

ETWB(W)273/42/02

Group : 8

23 July 2002

**Environment, Transport and Works Bureau**  
**Technical Circular (Works) No. 30/2002**

**Implementation of Site Safety Cycle and**  
**Provision of Welfare Facilities for Workers at Construction Sites**

**Scope**

This Circular promulgates the second stage of implementation of Site Safety Cycle (SSC) and the provision of welfare facilities for workers at construction sites. It shall apply to all capital works contracts including Design and Build contracts that are included in the Pay for Safety Scheme (PFSS), tenders of which are invited on or after 15 August 2002.

2. Where there are practical difficulties to implement the requirements of SSC in this Circular for a Contract, the project officer concerned shall seek advice from the Departmental Safety Adviser, and if agreed obtain the approval from an appropriate D2 officer for the exemption of the requirements.

**Effective Date**

3. This Circular shall take effect on 15 August 2002.

## **Effect on Existing Circulars**

4. This Circular supersedes WBTC No. 28/2000. It shall be read in conjunction with WBTC Nos. 14/98 on “Construction Site Safety Manual - Updating of Chapter 3 and Introduction of Chapter 12” and the subsequent amendments to these chapters promulgated via. WBTC No. 30/2000, and WBTC No. 6/2002 on “Enhanced Specification for Site Cleanliness and Tidiness” and its subsequent amendment under ETWB TCW No. 6/2002A.

## **Background**

5. SSC was introduced to the construction industry of Hong Kong in 2000, modelled on the basis of “Safety Work Cycle” of Japan. The practising of SSC in public works sites was initially on a voluntary basis, and subsequently put for trial under the PFSS in six selected contracts. The SSC is successful in demonstrating that the implementation of the activities enhances the communication between site management and working levels on safety and health matters, promotes workers’ safety awareness and improves housekeeping and site tidiness. All these contribute towards the improvements of safety performance and prevention of accidents at construction sites. Furthermore, the trial implementation of SSC under the PFSS also showed that it helped promote and strengthen the practising of SSC. It is therefore decided to extend the second stage of the implementation of SSC to all capital works contracts including Design and Build contracts that are included in the PFSS. The practising of SSC in term contracts will be considered at a later stage when more experience is gained for the implementation due to the special work nature for term contracts.

6. The trial contracts for implementation of SSC have also included the requirement for provision of welfare facilities for workers at construction sites including lockers and showering facilities. The feedback on the provisions are positive in that it improves the site conditions particularly in hygiene and promotes the collaboration of workers in keeping sites clean and tidy.

## **Policy**

7. All capital works contracts including Design and Build contracts that are included in the PFSS, tenders of which are invited on or after 15 August 2002 (except for those contracts with approval for exemption pursuant to Paragraph 2 above), shall incorporate the contractual provisions contained in this Circular for the implementation of SSC and the provision of welfare facilities for workers at construction sites.

## **Site Safety Cycle**

8. The activities of SSC are classified into three categories, viz. Daily Cycle, Weekly Cycle and Monthly Cycle. Details of each category of SSC are given below:

### Daily Cycle

- (a) Pre-work Exercise and Safety (PES) meeting;
- (b) Hazard Identification Activity (HIA) meeting;
- (c) Pre-work Safety Checks;
- (d) safety inspection by Site Agent or his/her representatives;
- (e) guidance and supervision during work;
- (f) safety co-ordination meeting;
- (g) daily cleaning and tidying up of the Site;
- (h) checking of the Site after each day's work;

### Weekly Cycle

- (i) Weekly Safety Walk by Site Agent and Safety Officer in company with the Architect/Engineer's Representative;
- (j) weekly co-ordination meeting with Site Agent and the Architect/Engineer's Representative;
- (k) weekly overall cleaning and tidying up of the Site;

### Monthly Cycle

- (l) Site Safety Management Committee meeting (including pre-meeting inspection); and
- (m) Site Safety Committee meeting.

----- 9. The Particular Specification (PS) and the Method of Measurement (MoM) for the implementation of SSC are given in **Appendices A and B** respectively. It should be noted that the PS and the MoM for items (g) and (k) of paragraph 8 for daily and weekly overall cleaning and tidying up of the Site respectively have been given in WBTC No. 6/2002. Moreover, the requirements for items (i), (l) and (m) for Weekly Safety Walk, Site Safety Management Committee meeting and Site Safety Committee meeting respectively are the existing requirements for a safety management system under the PFSS.

10. To encourage practising of SSC, payment shall be made to Contractors under the PFSS for persons attending all three activities of Daily Cycle in one day, viz. PES meeting, HIA meeting and Pre-work Safety Checks (hereafter collectively referred to as the “Pre-work Activities”). The Pre-work Activities shall be arranged and held for attendance by persons employed on the Works (excluding clerical and administrative staff in site office), irrespective of whether they are in the employment of the Contractor or his sub-contractors.

11. The Contractor is encouraged to arrange the Pre-work Activities to be held daily, but in any case the frequency of the Pre-work Activities for attendance by each person employed on the Works shall be not less than once in a week. Where necessary, the Contractor can arrange more than one session of Pre-work Activities to be held in a day in order to suit the large workforce or the different times of arrival of workers at the Site. The Pre-work Activities shall be carried out prior to any work carried out by the persons attending the Pre-work Activities on that day. No payment shall be made for a person who has attended more than one number of Pre-work Activities in a day. Furthermore, measurement shall not be made for the number of persons who have attended an activity of the Pre-work Activities if the Architect/Engineer's Representative is dissatisfied with the content and/or arrangement for that activity.

12. To promote participation of SSC by persons working on the Site, measurement and payment for “arrange and hold Pre-work Activities” for the number of attendance in a week shall be made only if the number of individual persons who have attended the Pre-work Activities to the

satisfaction of the Architect/Engineer's Representative within that week is 70% or more of the average number of persons working on the Site. For the avoidance of doubt, the average number of persons working at the Site in a week shall be the quotient of the total number of man-days worked for the Contract in that week divided by the number of working days within that week. In addition, payment shall also be made to the Contractor for up to maximum two numbers of Pre-work Activities per person per week unless prior approval has been obtained from the Architect/Engineer.

13. Other activities of SSC not mentioned in paragraphs 9 and 10 above, such as safety inspection, guidance and supervision, daily and weekly safety co-ordination meetings and checking of the Site after each day's work etc. are the general obligation of Contractors, which shall be deemed to have been included in the Contract Rates.

14. The PES meeting shall be led by the Site Agent or a senior staff of the site management of the Contractor, who has attended the training course on SSC, or the Safe Working Cycle organized by the Occupational Safety & Health Council (OSHC) or Construction Industry Training Authority (CITA), or other relevant training courses notified by the Works Bureau. Furthermore, the HIA meetings shall be led by persons who have attended, in addition to the SSC course, the presentation skill course such as the Occupational Safety and Health Trainer Course of OSHC or the Safety Training Techniques Course of CITA, or other relevant training courses notified by the Works Bureau. The leader of the HIA meeting shall prepare the training materials before conducting the meeting.

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15. Sample BQ for contracts with contract sums \$20M, \$50M, \$100M, \$200M and \$500M are given at **Appendices C1 to C5** respectively for reference by works departments in preparing the contract documents. A sample Summary of Tender for Design and Build contracts showing how the Provisional Sum of PFSS is included is given in **Appendix C6**.  
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16. The Architect/Engineer's Representative shall closely monitor the Contractor's performance on practising SSC on the Site. Any irregularity observed for the Pre-work Activities shall be put up to the Contractor for improvement in the weekly co-ordination meetings and/or Site Safety

Management Committee meetings as appropriate. The Contractor shall be warned if his performance on practicing SSC is not satisfactory resulting in non-payment for “arrange and hold Pre-work Activities” for more than two consecutive week. If the non-payment continues, this should be duly reflected in the Contractor’s quarterly performance report.

### **Safety Bulletin Board and Hard-paved Area**

17. To promote SSC, a safety bulletin board shall be erected on the Site and where necessary, a hard-paved area shall be provided for holding of Pre-work Activities. The location for erection of the safety bulletin board and the hard-paved area shall be proposed by the Contractor and approved by the Architect/Engineer’s Representative. If the location of the hard-paved area is outdoors, a cover shall be provided for the attendance of Pre-work Activities unless otherwise approved by the Architect/Engineer that the provision is not necessary. Furthermore, additional safety bulletin board and hard-paved area can be provided on the Site subject to the approval of the Architect/Engineer if the Pre-work Activities have to be held at more than one location. Separate payment shall be made for the provision of safety bulletin board under the PFSS, whereas the provision of the hard-paved area shall be included in the Preliminary Item for “Temporary Accommodation for the Contractor” or “Contractor’s Site Accommodation in the Preliminaries” as appropriate.

### **Welfare Facilities for Workers**

18. To take care of the needs and welfare of workers and to promote site cleanliness and hygiene, the Contractor shall provide storage compartments, drinking water facilities, toilet facilities, hand-wash facilities and rubbish bins on the Site. Where the number of workers working on the Site will likely be exceeding 100 in one day for a continuous period of twelve months or more during the Contract, the Contractor shall provide showering facilities for workers on the Site also.

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19. The provisions of welfare facilities for workers and the hard-paved areas pursuant to para. 15 above shall be included in the Preliminary Item “Temporary Accommodation for the Contractor” or “Contractor’s Site Accommodation in the Preliminaries” as appropriate. The PS and the Particular Preamble for the provision are given in **Appendices D and E** respectively.

### **Notes for Tenderers**

20. The following shall be included in the Notes for Tenderers in each tender document for which this Circular shall apply to draw the attention of tenderers to the requirements for the implementation of SSC and the provisions of welfare facilities for workers under the Contract:

“Tenderers should note that this Contract includes the Particular Specification on Site Safety Cycle and the provision of welfare facilities for workers at construction sites. Tenderers should also note the Particular Preamble for the provision of hard-paved area for the Pre-work Activities of Site Safety Cycle and the provision of welfare facilities for workers under the Preliminary Item “Temporary Accommodation for the Contractor” [*or “Contractor’s Site Accommodation in the Preliminaries” as appropriate*].”

### **Addition to Construction Site Safety Manual**

21. The Appendices to this Circular shall be included in the relevant sections of the Construction Site Safety Manual (the Manual) given below.

Reference	Title	Reference in the Manual
Appendix A	Particular Specification of Site Safety Cycle	C3-AppIII
Appendix B	Method of Measurement for Site Safety Cycle	C3-AppIV

Reference	Title	Reference in the Manual
Appendix C	Sample Bills of Quantities and Summary of Tender for Lump Sum Works Contracts for Implementation of Site Safety Cycle	C12-AI
Appendix D	Particular Specification of Welfare Facilities for Workers	C3-AppIII
Appendix E	Particular Preamble – Method of Measurement for Hard-paved Area for Pre-work Exercise and Safety Meetings and Welfare Facilities for Workers	C3-AppIV

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**PARTICULAR SPECIFICATION FOR SITE SAFETY CYCLE**

- xx. The Contractor shall practise “Site Safety Cycle” (SSC) to improve and promote the safety and health of the Site. Site Safety Cycle shall begin when there are workers working on the Site, and shall cease by the date of substantial completion of the Works, or at a date proposed by the Contractor and approved by the \*Architect/Engineer. The activities for Site Safety Cycle for one day, one week and one month are referred to as the “Daily Cycle”, “Weekly Cycle” and “Monthly Cycle” respectively. Details of the activities and the provisions for holding the activities are described below. For simplicity, the Pre-work Exercise and Safety (PES) meeting, Hazard Identification Activity (HIA) meeting and Pre-work Safety Checks of the Daily Cycle are collectively referred to as the “Pre-work Activities”.

The Contractor shall arrange Pre-work Activities to be held for attendance by persons employed on the Works (excluding clerical and administrative staff in site office), irrespective of whether they are in the employment of the Contractor or his sub-contractors. For the avoidance of doubt, persons employed on the Works are those persons whose number of man-hours worked on the Site are to be included in the number of man-hours worked for the Contract. The Contractor is encouraged to arrange Pre-work Activities to be held daily, but in any case the frequency of Pre-work Activities for attendance by each person employed on the Works shall be not less than once in a week (commencing on Monday). Where necessary, the Contractor can arrange more than one session of Pre-work Activities to be held in a day in order to suit the large workforce or the different times of arrival of workers at the Site. The Pre-work Activities shall be carried out prior to any work carried out by the persons attending the Pre-work Activities on that day. Furthermore, the number of persons attending the Pre-work Activities in a session shall be governed by the hard-paved area which shall be sized based on the rate for a person specified in sub-clause 5 below.

1 Daily Cycle

1.1 PES Meeting

- 1.1.1 The Contractor shall arrange and hold PES meetings each about 10 to 15 minutes for all the persons employed on the Works.
- 1.1.2 The PES meeting shall be led by the Site Agent or a senior staff of site management of the Contractor, who has attended the training course on SSC or the Safe Working Cycle of the Occupational Safety & Health Council (OSHC) or Construction Industry Training Authority (CITA), or other relevant training courses notified by the \*Architect/Engineer.

- 1.1.3 The first few minutes of PES meeting shall start with a physical exercise set by the Contractor. After that, the leader of the PES meeting shall address the attendees on the prevailing safety and health matters related to the Site, such as common hazards and control measures, general fire and safety precautions, specific safety concerns, general defects and irregularities observed in inspections, accidents or near misses etc.. Besides, the Contractor shall also make use of the PES meetings to announce common safety matters in execution and co-ordination of the Works on the Site among sub-contractors and workers, or presenting awards to workers and/or sub-contractors in recognition of their good safety performance.
- 1.1.4 The Contractor shall maintain a brief record of the run-down programme and a register of the persons attended for each PES meeting. The record and the register shall be kept in the Contractor's site office for ready inspection by the \*Architect/Engineer's Representative or his/her staff upon request. The Contractor can use separate sheets for registering attendees in order to save time for taking attendance in the meeting. The \*Architect/Engineer's Representative and/or his/her staff shall attend the PES meetings regularly to ensure their quality for certifying payment.

## 1.2 HIA Meeting

- 1.2.1 The Contractor shall arrange and hold HIA meeting of about 10 minutes for the attendees immediately after the PES meeting.
- 1.2.2 To strengthen the communication on the Site, the Contractor shall arrange persons on the Site to take turn to lead the HIA meeting. Such person can be either a foreman, ganger, Safety Officer, Safety Supervisor or Safety Representative who has attended, in addition to the SSC course as mentioned in sub-clause 1.1.2 above, the presentation skill course such as the Occupational Safety and Health Trainer Course of OSHC or the Safety Training Techniques of CITA or other relevant courses notified by the \*Architect/Engineer. The Contractor shall ensure that sufficient persons on the Site have received the training to lead the HIA meetings as soon as the Contract commences.
- 1.2.3 The leader of each HIA meeting shall prepare the training materials before conduction, which shall include, but is not limited to, hazards and control measures specific to the works or trades, special safety concerns, assurance of safety requirements and measures, reprimand of repeated irregularities and malpractice etc.. Besides, the leaders of the HIA meetings shall also encourage workers to give their views in the HIA meetings. Where necessary, Site Agent, Safety Officer and/or Safety Supervisors who are more experienced in provision of training shall provide guidance and assistance to the leaders of HIA meeting before conducting the meeting. The training materials prepared for

and the discussion during the HIA meeting shall be recorded in a HIA table, a sample of which is shown in Annex A. The HIA Table shall be kept in the Contractor's site office for ready inspection by the \*Architect/Engineer's Representative or his/her staff upon request.

- 1.2.4 Subject to the agreement of the \*Architect/Engineer's Representative, the Contractor can alternatively arrange the HIA meetings to be held in small groups according to the trades, work teams or works areas set out by the Contractor for the Site. If so, the Contractor shall ensure that the assigned persons are competent to lead the HIA meetings, whose names and curriculum vitae shall be submitted to the Architect/Engineer's Representative for approval. The \*Architect/Engineer's Representative or his/her staff shall attend the HIA meetings regularly to ensure their quality for certifying payment. The \*Architect/Engineer's Representative shall not certify payment for the number of persons who have attended the HIA meeting in a group if the Architect/Engineer's Representative is dissatisfied with the content and/or the arrangement of the HIA meeting for that group.
- 1.2.5 The Contractor can use the register for the PES meeting for taking attendance of the HIA meeting if the attendees have not split up into small groups. Otherwise, the Contractor shall use separate sheets for registering attendees of individual groups of the HIA meetings, and attach to the register of the PES meeting held on the same day for ready inspection by the \*Architect/ Engineer's Representative or his/her staff upon request. Furthermore, the Contractor shall complete one HIA table for each HIA meeting held for individual groups pursuant to sub-clause 1.2.4 above.

### 1.3 Pre-work Safety Checks

- 1.3.1 The Contractor shall arrange and hold Pre-work Safety Checks for the attendees immediately after the HIA meeting. The Pre-work Safety Checks shall be carried out by foremen, gangers, Safety Supervisors or Safety Representatives of the attendees according to the trades, work teams or works areas set out by the Contractor for the Site. The Pre-work Safety Checks shall include the checking of personal protective equipment worn by attendees before they start working on that day such as safety helmet, reflective vest, ear protectors, eye protectors, safety harness, safety footwear etc.. The \*Architect/Engineer's Representative or his/her staff shall attend the Pre-work Safety Checks regularly to ensure the proper checking by the Contractor for certifying payment.
- 1.3.2 The Contractor shall assign persons who are competent with the relevant knowledge, experience and training to check and ascertain the safety conditions of facilities, machinery, plant and equipment and materials before commencing work on that day. The Contractor shall propose a list of facilities, machinery, plant and equipment to be

checked and develop relevant checklists for such checking for the approval of the \*Architect/Engineer's Representative. The assigned persons shall use the checklists for Pre-work Safety Checks of facilities, machinery, plant and equipment, and the completed checklists shall be kept at the Contractor's site office for ready inspection by the \*Architect/Engineer's Representative or his/her staff upon request.

#### 1.4 Safety Inspection by the Site Agent or his Representative

1.4.1 The Contractor shall arrange the Site Agent or his/her representative to carry out safety inspection of the Site daily, particularly for those areas identified for improvements in weekly safety co-ordination meetings, Weekly Safety Walks, Site Safety Management Committee meetings or Site Safety Committee meetings pursuant to sub-clause 2.1, 2.2, 3.1 and 3.2 respectively. The Site Agent or his/her representative shall check and ensure that the safety instructions given in PES meetings or HIA meetings have been observed and carried out.

1.4.2 Any unsafe act or unsafe conditions observed during inspections shall be recorded in a diary maintained by the Site Agent, who shall promptly communicate the irregularity to the respective party concerned for follow-up actions. The Site Agent shall check and ensure that the unsafe acts or unsafe conditions are rectified promptly, and the date is duly recorded in the diary after completion. The safety diary shall be made available for inspection by the \*Architect/Engineer's Representative and copying thereof upon request.

#### 1.5 Guidance and Supervision during Work

The Contractor shall assign sufficient supervisory staff to be responsible for the safety and health of workers on the Site. The names of the assigned supervisory staff shall be shown in the site safety organization chart posted up in the safety bulletin board pursuant to sub-clause 4.2 below. The assigned supervisory staff shall provide guidance and supervision for the workers under his/her control, and rectify any irregularities, unsafe acts or unsafe conditions for the works on the Site. Guidance and supervision provided shall also include the implementation of safety instructions given in PES or HIA meetings.

#### 1.6 Safety Co-ordination Meeting

The Contractor shall arrange and hold safety co-ordination meeting each day to coordinate safety and health work to be carried out on the

Site on the following day. The meeting shall be chaired by the Site Agent or a senior staff of site management of the Contractor, and attended by assigned supervisory staff pursuant to sub-clause 1.5 above where necessary. The meeting shall be used to discuss the findings in safety inspections and/or the matters to be announced in the next PES or HIA meeting. It can also be used for discussion and co-ordination of site safety matters, such as sequence of works, usage times for shared machinery and equipment and works areas, phasing of works at various interfaces, delivery and storage of materials and equipment to the Site etc.

1.7 Daily Cleaning and Tidying up of the Site

Detailed requirements are specified in PS Clause No. ( ). *[to be inserted by works department on the same subject]*

1.8 Checking of the Site after Each Day's Work

The Contractor shall assign designated person to check the safety of the Site after each day's work including, but is not limited to, the following:

- i. all flames and heat sources have been extinguished (particularly for welding and hot-work operations);
- ii. keys have been removed from construction machinery and plant and kept in a safe place;
- iii. all construction plant are parked properly on level and stable ground;
- iv. all machinery and power sources have been turned off;
- v. all openings are properly covered and all edges are provided with fall protection measures;
- vi. all nailed timber, planks and/or sheets are piled and put aside away from main accesses;
- vii. excavated surfaces on soil slopes are provided with temporary protection;
- viii. all temporary works are properly maintained;
- ix. signing, lighting and guarding are provided in accordance with the approved temporary traffic management scheme;
- x. hoarding and/or covered walkways along the periphery of the Site are maintained in proper condition; and
- xi. the Site has been fenced and guarded against unauthorized entry.

The designated person shall, after completion of checking, notify the Site Agent any unsafe conditions or imminent danger that require immediate follow-up actions. The designated person shall also draw the attention of the Site Agent about the minor irregularities to arrange rectification on the following day.

## 2 Weekly Cycle

### 2.1 Weekly Safety Walk

Detailed requirements are specified in PS Clause No. ( ). *[to be inserted by works department on the same subject]*

### 2.2 Weekly Safety Co-ordination Meeting

The Contractor shall arrange the Site Agent or a senior staff of the site management of the Contractor together with the Safety Officer, Safety Supervisor and/or supervisory staff of sub-contractors to attend the weekly safety co-ordination meeting chaired by the \*Architect/Engineer's Representative. The meeting shall discuss or coordinate safety and health matters including, but is not limited to, safety performance, housekeeping and tidiness of the Site, together with the specific areas of concern, defects and deficiencies observed in Weekly Safety Walks, accidents and near misses occurred on the Site, etc. A brief notes of the meetings shall be prepared by the Contractor and endorsed by the \*Architect/Engineer's Representative after the Meeting.

### 2.3 Weekly Overall Cleaning and Tidying up of the Site

Details requirements are specified in PS Clause No. ( ). *[to be inserted by works department on the same subject]*

## 3 Monthly Cycle

### 3.1 Site Safety Management Committee Meetings

Detailed requirements are specified in PS Clause No. ( ). *[to be inserted by works department on the same subject]*

### 3.2 Site Safety Committee Meetings

Detailed requirements are specified in PS Clause No. ( ). *[to be inserted by works department on the same subject]*

## 4 Safety Bulletin Board

### 4.1 The Contractor shall provide a safety bulletin board at the location where Pre-work Activities pursuant to sub-clauses 1.1 to 1.3 shall be

held. Subject to the approval of the \*Architect/Engineer, additional safety bulletin board can be provided where Pre-work Activities have to be held at more than one location of the Site.

- 4.2 The safety bulletin board shall be made of recycled materials with a size approximately 6m x 1.5m which can be varied to suit the site condition subject to the approval by the \*Architect/Engineer's Representative. The board shall contain, but is not limited to, the following information:

- i. the design by the Contractor on promotion of Site Safety Cycle;
- ii. a chart with names and contact telephone numbers showing the site safety organizational structure from senior site management down to sub-contractors, gangers, foremen, Safety Officer, Safety Supervisors and Safety Representatives according to works trades, work gangs or works areas, together with the emergency teams, first aid personnel etc.;
- iii. accident statistics with breakdown to sub-contractors; and
- iv. a figure showing a worker wearing all the personal protective equipment plus a mirror to cover the full view of the person when standing in front.

The safety bulletin board may contain other safety information related to the Site such as Site plan, safety policies, in-house safety rules and regulations, slogans, colour coding systems for lifting gears, important safety and health issues etc..

- 4.3 The Contractor shall propose the location for the erection of the safety bulletin board and the hard-paved area pursuant to sub-clause 5 where Pre-work Activities will be held for the approval of the \*Architect/Engineer's Representative.

## 5 Hard-paved area

- 5.1 The Contractor shall arrange and provide a hard-paved area on the Site for holding Pre-work Activities pursuant to sub-clauses 1.1 to 1.3 above under the provision of \* "Temporary Accommodation for the Contractor" [or "Contractor's Site Accommodation in the Preliminaries" as appropriate]. The hard-paved area shall be sized based on a rate of 1.5 m<sup>2</sup> per person multiplied by the maximum number of persons to be arranged for one session of Pre-work Activities. The hard-paved area shall be designed to be able to sustain the load at that area throughout the Contract. Details of construction of the hard-paved area shall be submitted to the \*Architect/Engineer's Representative for approval.

- 5.2 Subject to the agreement of the \*Architect/Engineer's Representative, the Contractor can arrange Pre-work Activities to be held at more than one location, and the hard-paved areas at each venue shall be sized separately based on the specified requirement given in sub-clause 5.1 above. The hard-paved area can be an open area in front of the site office, or an area inside building structure under construction, or at the main works areas in case of roadworks or mains laying contracts, or near shaft opening for a tunnelling contract, whichever is appropriate. The Contractor shall submit the proposed location and its area for holding Pre-work Activities for the approval of the \*Architect/Engineer's Representative within 14 days from the date of commencement of the Works on the Site.
- 5.3 If the proposed location for holding of Pre-work Activities is outdoors, consideration shall be given to provide a cover for the hard-paved area unless otherwise approved by the \*Architect/Engineer's Representative that the provision is not necessary. Details of construction of the cover shall be submitted to the \*Architect/Engineer's Representative for approval.
- 5.4 The Contractor shall maintain the hard-paved area and the cover throughout the Contract, and shall demolish and reinstate the area to the satisfaction of the \*Architect/Engineer's Representative prior to completion of the Works unless otherwise agreed by the \*Architect/Engineer.



## Record of Hazard Identification Activity (HIA) Meeting

Contract No: *[pre-printed]*

Name of Contractor: *[------ pre-printed -----]*

Contract Title: [ ----- pre-printed ----- ]

Team Reference <i>(if appropriate)</i> :	
Date:	Time:
Potential Hazards/ Irregularities/ Unsafe Acts or Unsafe Conditions	Safety Precautionary Measures/ Rectification Actions/ Improvement Actions
Name of Leader:	
Signature:	Position:

*(Please complete one sheet for one HIA Meeting)*

**Method of Measurement for Site Safety Cycle**

**ARRANGE AND HOLD PRE-WORK  
ACTIVITIES**

<b>Units</b>	xx.01	The unit of measurement shall be :  (i) Arrange and hold Pre-work Activities ----- number.
<b>Measurement</b>	xx.02	Subject to paragraphs xx.03 to xx.07 below, the measurement for "arrange and hold Pre-work Activities" shall be the number of persons attending a complete set of the following Pre-work Activities on one day:  (i) Pre-work Exercise and Safety (PES) meetings;  (ii) Hazard Identification Activity (HIA) meetings; and  (iii) Pre-work Safety Checks.
	xx.03	Measurement shall only be made for persons employed on the Works (excluding clerical and administrative staff in site office), irrespective of whether they are in the employment of the Contractor or his sub-contractors. For the avoidance of doubt, persons employed on the Works are those persons whose number of man-hours worked on the Site are to be included in the number of man-hours worked for the Contract.
	xx.04	Measurement shall only be made for a person who has completed the set of Pre-work Activities on one day prior to his/her work on that day. No payment shall be made for a person who has attended more than one number of Pre-work Activities in a day.
	xx.05	A maximum of two numbers for "arrange and hold Pre-work Activities" shall be measured for the same person in any one calendar week (commencing on Monday) unless prior approval has been

obtained from the  
\*Architect/Engineer.

xx.06 No measurement shall be made for the number of persons who have attended the Pre-work Activities if the Architect/Engineer's Representative is dissatisfied with the content and/or the arrangement for one or more of the items pursuant to sub-clause xx.02 for that Pre-work Activities. In case if the Architect/Engineer's Representative is dissatisfied with the content and/or the arrangement of the HIA meeting for a group arranged in accordance with Particular Specification clause ( ) [clause 1.2.4 of Appendix A], then measurement shall not be made for the number of persons who have attended the HIA meeting for that group.

xx.07 No measurement shall be made for the total number of attendance of Pre-work Activities in a week (commencing on Monday) if the number of individual persons who have attended the Pre-work Activities to the satisfaction of the \*Architect/Engineer's Representative within that week is less than 70% of the average number of persons working at the Site in that week. For the avoidance of doubt, the average number of persons working at the Site in a week (commencing on Monday) shall be the quotient of the total number of man-days worked for the Contract in that week divided by the number of working days within that week.

**Itemization** xx.08 Separate items shall be provided for "arrange and hold Pre-work Activities" in accordance with General Principles paragraphs 3 and 4 and the following:

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Group	Feature
I	1. Arrange and hold Pre-work Activities

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**Arrange and** xx.09 The items for "arrange and hold Pre-work

**hold  
Pre-work  
Activities**

Activities" shall, in accordance with General Preambles paragraph 2, include for :

**Item  
coverage**

- (a) arranging and holding PES meetings, HIA meetings and Pre-work Safety Checks all as given in Particular Specification clause ( ) to ( );
- (b) providing training to leaders of the PES or HIA meetings as given in Particular Specification clause ( ) and ( );
- (c) attendance by workers.

## PROVIDE SAFETY BULLETIN BOARD

**Units**

xx.10 The unit of measurement shall be :

- (i) provide safety bulletin board  
----- item.

**Itemization**

xx.11 Separate items shall be provided for "provide safety bulletin board" in accordance with General Principles paragraphs 3 and 4 and the following:

Group	Feature
I	1. Safety bulletin board

**Safety  
Bulletin  
Board**

xx.12 The items for "provide safety bulletin board" shall, in accordance with General Preambles paragraph 2, include for:

**Item  
Coverage**

- (a) providing safety bulletin board in accordance with Particular Specification clause ( );
- (b) relocating safety bulletin board if required from one place to another within the Site during the various stages of the Contract;
- (c) providing maintenance and necessary reinstatement to keep the bulletin boards in good working condition;

- (d) subsequent removal and disposal of,  
and reinstatement of the affected  
areas.

**Appendix C1 - Sample Bills of Quantities for implementation of Site Safety  
Cycle in works contracts under the Pay for Safety Scheme  
(Based on \$20M contract value over 18 months)**

Item No.	Description	Quantity	Unit	Rate	Amount
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	5,000	5,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	5,000	5,000
C	Updating of Safety Plan	18	nth	500	9,000
D	Provide Safety Officer	18	nr-mth	9,000	162,000
E	Attend Site Safety Management Committee	18	nth	500	9,000
F	Attend Site Safety Committee	18	nth	500	9,000
G	Arrange and attend weekly safety walk	78	nr	1,200	93,600
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	30	nr	650	19,500
I**	Provide safety training in the form of site specific induction training	100	nr	100	10,000
J**	Provide safety training in the form of tool box talks	1,000	nr	15	15,000
	<u>Provisional Sum</u>				
K***	<i>Participate in safety promotional campaign as instructed by the Architect/Engineer</i>	-	sum	-	30,000
	<u>Site Safety Cycle</u>				
L**	<i>Arrange and hold Pre-work Activities</i>	4,000	nr	30	120,000
M**	<i>Provide safety bulletin board</i>	1	item	20,000	20,000
	Total to Collection Sheet				507,100

Notes:-

( )\* The words in brackets are for guidance only and should not be entered in the Bills of Quantities.

\*\* The rates for items H, I, J, L and M are fixed and should not be adjusted even if the value of the contract is greater than or below \$20M, but the quantities can be adjusted in accordance with the content of works under that contract.

\*\*\* The amount for item K is fixed and should not be adjusted.

nth month

nr number

nr-mth number-month

**Appendix C2 - Sample Bills of Quantities for implementation of Site Safety  
Cycle in works contracts under the Pay for Safety Scheme  
(Based on \$50M contract value over 2 years)**

Item No.	Description	Quantity	Unit	Rate	Amount
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	10,000	10,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	10,000	10,000
C	Updating of Safety Plan	24	nth	1,000	24,000
D	Provide Safety Officer	24	nr-mth	9,000	216,000
E	Attend Site Safety Management Committee	24	nth	1,000	24,000
F	Attend Site Safety Committee	24	nth	1,000	24,000
G	Arrange and attend weekly safety walk	104	nr	2,500	260,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	100	nr	650	65,000
I**	Provide safety training in the form of site specific induction training	350	nr	100	35,000
J**	Provide safety training in the form of tool box talks	3,000	nr	15	45,000
	<u>Provisional Sum</u>				
K***	Participate in safety promotional campaign as instructed by the Architect/Engineer <u>Site Safety Cycle</u>		sum		30,000
L**	Arrange and hold Pre-work Activities	12,000	nr	30	360,000
M**	Provide safety bulletin board	1	item	20,000	20,000
	Total to Collection Sheet				1,123,000

Notes:-

( )\* The words in brackets are for guidance only and should not be entered in the Bills of Quantities.

\*\* The rates for items H, I, J, L and M are fixed and should not be adjusted even if the value of the contract is greater than or below \$50M, but the quantities can be adjusted in accordance with the content of works under that contract.

\*\*\* The amount for item K is fixed and should not be adjusted.

nth month

nr number

nr-mth number-month

**Appendix C3 - Sample Bills of Quantities for implementation of Site Safety  
Cycle in works contracts under the Pay for Safety Scheme  
(Based on \$100M contract value over 2 years)**

<b>Item No.</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount</b>
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	15,000	15,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	15,000	15,000
C	Updating of Safety Plan	24	nth	2,000	48,000
D	Provide Safety Officer	24	nr-mth	18,000	432,000
E	Attend Site Safety Management Committee	24	nth	2,000	48,000
F	Attend Site Safety Committee	24	nth	2,000	48,000
G	Arrange and attend weekly safety walk	104	nr	4,500	468,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	200	nr	650	130,000
I**	Provide safety training in the form of site specific induction training	700	nr	100	70,000
J**	Provide safety training in the form of tool box talks	5,000	nr	15	75,000
	<u>Provisional Sum</u>				
K***	Participate in safety promotional campaign as instructed by the Architect/Engineer		sum		30,000
	<u>Site Safety Cycle</u>				
L**	Arrange and hold Pre-work Activities	20,000	nr	30	600,000
M**	Provide safety bulletin board	1	item	20,000	20,000
	Total to Collection Sheet				1,999,000

Notes:-

(\*) The words in brackets are for guidance only and should not be entered in the Bills of Quantities.

\*\* The rates for items H, I, J, L and M are fixed and should not be adjusted even if the value of the contract is greater than or below \$100M, but the quantities can be adjusted in accordance with the content of works under that contract.

\*\*\* The amount for item K is fixed and should not be adjusted.

nth month

nr number

nr-mth number-month



**Appendix C4 - Sample Bills of Quantities for implementation of Site Safety Cycle in works contracts under the Pay for Safety Scheme  
(Based on \$200M contract value over 2 years)**

<b>Item No.</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount</b>
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	20,000	20,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	20,000	20,000
C	Updating of Safety Plan	24	nth	3,000	72,000
D	Provide Safety Officer	48	nr-mth	18,000	864,000
E	Attend Site Safety Management Committee	24	nth	4,500	108,000
F	Attend Site Safety Committee	24	nth	4,500	108,000
G	Arrange and attend weekly safety walk	104	nr	10,000	1,040,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	300	nr	650	195,000
I**	Provide safety training in the form of site specific induction training	1,200	nr	100	120,000
J**	Provide safety training in the form of tool box talks	10,000	nr	15	150,000
	<u>Provisional Sum</u>				
K***	Participate in safety promotional campaign as instructed by the Architect/Engineer <u>Site Safety Cycle</u>		sum		60,000
L**	Arrange and hold Pre-work Activities	40,000	nr	30	1,200,000
M**	Provide safety bulletin board	2	item	20,000	40,000
	Total to Collection Sheet				3,997,000

Notes:-

(\*) The words in brackets are for guidance only and should not be entered in the Bills of Quantities.

\*\* The rates for items H, I, J, L and M are fixed and should not be adjusted even if the value of the contract is greater than or below \$200M, but the quantities can be adjusted in accordance with the content of works under that contract.

\*\*\* The amount for item K is fixed and should not be adjusted.

nth month

nr number

nr-mth number-month

**Appendix C5 - Sample Bills of Quantities for implementation of Site Safety Cycle in works contracts under the Pay for Safety Scheme  
(Based on \$500M contract value over 3 years)**

Item No.	Description	Quantity	Unit	Rate	Amount
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	30,000	30,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	30,000	30,000
C	Updating of Safety Plan	36	nth	3,000	108,000
D	Provide Safety Officer	96	nr-mth	18,000	1,728,000
E	Attend Site Safety Management Committee	36	nth	6,000	216,000
F	Attend Site Safety Committee	36	nth	6,000	216,000
G	Arrange and attend weekly safety walk	156	nr	12,000	1,872,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	500	nr	650	325,000
I**	Provide safety training in the form of site specific induction training	1,500	nr	100	150,000
J**	Provide safety training in the form of tool box talks	16,000	nr	15	240,000
	<u>Provisional Sum</u>				
K***	Participate in safety promotional campaign as instructed by the Architect/Engineer <u>Site Safety Cycle</u>		sum		90,000
L**	Arrange and hold Pre-work Activities	64,000	nr	30	1,920,000
M**	Provide safety bulletin board	3	item	20,000	60,000
	Total to Collection Sheet				6,985,000

Notes:-

( )\* The words in brackets are for guidance only and should not be entered in the Bills of Quantities.

\*\* The rates for items H, I, J, L and M are fixed and should not be adjusted even if the value of the contract is greater than or below \$500M, but the quantities can be adjusted in accordance with the content of works under that contract.

\*\*\* The amount for item K is fixed and should not be adjusted.

nth month

nr number

nr-mth number-month

## Appendix C6 – Sample Summary of Tender for Lump Sum Works Contracts Included in PFSS

	Page	\$	¢
1. SPECIFICATION PRELIMINARIES		( )*	
2. SCHEDULE OF RATES (to be submitted by the Contractor)			
Section A – Contractor’s Designed piled Foundations		( )*	
Section B – Contractor’s Designed Pile Caps and Strap Beams		( )*	
Section C – Ancillary Work		( )*	
3. PROVISIONAL SUM			
Provide the following sum to be expended in part or in whole as directed by the Architect/Engineer*or wholly deducted from the Contract Sum if not required.			
Provide the Provisional Sum of \$ 1,999,000 for establishing and implementing the site safety management system and Site Safety Cycle including participating in safety promotional campaign as required under the Contract. The Contractor shall be paid in accordance with the Method of Measurement and the pre-fixed rates for the items included in the Schedule of Rates for PFSS in Appendix “**” to the Specification.	sum	***1,999,000	00
4. CONTINGENCY SUM			
Contingency Sum	sum	**2,000,000	00
TOTAL CARRIED TO FORM OF TENDER		\$	

Note :

\* Amount to be inserted by tenderers

\*\* Amount fixed by the Architect/Engineer of the Contract

\*\*\* This sum shall match with that in the SOR (which is to be prepared by the Architect/Engineer based on the sample BQ in Appendix C4) and provided to the tenderers.

**PARTICULAR SPECIFICATION OF  
WELFARE FACILITIES FOR WORKERS**

(to be included to form part of the Particular Specification  
for “Temporary Accommodation for the Contractor”)

*[or “Contractor’s Site Accommodation in the Preliminaries” as appropriate]*

zz. Immediately after the award of the Contract, the Contractor shall arrange to provide welfare facilities specified below for workers employed on the Works, irrespective of whether they are in the employment of the Contractor or his sub-contractors. The Contractor shall maintain the welfare facilities provided on the Site throughout the Contract, and shall remove the facilities and reinstate the areas after removal of the facility or upon completion of the Works where necessary. The costs for the provisions shall be priced in the Bills of Quantities under the Item “Temporary Accommodation of the Contractor” *[or “Contractor’s Site Accommodation in the Preliminaries” as appropriate]*. The sufficiency of provision for the welfare facilities shall be monitored and reviewed in the Site Safety Management Committee meetings. The Contractor shall replenish the insufficiency of provision to meet the specified requirements and shall not be entitled to claim the cost of such replenishment after commencement of the Works.

1 **Storage Compartments**

The Contractor shall provide storage compartments for use by workers. The storage compartment shall be placed at a location close to the Site entrance to facilitate workers to obtain/place their personal protective equipment such as safety helmet, reflective vest, eye protectors, safety harness etc. when they enter/leave the Site.

The Contractor shall ensure adequate provision of storage compartments taking into account the fluctuation in labour workforce. The Contractor shall determine the dimensions of the storage compartments. To facilitate monitoring and control, each storage compartment shall be designed for use by not more than five persons unless otherwise approved by the \*Architect/Engineer’s Representative. The Contractor shall propose the number, location and layout arrangement for the placement of storage compartments on the Site for the approval of the \*Architect/Engineer’s Representative within 14 days from the date of commencement of the Works on the Site. The \*Architect/Engineer’s Representative shall review regularly the adequate provision of storage compartments on the Site for use by workers throughout the Contract.

2 **Drinking Water Facilities**

The Contractor shall provide free drinking water facilities for workers

working on the Site throughout the Contract to minimize waste plastic bottles. The drinking water facility can be in the form of a water pot with a cover at the top for water refilling and a tap at the bottom for drawing water, a distilled water drinking fountain or any other form that the Contractor considers appropriate. The drinking water facilities shall be provided indoors and each of which shall have a storage capacity of not less than 20 litres.

The Contractor shall be responsible for maintaining the drinking water facilities in clean and hygienic condition and refilling drinking water to the facilities when empty. The number of drinking water facilities provided on the Site shall be at a ratio of not less than one for every (20) workers [*figure tentatively set and to be determined by the \*Architect/Engineer*]. The Contractor shall propose the number, location of placement and the refilling frequency for drinking water facilities provided on the Site for the approval of the \*Architect/Engineer's Representative within 14 days from the date of commencement of the Works on the Site. The \*Architect/Engineer's Representative shall review regularly the adequacy of drinking water facilities provided by the Contractor throughout the Contract.

### 3 **Toilet Facilities**

The Contractor shall provide toilet facilities for workers working on the Site throughout the Contract, unless otherwise approved by the \*Architect/Engineer's Representative that the provision is not necessary. The toilet facilities shall be suitable for use bisexually and placed at convenient locations close to workers' workplace. The toilet facilities shall be either one of the following types:

- (i) wet type with flushing water supply and the toilet waste properly collected and discharged into a sewerage system, septic tank, soakaway system, or in-situ sewage treatment facilities proposed by the Contractor and approved by the \*Architect/Engineer's Representative;
- (ii) chemical type complete with containers for regularly cleaning and removal by specialist contractor.

For connection to a public sewerage system, the Contractor shall obtain approval from the Drainage Services Department prior to making the connection. If a soakaway system is adopted, the Contractor shall carry out in-situ percolation test to prove that the soil shall have sufficient absorption capacity to treat the toilet waste flow. The test results shall be submitted to the \*Architect/Engineer's Representative for recording before discharging. If in-situ sewage treatment facility is adopted, the plant shall be equipped with disinfection unit to sterilize the treated effluent before discharging.

The number of toilet facilities provided on the Site shall be at a ratio of not less than one for every (30) workers [*figure tentatively set and to be determined by the \*Architect/Engineer*]. The Contractor shall propose the

toilet type, number and their locations of placement for the approval of the \*Architect/Engineer's Representative within 14 days from the date of commencement of the Works on the Site. The Contractor shall maintain the toilet facilities in clean and hygienic condition. The \*Architect/Engineer's Representative shall review regularly the adequacy of toilet facilities provided by the Contractor on the Site and the cleanliness and hygienic conditions of these toilets throughout the Contract.

#### 4 **Hand-wash Facilities**

The Contractor shall provide hand-wash facilities in the form of water points and sinks for workers working on the Site throughout the Contract, unless otherwise approved by the \*Architect/Engineer's Representative that the provision is not necessary. The number of hand-wash facilities provided on the Site shall be at a ratio of not less than one for every (20) workers [*figure tentatively set and to be determined by the \*Architect/Engineer*]. The discharge from hand-wash facilities shall be collected to prevent spillage on the floor, and discharged to a water reception tank or flushing water supply tank for recycling/reusing as appropriate. The Contractor shall propose the number of hand-wash facilities, their locations and the system of how to collect the discharge from the wash-water basin for reuse/recycle on the Site for the approval of the \*Architect/Engineer's Representative within 14 days from the date of commencement of the Works on the Site. The \*Architect/Engineer's Representative shall review regularly the adequacy of hand-wash facilities provided by the Contractor on the Site and the effectiveness of the discharge collection system throughout the Contract.

#### 5 **Showering Facilities**

When the number of workers working on the Site will likely be exceeding (100) [*figure tentatively set and to be determined by the \*Architect/Engineer*] in a day for a continuous period of twelve months or more during the Contract, the Contractor shall, in addition to the provision of hand-wash facilities pursuant to clause (4) above, provide showering facilities on the Site unless otherwise approved by the \*Architect/Engineer that the provision is not appropriate. The showering facilities shall be provided indoors or inside containers with appropriate drainage connections. The number of showering points provided on the Site shall be at a ratio of not less than two for the first (100) workers [*the same figure as determined above by the \*Architect/Engineer*], and an additional one for every additional (50) workers [*figure tentatively set and to be determined by the \*Architect/Engineer*].

The Contractor shall provide showering facilities at different locations/rooms for use by male or female workers separately. Each showering point shall be furnished with hot and cold water supply. The Contractor shall be responsible for the water and electricity charges for providing the facilities. Details of installation of the facilities shall be submitted for the approval of

the \*Architect/Engineer's Representative within 30 days after the commencement of the Works on the Site.

## 6 **Rubbish Bins**

The Contractor shall provide sufficient rubbish bins with covers at strategic locations on the Site for collection and disposal of general wastes generated by workers throughout the Contract. The rubbish bins shall be provided in pairs, one for aluminium cans and plastic bottles and the other for general refuses. The locations for the rubbish bins in pairs shall be placed at convenient locations close to the workers' workplace to facilitate use. The number of paired rubbish bins in pairs provided on the Site shall be at a ratio of not less than one pair for every (20) workers [*figure tentatively set and to be determined by the \*Architect/Engineer*]. The size of the rubbish containers shall be of minimum 1 m high and have an opening of at least 0.28 m<sup>2</sup> at the top for collecting wastes.

The Contractor shall maintain the cleanliness of rubbish bins, and arrange collection and disposal of general waste inside the rubbish bins regularly, but in any case shall be not less than once in every three days. The Contractor shall also make arrangement for collecting papers and packaging on the Site to reduce disposal of wastes to landfills. The Contractor shall propose the number and the location of placement of rubbish bins provided on the Site together with the arrangement for on-site sorting of aluminium cans, plastic bottles and papers for the approval of the \*Architect/Engineer's Representative within 14 days from the date of commencement of the Works on the Site. The \*Architect/Engineer's Representative shall review regularly the adequacy of rubbish bins provided on the Site by the Contractor and the effectiveness of on-site sorting of general wastes throughout the Contract. The Contractor shall include this requirement to form part of his waste management plan if appropriate.

**PARTICULAR PREAMBLE**  
**Method of Measurement**  
**for Hard-Paved Area for Pre-work Activities of Site Safety Cycle**  
**and Welfare Facilities for Workers**

***Temporary  
Accommodation  
for the  
Contractor***

1.11 The items for temporary accommodation for the Contractor is amended, in accordance with the following Particular Preambles :

***Item  
Coverage***

- (a) erection, servicing and removal of everything required by the Contractor, including sheds, stores, workmen's accommodation, hard-paved area for the implementation of Pre-work Activities of Site Safety Cycle as specified in Particular Specification clause no. ( ), and welfare facilities for workers in accordance with Particular Specification clause nos. ( ) to ( ) and the like;
- (b) reinstatement of the sites occupied by temporary accommodation.