrated Construction Projects

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	<p>The following documents have been revised/issued:</p> <p>(a) PNAP ADV-36 MiC (Apr 2022);</p> <p>(b) BD, LandsD & PlanD JPN No. 2 Second Package of Incentives to Promote Green and Innovative Buildings (July 2022);</p> <p>(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)</p>	<p>The following revisions have been made:</p> <p>(a) Approval of plans for MiC project was clarified in Section 3.3.</p> <p>(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.</p> <p>(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 calculations was included.</p>
4	Fire Services Department	<p>The following document has been issued:</p> <p>(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).</p>	Section 4.4 on Acceptance Inspection 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	<p>The following documents have been issued:</p> <p>(a) Guide to Application for Water Supply (December 2021 version); and</p>	Section 5.4 on Final Inspection at Building Site and Commissioning Requirements and Section 5.5 on Effect of Water Supply were updated.

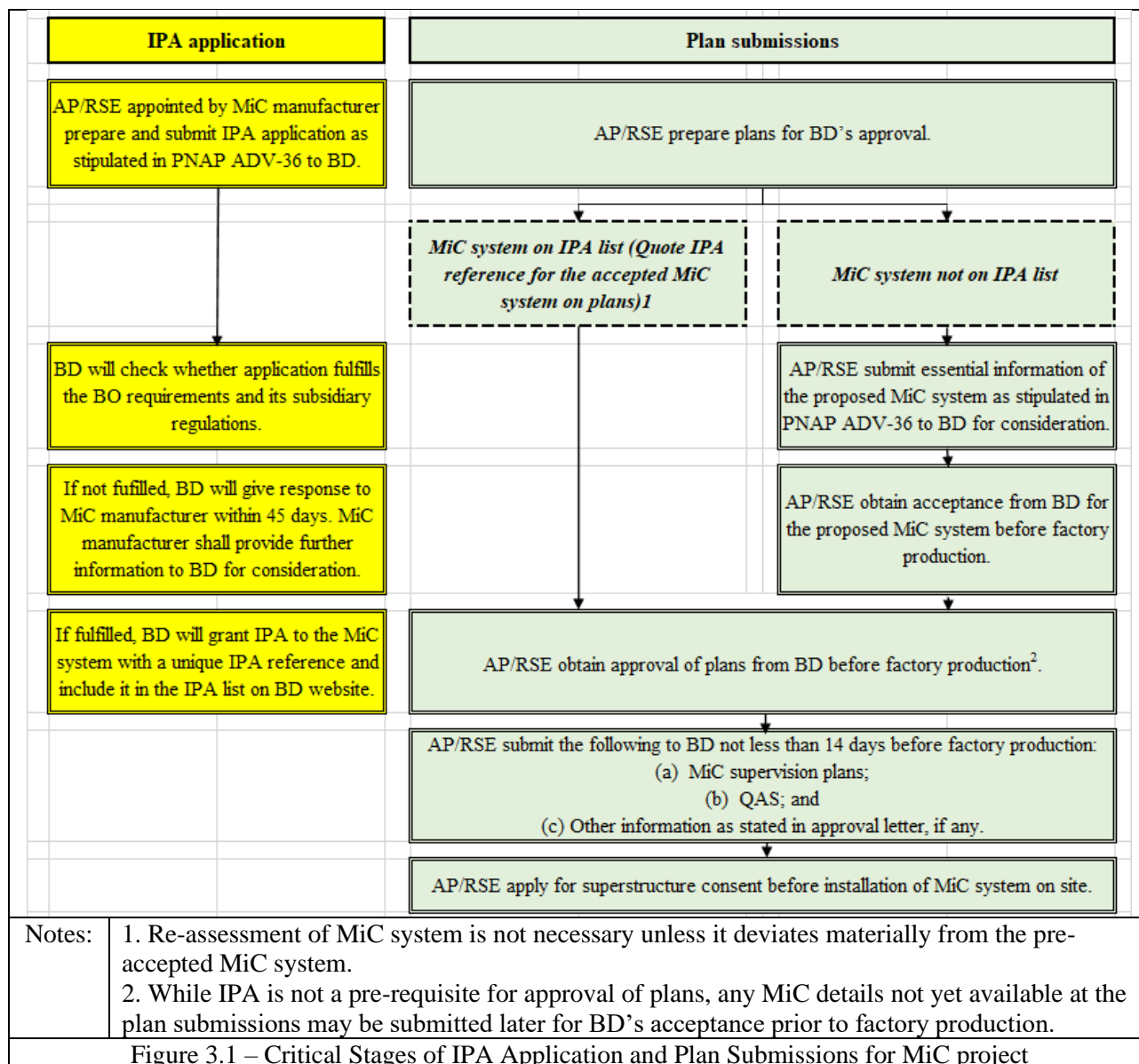
		(b) Technical Requirements for Plumbing Works in Buildings (December 2021 version).	
6	Electrical and Mechanical Services Department	<p>The following documents have been issued:</p> <p>(a) Code of Practice for the Electricity (Wiring) Regulations (2020 Edition) (see Code 26T on Installation of MiC) (2020);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

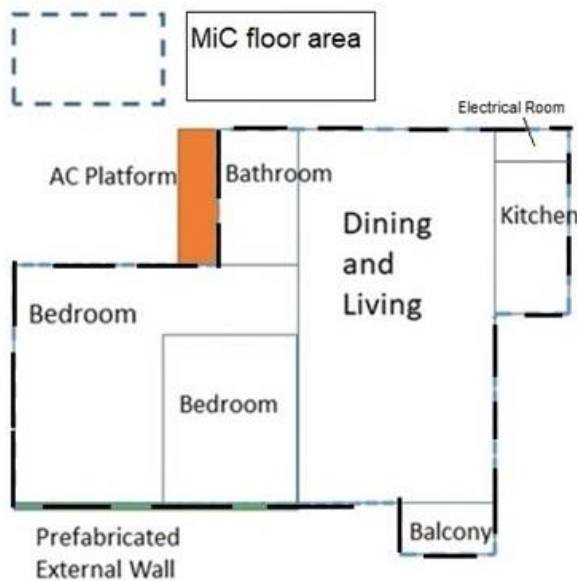
with the principles and guidelines given in PNAP ADM-19. The plans will be handled under the centralised processing system as stipulated in PNAP ADM-2, through which all interested government departments will be consulted and their comments will be collated by BD.

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 alternative 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.





MiC floor area= 50 m²

GFA exemption

A. Green/amenity features under JPN1 and JPN2

- (a) Balcony = 1 m²
- (b) Non-structural pre-fabricated external wall = 0.5 m²

B. Mandatory plant room under B(P)R 23(3)(b)

- (c) Electrical room = 1 m²

C. MiC floor area under JPN8

- (d) MiC floor area = 50 m² x 10% = 5 m²

Accountable GFA=42.5 m²

Note: AC platform under PNAPAPP-19 should be excluded from the calculation of MiC floor area.

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)

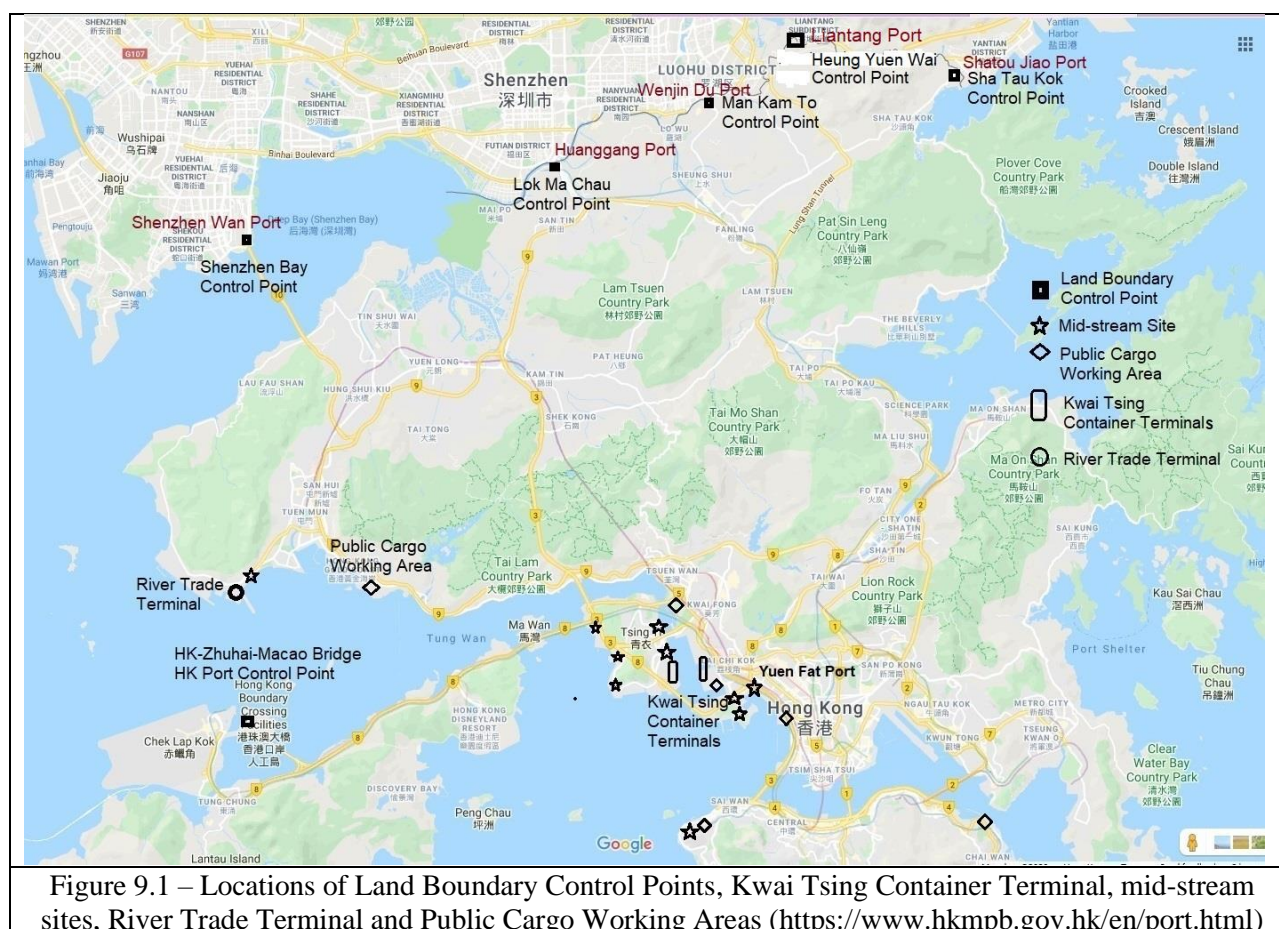
JPN No. 8: Incentive to Promote Green and Innovative Buildings Enhanced Facilitation Measures for Buildings Adopting Modular Integrated Construction (BD, LandsD & PlanD, 2022)

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.



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

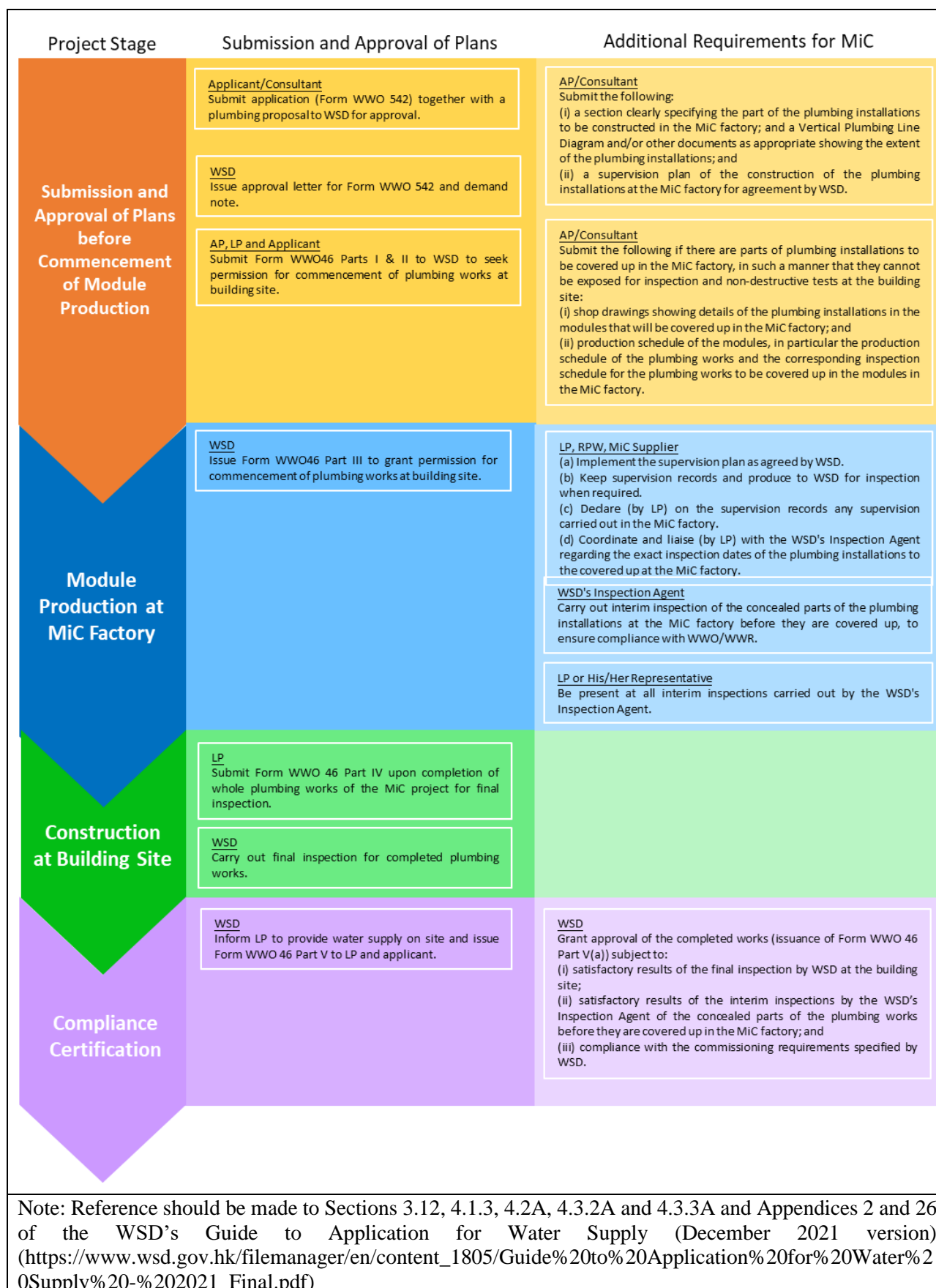
Project Stage	Submission and Approval of Plans	Additional Requirements for MiC
Submission and Approval of Plans before Commencement of Module Production	<p><u>AP/RSE</u> (a) submit GBP, superstructure plans, etc., to BD for approval.</p> <p><u>BD</u> (a) process GBP, superstructure plans, etc; and (b) provide decision within 60 days.</p>	<p><u>AP/RSE</u> (a) demonstrate proposed MiC system in compliance with BO and its subsidiary regulations (Quote IPA reference no. of the pre-accepted MiC system on plans or submit essential information stipulated in PNAP ADV-36 to BD for consideration).</p> <p><u>AP/RSE/RGBC</u> (a) submit Quality Assurance Scheme and MiC Supervision Plan in accordance with the imposed approval conditions at least 14 days before commencement of the production work in the MiC factory; and (b) notify BD in writing if opting for alternative on-site audit check.</p>
Module Production at MiC Factory		<p><u>AP/RSE/Quality Control Supervisory Team</u> (a) conduct regular supervision (AP and RSE-monthly and T3*-weekly); (b) supervise module production in respect of fire resisting construction, drainage works, structures, etc.; and (c) keep records of production, inspection, auditing and testing of modules (T3*) in a log book, with a copy kept at building site office for BD inspection when required.</p> <p><u>Authorized Signatory of RGBC / Quality Control Co-ordination Team</u> (a) conduct regular supervision (AS-monthly, T3*-weekly and T1*- continuous); (b) supervise module production; and (c) keep records of production, inspection, auditing and testing of modules (T3*/T1*) in a log book, with a copy kept at building site office for BD inspection when required.</p>
Construction at Building Site	<p><u>AP/RSE</u> (a) apply for consent to commence superstructure works.</p> <p><u>BD</u> (a) process consent application; and (b) provide decision within 28 days.</p>	<p><u>AP/RSE/RGBC</u> (a) notify BD not less than 7 days before commencement of site works; (b) supervise site installation works; (c) submit a copy of the AP, RSE and RGBC's audit reports on the MiC factory; and (d) submit structural material certificates/test reports in accordance with the imposed approval conditions.</p> <p><u>AP/RSE</u> If opting for alternative on-site audit check: (a) submit on-site audit report on the quality of the MiC elements delivered to the building site; and (b) submit HOKLAS-endorsed certificates for concrete/tensile strength testing within 60 days of the delivery of the modular units.</p>
Completion Certification	<p><u>AP/RSE/RGBC</u> (a) certify completion of building works in accordance with the BO and its subsidiary regulations and the approved plans; and (b) Submit record plans and schedule of building materials and products in accordance with PNAP APP-13.</p> <p><u>BD</u> (a) process occupation permit application; and (b) provide decision within 14 days.</p>	
* T3/T1 refers to Grade T3/T1 Technically Competent Person equivalent as stipulated in the Code of Practice for Site Supervision		
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

Project Stage	Submission and Approval of Plans	Additional Requirements for MiC
Submission and Approval of Plans before Commencement of Module Production	<p>AP/RFSIC Submit application (Form FSI/314) together with two sets of FSI plans, and a copy of Fire Service Notes in the relevant approved building plans (and highlighting in the covering letter that MiC will be used) to BD for referral to FSD for approval.</p> <p>FSD (a) Process FSI plans. (b) Provide decision within 20 working days. (c) Issue standard letter or a Fire Service Certificate (FS 161), if approved, and return one set of the endorsed plans to AP/RFSIC.</p>	<p>AP/RFSIC (a) Provide adequate access points, inspection pits or accessible recesses for covered-up installations for inspection, testing and future maintenance. (b) Design flexible pipe jointing between modules, where required, for services connection. (c) Consider cabling facilities for FSI between modules for on-site installations of power and control cables. (d) Use FSI equipment and materials accompanied with product listing certificates/records/letters issued by the respective product certification bodies accepted/approved in accordance with FSD Circular Letter No. 1/2007.</p> <p>AP/RFSIC (a) Submit design of pressurization of staircase, ventilation/air conditioning control system and smoke extraction, if applicable.</p>
Module Production at MiC Factory		<p>RFSIC (a) Conduct regular supervision in the module production process to ensure that the equipment and materials used in FSI are in full compliance with the relevant statutory requirements. (b) Keep an inspection log book, including names and registration numbers (FSD/RC No.) of the RFSIC responsible for conducting the quality assurance supervision, and details of the inspection, auditing and testing of the off-site FSI works at the MiC factory, and provide the log book to FSD when required.</p>
Construction at Building Site		<p>RFSIC is advised to (a) Check and inspect the FSI installed in the integrated modules, after they are delivered to site and before the on-site assembling process, especially if there is concern over possible damage during transit and difficulty in replacing/repairing the installed FSI after assembly. (b) Monitor the on-site construction works to ensure proper fixing of the FSI elements.</p>
Compliance Certification	<p>AP/RFSIC Submit application (FSI/501) and certificate of completion (FSI/501a) to FSD for acceptance inspection, including Form FSI/314, and 2 sets of as-fitted FSI layout plans, a schedule of the submitted FSI layout plans, testing and commissioning checklists, and a FSIs equipment list.</p> <p>FSD (a) Carry out acceptance inspection within 15 working days after receipt of the application. (b) Issue Form FS 172 for non-government buildings, or acceptance memo/letter for government buildings after confirming that the installed FSI are in full compliance with the FS requirements. (c) Inspect the ventilation system to certify compliance, where applicable.</p>	

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



**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

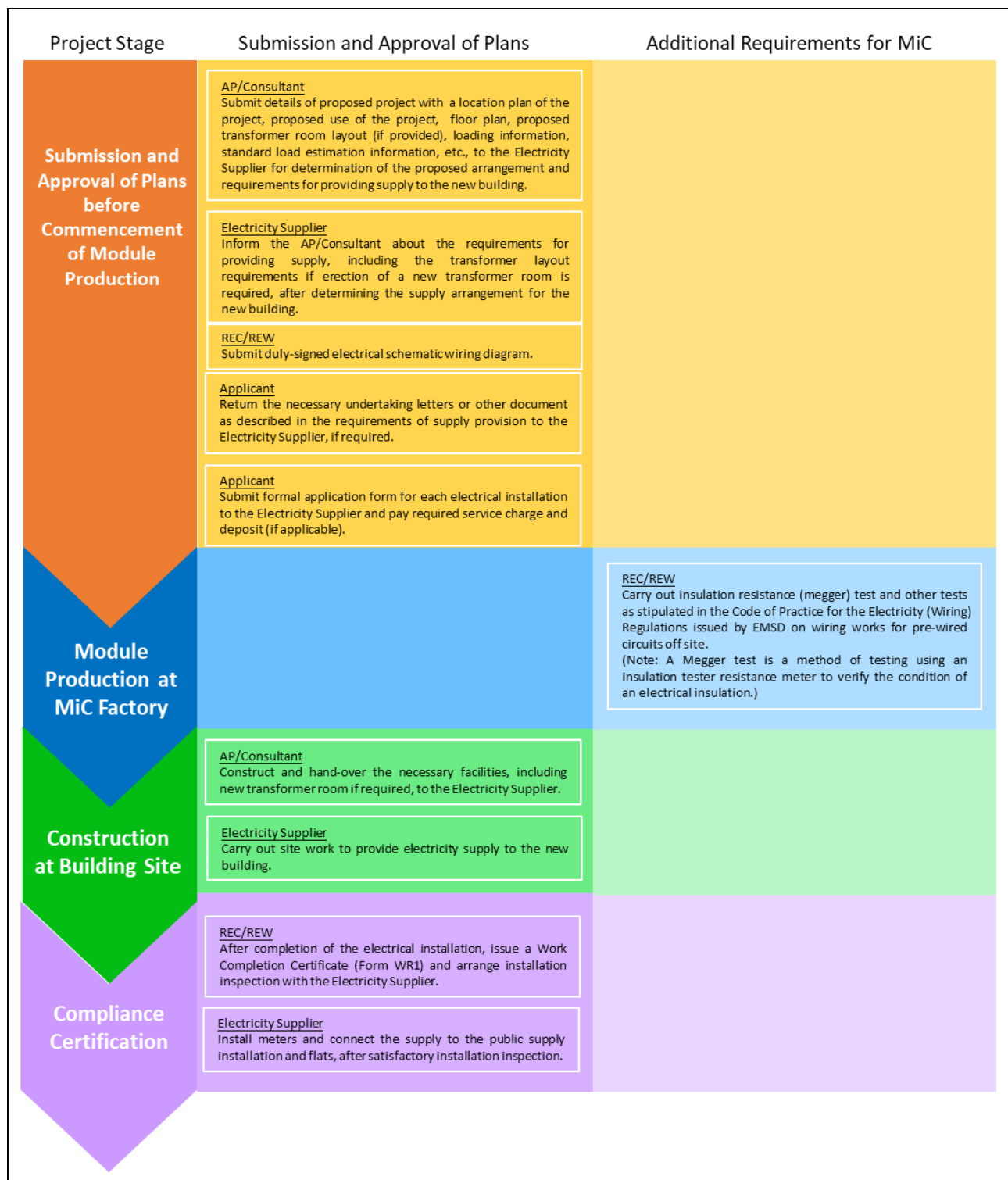
I, _____, declare that plumbing works carried out in the MiC factory mentioned above during DD/MM/YY to DD/MM/YY have been supervised according to the supervision plan accepted by the Water Authority under the CCID/ASN No. mentioned above. The supervision and inspection are carried out at the date and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

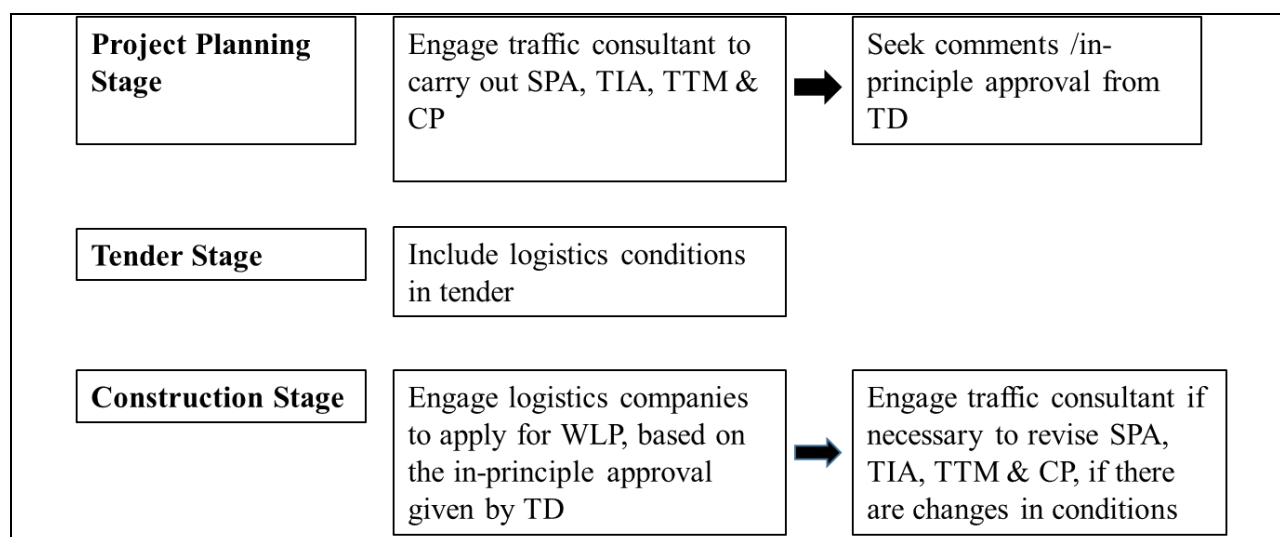
- Junction types. There are three types of junctions: signal-controlled junctions⁶³, priority junctions⁶⁴ and roundabouts⁶⁵.
- Reserve Capacity (RC) (in %). For signal-controlled junctions, RC is used to evaluate the capacity of these junctions. The method of calculation can be found in Section 2.4 of 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.
- 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.*
- 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

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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comprehensive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Useful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Practical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Does this publication enable you to understand more about the Statutory Requirements for the Modular Integrated Construction Projects?	Yes		No	No Comment	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Have you made reference to this publication in your work?	Quite Often		Sometimes	Never	
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5. Overall, how would you rate this publication?	Excellent	Very Good	Satisfactory	Fair	Poor
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Other comments and suggestions (please specify and use separate sheets if necessary).					
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