Workplace Safety, Health and Environmental Good Practices Handbook
Foreword

Land Transport Authority (LTA) places great emphasis on the importance of safety, as well as minimizing the impacts caused to the environment arising from our construction activities.

This Handbook is a compilation of exemplary safety and environmental site practices implemented by LTA’s contractors who have gone the extra mile to achieve safety and environmental excellence.

The good practices comprise of innovative solutions to challenges faced on most sites, as well as improved work procedures that enhance safety and environmental performance. While every site is unique, there are common issues that may be faced by most contractors. Hence, these good practices are shared with all to encourage continual learning and improvement.

Contractors are recommended to adopt good practices that may be applicable to their worksites, but should also exercise discretion in adopting the practices according to the needs of their sites.
Disclaimer

All illustrations shared in this Handbook are meant for learning purposes only. The learning points for each illustration are not exhaustive and should not be taken to encapsulate all the responsibilities and obligations of the user of this Handbook under the law. LTA and its authorized agents do not accept any liability or responsibility to any party for any losses or damage arising from following this Handbook.

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As a guide, this Handbook has no legal standing.

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Enquiries can be directed to LTA Safety Division
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Application of Technology
Provide traffic controller with reflective safety vest fitted with LED lights

- Increases visibility of traffic controller
- Enhances safety of motorists and traffic controller
Application of Technology

Deploy robotic traffic marshal to guide traffic

- Eliminates risk of traffic accidents
- Ensures that a traffic controller is available at all times of the day to alert motorists of the temporary road works ahead
Application of Technology

Aqua Cutter

Employ the use of aqua cutter for rebar exposure

- Increases work efficiency for rebar exposure process
- Eliminates hazards associated with conventional methods such as excavator hacker machine
Virtual Training

Incorporate virtual reality (VR) technology for workers’ training

- Allows workers to have a more realistic safety training experience
- Enhances workers’ learning and understanding of safe work processes
Application of Technology

Wireless Anti-Collision Sensory Protection Device

Install sensor and alarm system before lifting operation commences

- Reduces risk of collision with nearby structures
- Enhances safety of lifting operations
Application of Technology

Portable Lightning Detector

- Provide portable lightning detector for workers
- Provides pre-lightning warnings
- Improves safety on site
Competency
Set up a safety training school to train workers on workplace safety and health

- Enhances workers’ learning experiences
Assign one experienced worker to guide each new worker on site

- Helps new workers to better adapt to work practices on site
Competency

Personnel

Competency

Stickers

Provide stickers to identify competent users

- Allows for quick identification of workers’ competency
- Reduces occurrences of unsafe usage of tools and equipment by untrained workers
Construction Methods
Employ the use of system formwork for casting of large structures

- Improves structural integrity of temporary works
- Avoids potential hazards arising from using incompatible materials from different systems
Provide modular scaffolds for safe access to deep excavations

- Eliminates risk of falling from height
- Eliminates risk of falling objects
Engagement
Carry out regular stakeholders engagements and assist to address their concerns

- Helps to build a good relationship with stakeholders
Engagement

Care for Community Spaces

Carry out housekeeping and oiling at areas outside site boundaries

- Helps to build a good relationship with stakeholders
Innovation
Innovation

LED Lights

Provide Light-Emitting Diode (LED) lights to highlight safe access and egress in work areas

- Illuminates access and egress under low light conditions
Innovation

Delineated Wire Mesh Access

Provide proper and durable wire mesh overlay across rebar surface

- Eliminates risk of workers tripping on rebar gaps
Innovation

Mobile Ladder Platform

Provide mobile ladder platform to access rebar works

- Provides a proper safe platform to access work area

- Reduces risk of falling from height
Material Storage
Material Storage

Racks for Rebar Storage

Provide racks at material storage areas to hold rebar in place

- Provides proper access for workers to retrieve materials
- Reduces risk of tripping
Material Storage

Provide racks and containers for storage of loose materials

- Prevents tripping
- Improves general housekeeping
Welfare
Conduct regular health checks for all workers

- Ensures that workers are in good health before work starts
Welfare

Double Storey Rest Area

Install double storey workers’ rest area

- Occupies less space on site
- Houses more workers
Environmental
Air Pollution Control

Sprinkler System

Install automatic water sprinkler systems to wet vehicular access

- Reduces dust on site
Provide a vacuum machine with water sprayer to wet vehicular access

- Reduces dust on site
Noise Control

**Ventilation Fan Silencer**

- Install silencer at the end of ventilation fan
- Reduces noise emission from ventilation fan
Provide noise enclosure for ventilation fan

- Reduces noise emission from ventilation fan
Install retractable noise enclosure over the opening of launch shaft

- Reduces noise emission from tunneling activities
- Allows for multiple launches of TBM and ease of moving materials
Provide innovative noise barriers with enhanced performance

- Reduces noise emission from site
Vector Control

Mosquito Magnet

Provide mosquito magnet at workers’ rest areas to supplement vector control efforts

- Eliminates adult mosquitoes from site
End Cap for Bolt Socket

Install end cap for bolt socket of tunnel segment rings

- Prevents water ponding in bolt sockets
- Eliminates potential mosquito breeding
Waste Management

Upcycling

Upcycle waste materials for other uses e.g. reuse wooden crates to create furniture

- Reduces amount of waste generated
- Encourages workers to be environmentally friendly
Recycle food waste (e.g. fruits and vegetables) into fertilizer

- Reduces amount of food waste generated from site (i.e. canteen)