Practice Guide on Carrying Out Plumbing Works



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Foreword

Upon the amendment to the Waterworks Ordinance (Cap. 102) ("WWO") by the Waterworks (Amendment) Bill 2017, according to sections 14 and 15 of the WWO:

- (1) the construction, installation, alteration or removal of fire services and inside services (hereinafter collectively referred to as "plumbing systems"), except alterations of a minor nature, must not be commenced without the written permission of the Water Authority (WA); otherwise it is an offence.
- (2) all specified plumbing works, except in situations allowed under the Construction Workers Registration Ordinance (Cap. 583) ("CWRO") and Construction Workers Registration (Exemption) Regulation (Cap. 583C) and alterations or repairs of a minor nature, must be carried out by designated persons; otherwise, it is an offence.
- (3) the construction or installation of, or alteration to, plumbing systems must be carried out in the prescribed way and the pipes and fittings used in the construction, installation or alteration must be of the prescribed nature, size and quality; otherwise, it is an offence.

In addition, in order to make sure that specified plumbing works are carried out by designated persons, section 15B of the WWO empowers the WA and public officers authorized by him in writing to enter into non-domestic premises at any reasonable time and to question. Any person who fails to comply with the requirements raised by the WA or public officers authorized by him in writing in accordance with section 15B of the WWO commits an offence.

This Guide is published to provide reference for citizens and trade practitioners with the intention to prevent them from committing offence inadvertently while carrying out specified plumbing works due to their lack of knowledge of the relevant legislation and requirements.

In drafting this Guide, the Water Supplies Department (WSD) consulted the trade on its content. We would like to thank the Consultative Group for Legislative Review for their valuable input. We will review this Guide from time to time and welcome suggestions from citizens and trade practitioners on improving this Guide.

This Guide takes effect on 15 February 2018.

Disclaimer

Although the WSD has endeavoured in due diligence to make sure that the information provided in this Guide is accurate, readers are encouraged to seek appropriate and independent advice from professional consultants in all situations. Readers should not rely on this Guide for taking any related actions, nor regard this Guide as a substitute for independent professional advice.

Content in this Guide should not be regarded as the entirety of all matters or requirements stipulated by the WWO.

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1. Introduction

- 1.1 Section 14 of the WWO is revised by the Waterworks (Amendment) Bill 2017 to stipulate that applications for the written permission under section 14(1) of the WWO for the construction, installation, alteration or removal of plumbing systems must be made by licensed plumbers ("LPs") (hereinafter referred to as the "responsible LP"). The responsible LP is required to make sure and certify that the works covered by and completed pursuant to that permission comply with section 14(3) of the WWO.
- 1.2 In order to align with the policy intent and the industry practice, section 15 of the WWO is also revised by the Waterworks (Amendment) Bill 2017 to allow (in addition to LPs and public officers authorized by the WA) plumbing workers registered under the CWRO and other persons working under the instruction and supervision of LPs and registered plumbing workers to carry out specified plumbing works.
- 1.3 To ensure that specified plumbing works are carried out by designated persons, the Waterworks (Amendment) Bill 2017 has introduced section 15B to empower the WA and public officers authorized by him in writing to enter any non-domestic premises at any reasonable time, without prior consent from occupiers of the relevant premises or a magistrate's warrant, and to exercise the power of inspection and question.
- 1.4 Practical examples will be used to interpret the rights and responsibilities of the persons involved in plumbing works for their reference. Relevant persons should not regard complying with this Guide as complying with the requirements stipulated by the WWO, and should seek appropriate independent advice from professional consultants for ensuring the effectiveness and quality of plumbing systems.
- 1.5 The Guide comprises five parts:
 - I. Introduction;
 - II. Scope of Application;
 - III. Abbreviations and Definitions;
 - IV. Roles and Responsibilities of Stakeholders Involved in Plumbing Works; and
 - V. Penalties for Contravening the WWO.

1.6 For enquiries or comments on the Guide, please contact us by:

Telephone:	2824 5000
Fax:	2824 0578
Email:	wsdinfo@wsd.gov.hk
Post:	43/F, Immigration Tower, 7 Gloucester Road, Wanchai, Hong Kong

2. Scope of Application

- 2.1 Content of this Guide apply to all plumbing works.
- 2.2 Although alterations or repairs of a minor nature and some plumbing works carried out in situations allowed under the CWRO are not required to comply with the requirements stated in sections 14(1) and 15(1) of the WWO, citizens and trade practitioners are encouraged to adopt and follow the content of and recommendations given by this Guide as far as possible for securing their own interest.

3. Abbreviations and Definitions

3.1 Abbreviations

This Guide adopts the following abbreviations.

WWO	Waterworks Ordinance (Cap. 102)	
WWR	Waterworks Regulations (Cap. 102A)	
General worker	A worker who carries out specified plumbing works under the instruction and supervision of licensed plumbers or registered plumbing workers	
Plumbing system	A fire service or inside service	
Guide	Practice Guide on Carrying Out Plumbing Works	
WSD	Water Supplies Department	
Section 14(1) permission	A written permission under section 14(1) of the WWO for the construction, installation, alteration or removal of a plumbing system	

3.2 Definitions

Definitions given in this Guide originates from sections 2, 13A and 15 of the WWO, and are simplified or appropriately amended. For detailed interpretation of individual terms, readers should refer to the WWO.

Licensed plumber	a person licensed under the WWR to carry out specified plumbing works
Designated person	 means (a) a licensed plumber; (b) a registered plumbing worker; (c) a registered plumbing worker (provisional); (d) a person who carries out specified plumbing works under the instruction and supervision of a licensed plumber or a registered plumbing worker; or (e) a public officer authorized by the WA

Specified plumbing works	the construction, installation, maintenance, alteration, repair or removal of a fire service or inside service	
Responsible LP	the licensed plumber who applies from the WA for a section 14(1) permission	
Registered plumbing worker	 in relation to the construction, installation, maintenance, alteration, repair or removal of fire services or inside services, or the installation of meters, means registered skilled workers or registered semi-skilled workers under the CWRO for the following or some of the following trade divisions: (a) plumber; (b) drain and pipe layer (master); (c) fire service mechanical fitter in relation to the construction, installation, maintenance, alteration, repair or removal of fire services or inside services, or the installation of meters, means registered skilled workers (provisional) or registered semi-skilled workers (provisional) or registered semi-skilled workers (provisional) under the CWRO for the following or some of the following trade divisions: (a) plumber; (b) drain and pipe layers (master); or (c) fire service mechanical fitter 	
Registered plumbing worker (provisional)		
Authorized officer	means the WA or a public officer authorized by the WA in writing	
Plumbing works of a minor nature	mean alterations or repairs that are, in the opinion of the WA, of a minor nature. For details and examples, please refer to the following website: http://www.wsd.gov.hk/en/plumbing- engineering/licensed-plumbers/works-of-a-minor- nature/index.html	

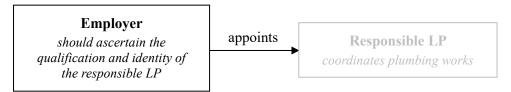
4. Roles and Responsibilities of Stakeholders Involved in Specified Plumbing Works

It is difficult to generalize the number and roles of stakeholders as they vary with the complexity of specified plumbing works. This part will illustrate the simplified situations below.

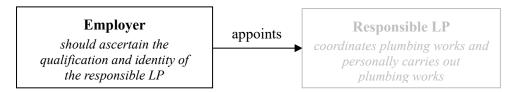
4.1 Employers

4.1.1 Employers should appoint an LP who will lodge an application to the WA for a section 14(1) permission. The LP will make sure and certify that the plumbing works comply with the regulations and requirements under section 14(3) of the WWO (hereinafter referred to as "coordinate plumbing works"). Employers may require responsible LPs to provide relevant documentary proofs or visit the following website to ascertain the qualification and identity of them:

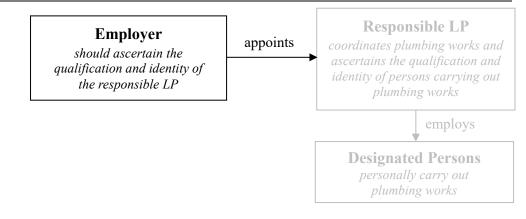
https://www.esd.wsd.gov.hk/esd/aws/licensedPlumberDirectory/init.do?pa geFlag=1



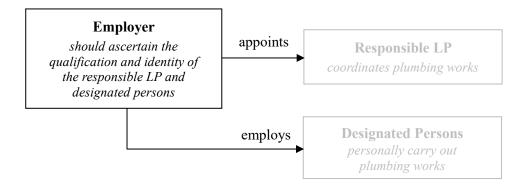
4.1.2 In general, employers would require responsible LPs to personally carry out the works:



or require responsible LPs to employ designed persons to carry out the works:



4.1.3 However, if employers directly employ persons other than responsible LPs to carry out specified plumbing works, those persons must be designated persons specified under the WWO *(refer to section 15 of the WWO)*. If the persons employed are LPs, registered plumbing workers or registered plumbing workers (provisional), employers should require them to provide relevant documentary proofs; if the persons employed include general workers, the employers should make sure that the general workers will carry out specified plumbing works under the instruction and supervision of LPs or registered plumbing workers.



4.1.4 Therefore, if employers doubt or have difficulty in ascertaining the qualification and identity of persons carrying out specified plumbing works, they should consider appointing responsible LPs to take up the employment of designated persons for carrying out specified plumbing works.

4.2 Licensed Plumbers

LPs should make sure that their licences are valid. If their licences are expired and pending for renewal, they can neither continue to coordinate plumbing works as responsible LPs, nor instruct or supervise general workers in carrying out specified plumbing works, not to mention that they cannot personally carry out specified plumbing works.

4.2.1 *Coordinating plumbing works as responsible LP*

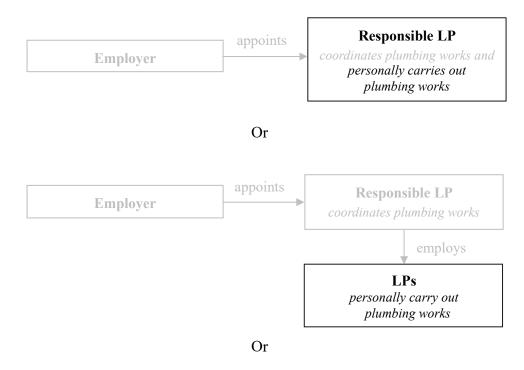


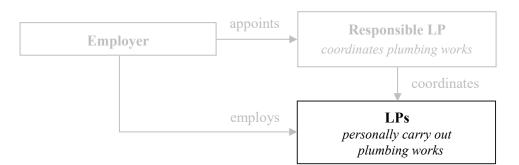
- 4.2.1.1 The responsible LP should submit an application for a section 14(1) permission from the WA for carrying out the construction, installation, alteration or removal of plumbing systems according to section 14(2A) of the WWO prior to commencement of the works.
- 4.2.1.2 Vertical plumbing line diagrams; the list of the pipes and fittings to be installed (in Form WWO 1149) with certification and confirmation of their compliance with the regulations and requirements under the WWO; and a supporting document of lead-free soldering materials (if soldering is used within plumbing systems) should be submitted with the application for the section 14(1) permission.
- 4.2.1.3 Upon obtaining a section 14(1) permission, working drawings should be prepared based on the approved vertical plumbing line diagrams.
- 4.2.1.4 While the works are being carried out, the responsible LP should take reasonable steps to ensure compliance with sections 14(3) and 15(1) of the WWO. These steps include:
 - making sure that, except for plumbing works personally carried out by the responsible LP, no person other than designated persons carries out the works, regardless of whether these persons are employed by him or not; if the persons employed are LPs, registered plumbing workers or registered plumbing workers (provisional), the responsible LP should require them to provide relevant documentary proofs; if the persons employed include general workers, the responsible LP should make sure that the general workers carry out the works under the instruction and supervision of LPs or registered plumbing workers;
 - inspecting the carrying out of the works as often as is reasonable to ensure that the works are carried out in accordance with the regulations and requirements under section 14(3) of the WWO, having regard to the

nature of the works, the risks involved in the works and the knowledge and experience of the persons carrying out the works;

- making sure that the materials, pipes and fittings used in plumbing works are identical with those listed in Form WWO 1149;
- making sure that the works are carried out according to the approved vertical plumbing line diagrams and relevant working drawings; and
- making sure that leaded soldering materials are not used in soldering within plumbing systems.
- 4.2.1.5 The responsible LP should actively cooperate with the authorized officers during inspection and questioning.
- 4.2.1.6 Upon the completion of the works, the responsible LP should:
 - apply to the WA for his inspection and approval of the works;
 - undertake rectification works on unsatisfactory spots of the works identified by the WA during inspection; and
 - arrange to clean and disinfect newly installed plumbing systems and collect water samples from the systems for testing after obtaining the approval of the works from the WA.

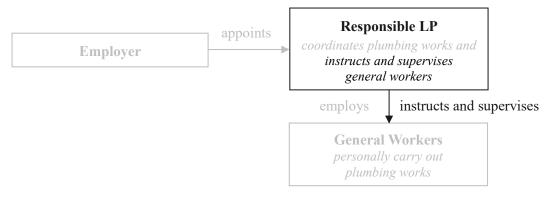
4.2.2 Carrying out plumbing works personally



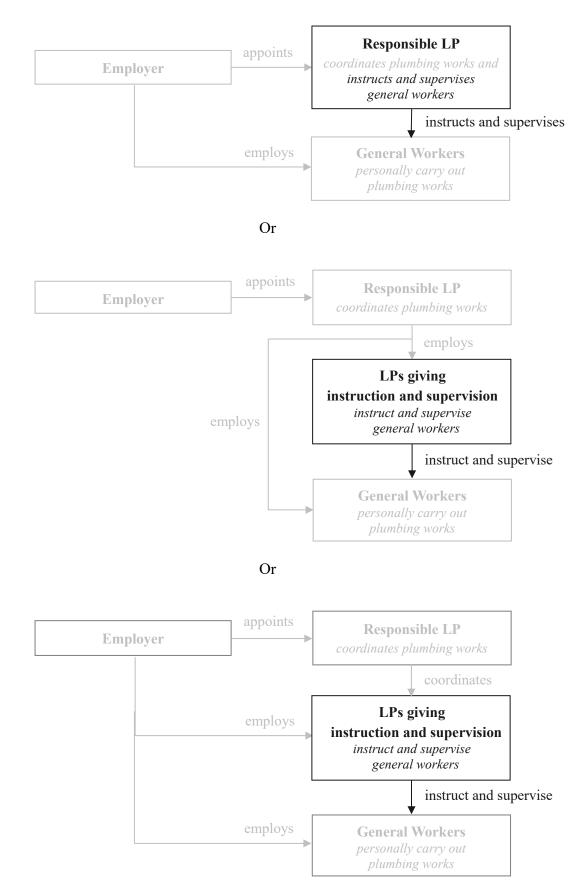


- 4.2.2.1 While the works are being carried out, LPs should take reasonable steps to ensure compliance with section 14(3) of the WWO. These steps include:
 - using the specified materials, pipes and fittings and manner in carrying out the works according to the approved vertical plumbing line diagrams and relevant working drawings;
 - making sure that the way in which the works are carried out and the nature, size and quality of the pipes and fittings used comply with the regulations and requirements under section 14(3) of the WWO.
- 4.2.2.2 LPs should actively cooperate when they are requested by authorized officers to produce their valid licences issued by the WA and answer questions regarding the works during inspection.

4.2.3 Instructing and supervising general workers

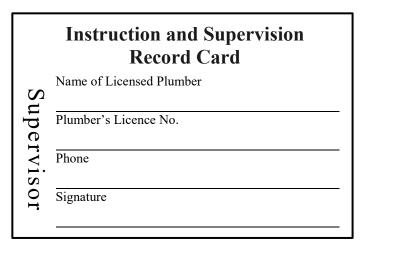


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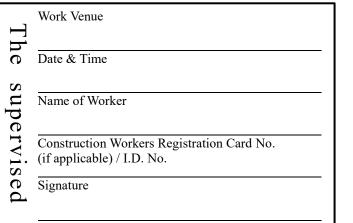
4.2.3.1 When an LP works with a general worker, who is to work under his instruction and supervision, for the first time, he should inform the general

worker of his relevant qualification and give him his name and contact details for establishing an effective communication. The LP may consider printing the information on a card of the size of a business card (90mm x 54mm, refer to the following drawings) in advance. Before providing any instruction and supervision, the LP should fill in the card with work venues and time, and sign on the card. The general worker should also fill in his own personal particulars and sign on the card. The card should be in duplicate, kept by both parties and be carried with them while the general worker is working under the instruction and supervision of the LP.



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- 4.2.3.2 Before providing instruction and supervision, the LP should understand the content of the works and the knowledge and experience of the general worker, and consider if the worker is able to carry out the works under his instruction and supervision.
- 4.2.3.3 While the works are being carried out, the LP should take reasonable steps

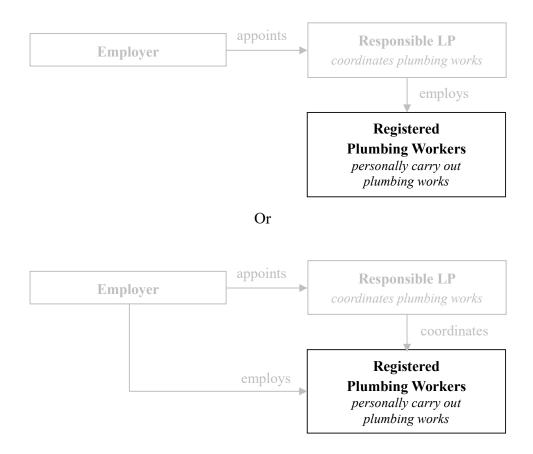
to ensure compliance with sections 14(3) and 15(1) of the WWO and to provide instruction and supervision. These steps include:

- with reference to the specified materials, pipes, fittings and manner based on the approved vertical plumbing line diagrams and working drawings, instructing the general worker on the scope, method and manner of the works;
- inspecting the carrying out of the works as often as is reasonable to ensure that the works are carried out in accordance with his instruction, having regard to the nature of the works, the risks involved in the works and the knowledge and experience of the general worker; and
- making sure that the way in which the works are carried out and the nature, size and quality of the pipes and fittings used comply with the regulations and requirements under section 14(3) of the WWO.
- 4.2.3.4 During inspection, authorised officers may ask about the personal qualifications of the persons who give instruction and supervision and about the details of the instruction and supervision given to make sure that specified plumbing works are being carried out by general workers under instruction and supervision. In this regard, the LP is advised to use the above "Instruction and Supervision Record Card" or the "Instruction and Supervision Arrangement Record Form" at Annex A to properly record the instruction and supervision arrangement and facilitate the inspection. For instance, the record card or record form may be presented to authorized officers during inspection to provide the required information.

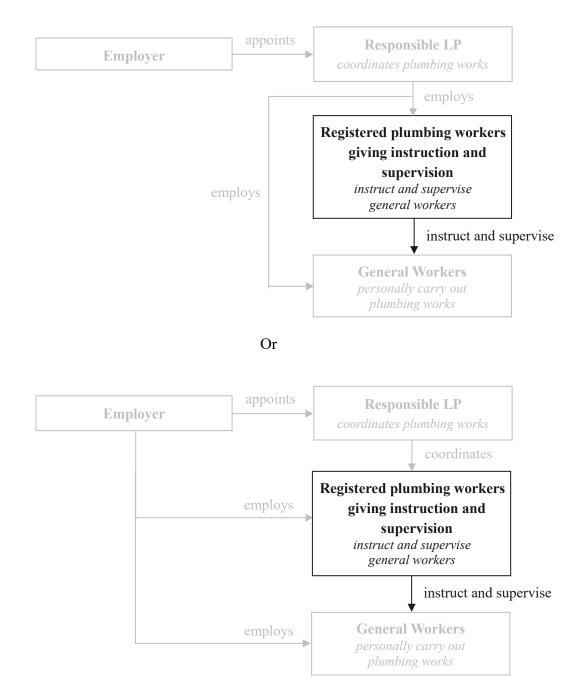
4.3 Registered Plumbing Workers

Registered plumbing workers should make sure that their registration are valid. If their registration is expired and pending for renewal, they must stop instructing and supervising general workers in carrying out specified plumbing works, not to mention that they cannot personally carry out specified plumbing works.

4.3.1 Carrying out plumbing works personally



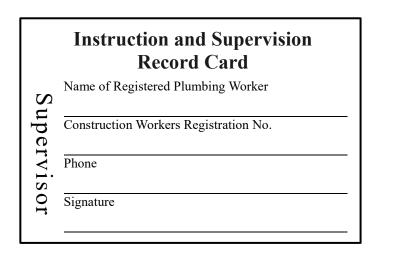
- 4.3.1.1 While the works are being carried out, registered plumbing workers should take reasonable steps to ensure compliance with section 14(3) of the WWO. These steps include:
 - using the specified materials, pipes and fittings and manner in carrying out the works according to the approved vertical plumbing line diagrams and relevant working drawings;
 - fully utilizing their knowledge of the way in which the works are being carried out and that of the pipes and fittings to make sure the regulations and requirements under section 14(3) of the WWO are complied with. The responsible LP should be consulted in case of doubt.
- 4.3.1.2 During inspection, registered plumbing workers should actively cooperate when they are asked by authorized officers to produce their valid registration cards issued by the Construction Industry Council and answer questions regarding the works.

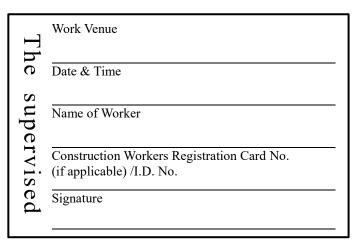


4.3.2 *Instructing and supervising general workers*

4.3.2.1 When a registered plumbing worker works with a general worker who is to work under his instruction and supervision for the first time, he should inform the general worker of his relevant qualifications and give him his names and contact details for establishing an effective communication. The registered plumbing worker may consider printing the information on a card of the size of a business card (90mm x 54mm, refer to the following drawings) in advance. Before providing any instruction and supervision, the registered plumbing worker should fill in the card with work venues and time, and sign

on the card. The general worker should also fill in his own personal particulars and sign on the card. The card should be in duplicate, kept by both parties and be carried with them while the general worker is working under the instruction and supervision of the registered plumbing worker.





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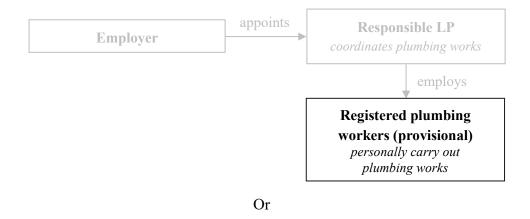
- 4.3.2.2 Before providing instruction and supervision, the registered plumbing worker should understand the content of the works and the knowledge and experience of the general worker, and consider if the worker is able to carry out the works under his instruction and supervision.
- 4.3.2.3 While the works are being carried out, the registered plumbing worker should take reasonable steps to ensure compliance with sections 14(3) and 15(1) of the WWO and to provide instruction and supervision. These steps include:
 - with reference to the specified materials, pipes, fittings and manner based on the approved vertical plumbing line diagrams and working drawings, instructing the general worker on the scope, method and

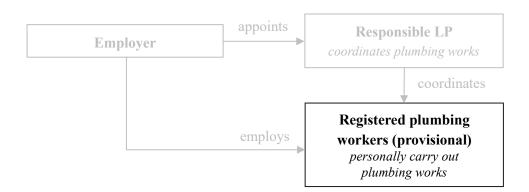
manner of the works;

- inspecting the carrying out of the works as often as is reasonable to ensure that the works are carried out in accordance with his instruction, having regard to the nature of the works, the risks involved in the works and the knowledge and experience of the general worker; and
- fully utilizing his knowledge of the way in which the works are being carried out and that of the pipes and fittings to make sure the regulations and requirements under section 14(3) of the WWO are complied with. The responsible LP should be consulted in case of doubt.
- 4.3.2.4 During inspection, authorised officers may ask about the personal qualifications of the persons who give instruction and supervision and about the details of the instruction and supervision given to make sure that specified plumbing works are being carried out by general workers under instruction and supervision. In this regard, the registered plumbing worker is advised to use the above "Instruction and Supervision Record Card" or the "Instruction and Supervision Arrangement Record Form" at Annex A to properly record the instruction and supervision arrangement and facilitate the inspection. For instance, the record card or record form may be presented to authorized officers during inspection to provide the required information.

4.4 Registered Plumbing Workers (Provisional)

Registered plumbing workers (provisional) should make sure that their registration cards are valid. If their registration is expired and pending for renewal, they must stop carrying out the specified plumbing works.





4.4.1 *Carrying out plumbing works personally*

- 4.4.1.1 While the works are being carried out, registered plumbing workers (provisional) should take reasonable steps to ensure compliance with section 14(3) of the WWO. These steps include:
 - using the specified materials, pipes and fittings and manner in carrying out the works according to the approved vertical plumbing line diagrams and relevant working drawings;
 - fully utilizing his knowledge of the way in which the works are being carried out and that of the pipes and fittings to make sure the regulations and requirements under section 14(3) of the WWO are complied with. The responsible LP should be consulted in case of doubt.
- 4.4.1.2 During inspection, registered plumbing workers (provisional) should actively cooperate when they are asked by authorized officers to produce their valid registration cards issued by the Construction Industry Council and answer questions regarding the works.

4.5 General Workers

4.5.1 *Carrying out plumbing works personally*

4.5.1.1 When the general worker works with the LP or registered plumbing worker, who is to provide instruction and supervision, for the first time, he should acquire their names and contact details for establishing an effective communication. If he doubts if the persons who give instruction supervision have the relevant qualifications, he should verify the qualifications with him/her or the responsible LP, or verify the information against the Register of Construction Workers or the Licensed Plumber Directory.

- 4.5.1.2 Before commencing specified plumbing works, general workers should understand the scope of works and the method and manner in which the works are carried out from the person who provides instruction and supervision.
- 4.5.1.3 While the works are being carried out, general workers should take reasonable steps to ensure compliance with section 14(3) of the WWO. These steps include:
 - using the specified materials, pipes and fittings and manner in carrying out the plumbing works according to the approved vertical plumbing line diagrams and relevant working drawings provided by the person who provides instruction and supervision;
 - fully utilizing their knowledge of the way in which the works are being carried out and that of the pipes and fittings to make sure the regulations and requirements under section 14(3) of the WWO are complied with. The person who provides instruction and supervision should be consulted in case of doubt.
- 4.5.1.4 During inspection, authorised officers may ask for the names and contact details of the person who provides instruction and supervision and the details of the instruction and supervision given, and may also ask questions related to the specified plumbing works to ascertain if the works are carried out by general workers under instruction and supervision. In this regard, general workers are advised to fill in their personal particulars and sign on the "Instruction and Supervision Record Card" given by the person who provides instruction and supervision and to carry the card while carrying out plumbing works to facilitate the inspection. For instance, the record card may be presented during inspection to provide the required information.

5. Penalties for Contravening the WWO

5.1 Section 14

- 5.1.1 A person who carries out plumbing works that are not alterations of a minor nature without obtaining a section 14(1) written permission commits an offence.
- 5.1.2 Section 14(3) requires that the construction or installation of, or alteration to, plumbing systems must be carried out in the prescribed way and the pipes and fittings used in the construction, installation or alteration must be of the prescribed nature, size and quality; otherwise, pursuant to section 14(4):
 - the responsible LP and LPs under whose instruction and supervision the works are carried out by general workers commit an offence, unless they are able to establish that they have taken all reasonable steps to ensure that carrying out the works would not contravene section 14(3);
 - the LPs who personally carry out the works commit an offence, unless they are able to establish that they believed that carrying out the works would not contravene subsection (3), and it was reasonable for them to so believe.

The registered plumbing workers under whose instruction and supervision the works are carried out by general workers, and the registered plumbing workers, registered plumbing workers (provisional) and general workers who personally carry out the works also commit an offence if they know that carrying out the works would contravene section 14(3) but still continue to carry out the works.

5.2 Section 15

- 5.2.1 A person who is not a designated person commits an offence if he carries out specified plumbing works that are not alterations or repairs of a minor nature or not in situations allowed under the CWRO.
- 5.2.2 A person commits an offence if he employs or permits any person who is not a designated person to carry out specified plumbing works that are not alterations or repairs of a minor nature or not in situations allowed under the CWRO, unless he is able to establish that he believed that the person carrying

out the works was a designated person, and it was reasonable for him to so believe.

5.3 Section 15B

After entering non-domestic premises, authorized officers may require the persons found on the premises to provide information. Any person who:

- fails to provide the information as requested by authorized officers without reasonable excuse, or
- provides fake or misleading statements and information, and is unable to establish that he did not know, had no reason to suspect, and could not with reasonable diligence have ascertained that the statement or information concerned was false or misleading in a material particular,

commits an offence.

5.4 Penalty

According to section 35 of the WWO, any person who commits an offence under sections 14, 15 and 15B of the WWO is liable on summary conviction to a maximum fine at level 4, which is currently HK\$25,000 (see Schedule 8 of the Criminal Procedure Ordinance (Cap. 221)).

- End -

Annex A

Instruction and Supervision Arrangement Record Form

Name of Employer:	
Contract No. / Contract Titl	
Work Site:	
Work Venue:	
Working Date and Time:	

Licensed Plumbers or Registered Plumbing Workers Providing Instruction and Supervision:

	No. of Plumber's Licence /	
	Construction Workers	
Name	Registration No. &	Signature
	Trade Division	
	(delete if not applicable)	

General Workers Working under Instruction and Supervision:

Name	Construction Workers Registration No.	Signatura
Inallie		Signature
	(if applicable)	

Signature / Chop of Employer:

Date: