Work at Height | Mirvac Minimum Requirements

1. Purpose & Scope

The purpose of this document is to eliminate or minimise the risk of injury when undertaking work at height, so far as is reasonably practicable.

This document applies to all workplaces under the management or control of a Mirvac entity.

2. Minimum Requirements

Mirvac personnel and Service Providers must have processes in place to ensure compliance with:

- the Critical Controls (refer Section 3);
- relevant Forms (refer Section 4);
- all relevant Legislation, Codes of Practice and Standards (refer Section 7); and
- product guidelines for installation, use or maintenance from the Original Equipment Manufacturer.

3. Critical Controls

- **Risk Assessment:** Prior to commencing work at height a risk assessment must be conducted. The hierarchy of controls shall be applied in determining the most appropriate method of controlling risks of fall from heights, and objects falling from heights, across all work at heights activities covered in this document (refer examples in the Hierarchy of Controls Triangles in Section 9). Wherever possible, consideration should be given to having both primary and secondary controls in place for work at heights in order to provide a back-up if the primary control fails (e.g. perimeter protection plus a catch deck). A rescue / retrieval plan must be in place for work at heights for all relevant work at heights tasks within scope, including any failure relating to temporary works (refer template in Section 4). A procedure to rescue an unconscious person from within the tower crane cell must be included in the ERP for sites where Mirvac is in control of work involving tower cranes.

- **Competency:** All persons working at height, or on related equipment / installations, shall be verified as competent and have the required certificates / licenses. Additionally, they must not suffer from any condition which increases the risk of a fall or the risk of dropping objects. All persons installing temporary works structures for work at height must hold the required level of qualification and competency.

- **Temporary Works Design**: Temporary works includes formwork, false work, scaffolding, overhead protective structures/hoarding, shoring and sheet piling, panel bracing, edge protection, propping and any other structural support systems which provide control for falls from height and falling objects. All risks associated with structural alterations, structural support systems and temporary structures must be identified, assessed and controlled, with preference for use of higher order controls from the hierarchy of control. The Temporary Works -Design and Installation MMR specifies risk-based design and verification requirements that must be followed when designing and maintaining temporary works support structures.

- **Edge Protection**: All proprietary edge protection systems must be installed and maintained in line with the Original Equipment Manufacturers (**OEMs**) instructions. Where guard rails / mesh guards are utilised for edge protection and they are not full height (i.e. floor to ceiling height) there shall be a 3m exclusion zone on that same level where a ladder, step or trestle shall not be used within this zone. Where the physical layout does not allow this, a risk assessment must be completed to determine the means by which a fall over the edge will be prevented and the means by which objects will be

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prevented from falling. Where non-proprietary systems of edge protection are used the system must be designed and signed off by a qualified engineer.

- **Screen Lifting:** Lifting of screens must be only occur with Screen Lifting Permit. Installation and climbing of screens can only be undertaken by a competent person with appropriate system training. The installation, alteration and removal of screens shall be undertaken under the supervision of an intermediate rigger. No signage or shade cloth is to be installed on screens without an engineer's approval.
  When opening or removing platform/flap infills prior to lifting ensure they are securely fixed (i.e. screwed, attached to lanyard or clip) and fit for its intended purpose. All flaps and infills are to have sufficient clearance with no potential snagging points.
  Where works on the perimeter edge of the building are being conducted where any material could fall, all tools, equipment and materials must be suitably restrained by means that are fit for its intended purpose and suitably rated overhead protection shall be provided or secure exclusion zones that prevent the entry of people (fenced - not barrier tape).
  All screens and attachments to be inspected at regular intervals (minimum 3 monthly) to ensure in good working order and for any deterioration of materials i.e. plywood, fixings or associated elements.

- **Scaffolding:** Where the scaffolding exceeds 4m in height, scaffold erection and configuration drawings detailed by an engineer, and the scaffold handover inspection certificate, shall be completed and provided to Mirvac. The Scafftag Blue Book (*Scafftag Record Management System)* which includes the handover certificate and inspection checklist, and a colour coded Scafftag card system shall be used on all scaffolding. When erecting or dismantling scaffold the system of work must be designed to prevent falls from heights and dropped objects falling to the ground. Wherever reasonably possible all gaps must be eliminated. If this is not feasible appropriate exclusion zones must be in place. Any changes to scaffolding design must be subject to a risk assessment to determine whether the scaffolding design drawing require updating and approval by a qualified engineer.

- **Access and Egress:** Access and egress for work at height must be adequate for the number of people accessing the workplace and to enable emergency evacuation. On Construction sites, access and egress provisions will be planned during the Site Establishment phase and will provide as a minimum:
  - adequate numbers of stretchers to service the identified Emergency Response situations stored in appropriate locations;
  - access to satellite pumps and tower cranes to be compliant with the requirements of AS1657; and
  - safe access to the working level by use of scaffold or proprietary stair systems (which are preferred). If this is not feasible, safe access for portable ladders must be provided. Any ladder ends must protrude a minimum of 1 metre above the floor level and be secured in place.

- **Perimeter Protection:** Where work is to be undertaken near an edge, perimeter protection shall be installed. This can include screens, fences, hoardings, nets, safety mesh or other physical barriers. All vertical joints between screens and all horizontal joints abutting the structure shall have no gaps (consideration should be given to the use of rubber / plywood and carpet to seal). Where mobile equipment (e.g. EWPs) are used in the area, precautions shall be taken to prevent them from impacting perimeter protection i.e. with the use of barriers, wheel stops or I-beams between screen needles. OEMs instructions must be reviewed and addressed to meet the performance specifications of products used for perimeter protection.

- **EWPs**: All non-scissor-lift EWPs must be fitted with a secondary protection system to prevent crushing. The operator must be wearing a harness connected to a rated anchor point inside the EWP. The operator must have minimum training requirement for use of EWP/Scissor lift for the category of equipment for EWPs under 11m. Risks of falling objects must be controlled in line with the hierarchy of control: e.g., isolate the workers from the risk of dropped objects, preferred to use of lanyards only.

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- **Falsework and Formwork:** An engineer's certificate shall be provided by the Service Provider to Mirvac to verify the structural adequacy of every formwork deck or load bearing structure prior to a concrete pour. Records of certificates will be retained at the workplace for audit purposes. The Service Provider shall provide Mirvac with a signed pre-pour checklist. Formwork erection and configuration drawings detailed by an engineer shall be provided to Mirvac prior to erection of any formwork above ground floor height. When stripping formwork, drop stripping is not permitted; material lowering must occur in a controlled manner. Consideration must be given to designing out height safety and dropped

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objects risks. Where this is not reasonably possible, adequate protection from falls must be provided and adequate exclusions zones installed, signed and maintained.

- **False Cars and Running Platforms:** workplaces must have a process in place to ensure the design, installation and commissioning / handover of lift cars to be compliant with all relevant legislation, codes and standards. Workers inside the lift shaft must have the required certification and competency to undertake the work (as defined by jurisdictional regulator requirements and the lift company training needs analysis). Where work is conducted in lift shafts and using false cars or running platforms the SWMS/JSEA should be guided by the hierarchy of controls. Proof of correct construction and installation of the false car and of the running platform must be provided prior to commissioning for use.

- **Ladders:** Where ladders are required to be used to work off they should be of the platform type with edge protection around three sides. Where the ladder platform is greater than 2m from the ground, hand rails on all four sides must be in place. The use of portable ladders to perform work is only permitted at Mirvac where:

  - all other methods of accessing the work area have been assessed and proven unworkable; and
  - a ladder risk assessment has been developed to mitigate the risk of working on the ladder and has been signed by the Mirvac Responsible Supervisor (or Workplace Manager).

  The use of portable ladders 900 mm high (or 3 steps), or lower, is banned at all Mirvac sites. A 900-mm high portable platform ladder or a safety step can be used in restricted tight areas where other options are not available, otherwise the minimum acceptable height of a normal step-ladder without a handrail and platform is 1200mm (4 steps).

  Aluminium trestles can be used as a light duty work platform. The width must be a minimum width of 450mm (2 planks) and the trestle height should be less than 2m from the ground surface. A JSEA/SWMS must be undertaken for all work involving a trestle.

- **Truck loading and unloading**: fall control to enable safe access and egress must be in place with delineated people segregation and / or adequate exclusion zones to manage the risk.

- **Fall Protection Equipment:** Safe systems of work are required to ensure that where a fall restraint/fall arrest system is used on site that:
  - workers, supervisors and equipment inspectors have received work at heights training that is nationally accredited by a Registered Training Organisation and complies with the requirements outlined in AS1891 Parts 1 and 4;
  - there is a maintenance and inspection schedule for the equipment which complies with the requirements of AS 1891.1 and the inspection program is documented in a Fall Protection Equipment Register that is current, adequately maintained and provided to Mirvac;
  - any attachments points have been designed and certified by a qualified person; and
  - attachment points are installed by a competent person and inspected at required frequencies (according to AS1891.1) by a competent person.
  - Industrial Rope Access workers must have undertaken training certified by a nationally accredited RTO that complies with he standards for rope access methods as well as equipment performance criteria as set out in the AS/NZS ISO 22846 Parts 1 & 2.
  - Additionally, the requirements of AS/NZS 1891.4 Industrial Fall Arrest – Selection Use & Maintenance should be used as a reference as it describes the techniques that should be used when working using 'working in suspension' and 'restraint-technique'.

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4. Mirvac Forms

Checklists and Permits are to be completed and then authorised by Mirvac representative prior to work	
Unprotected Edge Access Permit – use where poor access or lack of edge protection exists	Building Maintenance Unit (BMU) Permit – for use during maintenance
Roof Access Permit - roof access for where construction has been completed (this is not required for active construction sites)	Overhead Protective Structures Checklist - for Type B hoarding installation
Screen Lifting Permit – to lift perimeter screens in place	Industrial Rope Access Permit – for use on site
Workbox Permit – for use when it is necessary to elevate personnel to perform a task where it is not possible or practicable to use a scaffold or EWP	Retrieval Plan Template – for use where fall protection is used
Step Ladder Risk Assessment – where no other means of access is possible	Elevated Work Platform (EWP) Permit – for use in Retail and O&I where there is interaction with the public (not loading or unloading)
Fall Protection Equipment Register – to document fall protection equipment and frequency of inspection	Step Ladder Use Task Approved Sticker – for use to indicate step Ladder approved for task
Formwork Pre Pour Permit – Used for planned Formwork inspections	

5. Roles and Responsibilities

The Workplace Manager of each workplace over which Mirvac has control is responsible to ensure workers at the site are aware of, and adhere to, the performance requirements of this document and responsible to ensure workers are equipped with adequate tools, training, competency and licensing to undertake the work.

6. Training and Competency

All workers exposed to work at height must be trained according to the guidance provided below.

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Minimum Training Requirements for Work at Height Using a Fall Arrest / Restraint System / Rope Access Equipment	
Worker Group	**Required Training**
Performing work at heights – where the worker is required to wear a harness while undertaking work	Current 2 day RTO provided Work At Heights Certificate: RIIWHS204E Working At Heights
Supervising work at heights – where the worker is required to wear a harness while undertaking work	Current 2 day RTO provided Work At Heights Certificate: RIIWHS204E Working At Heights Training in supervising work at heights including selection and use of communications systems between persons working at heights (Appendix E. AS/NZS 1891.4)
Inspecting work at heights (including recertification and inspecting anchor point attachments) External	Current 2 day RTO provided Work At Heights Certificate Training in supervising work at heights including selection and use of communications systems between persons working at heights Training in the skills needed to detect faults in equipment and determine remedial action
Industrial Rope Access Technicians	Current Rope Access Technician Level 1 IRATA / SPRAT Certified Current 2 day RTO provided Work At Heights Certificate: RIIWHS204E Implement falls prevention strategies Note: Rope access technicians should work in teams of no fewer than two, one of whom should be a Level 3 rope access safety supervisor. Lone working is not allowed. (ARAA – Ceased certificating 2019 qualifications recognised till expiry)
Supervising Industrial Rope Access Technicians	Current IRATA / SPRAT Level 3 Rope Access Technician Supervisor Current 2 day RTO provided Work At Heights Certificate: RIIWHS204E Implement falls prevention strategies Current HLTAID003 - Provide First Aid
Designing Temporary Works attachment points	Qualified Engineer
Installing temporary works attachment points External	Basic Rigger or higher; or Basic Scaffolder; and Proprietary Course on Installation and Maintenance of Anchor Points

Minimum Training Requirements for Installation of Safety Mesh and Lifting of Screens	
Type of Installation	**Required Training**
Safety Mesh	Basic Scaffolding; or Basic Rigging

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Screen Lifting	Basic Rigging

Minimum Training Requirements for Use of EWPs and Scissor Lifts

Equipment Being Operated	Required Training
Scissor Lift (under 11 m)	RIIHAN301E EWP AA Yellow Ticket (SL)
Elevating Work Platform (less than 11m)	RIIHAN301E EWP AA Yellow Ticket (BL)
Elevating Work Platform (11m and over)	High Risk Work License (WP)

Minimum Training Requirements for Scaffolding

Types of Scaffolding Work	Required Training
Scaffolding work under 4m • Mobile scaffolds	Specific Training in Assembling the Proprietary System
Scaffolding work greater than 4meters involving: • modular or prefabricated scaffolds • cantilevered material hoists with a maximum working load of 500 kilograms • ropes • gin wheels • fall arrest systems, including safety nets and static lines bracket scaffolds (tank and formwork)	Basic Scaffolding
Scaffolding work included in the class of Basic scaffolding, plus: • cantilevered crane loading platforms • cantilevered scaffolds • spur scaffolds • barrow ramps and sloping platforms • scaffolding associated with perimeter safety screens and shutters • mast climbing work platforms • tube and coupler scaffolds, including tube and coupler covered ways and gantries	Intermediate Scaffolding
Scaffolding work included in the class of Intermediate scaffolding, plus: • cantilevered hoists • hung scaffolds, including scaffolds hung from tubes, wire ropes or chains • suspended scaffolds	Advanced Scaffolding
30 Day Inspection of Scaffolding	Relevant HRWL class for type of scaffold

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Minimum Training Requirements for Industrial Rope Access Works

Rope Access Workers	Required Training
Rope Access Technicians	Current Rope Access Technician Level 1 IRATA / SPRAT Certified Current 2 day RTO provided Work At Heights Certificate: RIIWHS204E Implement falls prevention strategies Note: Rope access technicians should work in teams of no fewer than two, one of whom should be a Level 3 rope access safety supervisor. Lone working is not allowed. (ARAA – Ceased certificating 2019 qualifications recognised till expiry)
Supervisor Rope Access Technicians	Current Rope Access Technician Supervisor Level 3 IRATA / SPRAT Certified Current 2 day RTO provided Work At Heights Certificate: RIIWHS204E Implement falls prevention strategies Current HLTAID003 - Provide First Aid

Minimum Training Requirements for Installation of Other Temporary Works

Types of Temporary Work	Required Training
Formwork/Falsework	Trade Carpentry Ticket (or exemption by Workplace Manager for relevant experience) Unit of Competency CPCCCA2003A
Edge Protection	Training in use of the proprietary system
Steel Structures	Relevant Rigging Ticket
Sheet Piling	Verification of Competency
Shoring	Training in use of proprietary system
Bracing for Pre-cast / Tilt up	Intermediate Riggers Ticket Unit of Competency CPC10111 Unit of Competency CPC3013 (or exemption by Workplace Manager for relevant experience)
Overhead protective structures (scaffolding system)	Basic Scaffolding
B Class Hoardings (proprietary system)	Experience erecting Class B Hoardings and Training in the proprietary system
Other non-specified	To be determine in consultation with the National HSE Operations Manager and the Workplace Manager

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7. Relevant Legislation, Codes of Practice and Standards

Document Title
NSW: Work Health and Safety Act 2011 (NSW) Work Health and Safety Regulation 2017 (NSW) (including Part 3.1 (regs 32 – 38), Part 3.2 (regs 39 – 41, 54, 55), Part 4.4 Falls (regs 78 – 80))
Vic: Occupational Health and Safety Act 2004 (Vic) Occupational Health and Safety Regulations 2017 (Vic) (including Part 3.5)
Qld: Work Health and Safety Act 2011 (Qld) Work Health and Safety Regulation 2011 (Qld) (including Part 3.1 (regs 32 – 38), Part 3.2 (regs 39 – 41, 54, 55), Part 4.4 Falls (regs 78 – 80))
ACT: Work Health and Safety Act 2011 (ACT) Work Health and Safety Regulation 2011 (ACT) (including Part 3.1 (regs 32 – 38), Part 3.2 (regs 39 – 41, 54, 55), Part 4.4 Falls (regs 78 – 80)) Scaffolding and Lifts Act 1912 (ACT) Scaffolding and Lifts Regulation 1950 (ACT)
WA: Occupational Safety and Health Act 1984 (WA) Occupational Safety and Health Regulations 1996 (WA) (including Chapter 3, Division 5 — Prevention of falls at workplaces)
SafeWork Australia – Model Code of Practice: Managing the risk of falls at workplaces 20-15
SafeWork Australia - Guide to formwork
SafeWork Australia - Model Code of Practice: Preventing falls in housing construction
SafeWork Australia - Model Code of Practice: Safe design of structures
SafeWork Australia - National Standard for construction work
SafeWork NSW - Managing the Risk of Falls at Workplaces
SafeWork NSW – Preventing falls in housing construction code of practice
Workplace Health & Safety QLD - Managing the risk of falls at workplaces
Workplace Health & Safety QLD – Formwork Code of Practice
Workplace Health & Safety QLD – Scaffolding Code of Practice
SafeWork SA - Managing the Risk of falls at workplaces code of practice Fact Sheet
WorkSafe VIC - Prevention of Falls in General Construction
WorkSafe VIC – Guidance Note: Prevention of Falls – Ladders
WorkSafe VIC - Outdoor advertising material safe installation and removal
WorkSafe WA - Prevention of Falls at Workplaces
AS/NZS 4994.1*Temporary edge protection - Part 1: General requirements*
AS/NZS 4994.2 *Temporary edge protection - Part 2: Roof edge protection - Installation and dismantling*
AS/NZS 4994.3 *Temporary edge protection - Part 3: Installation an dismantling for edges other than roof edges*
AS/NZS 4994.4 *Temporary edge protection - Part 4: Temporary edge protection – Perimeter protection screens*
AS/NZS 1576.1*Scaffolding general requirements*

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AS/NZS 1576.2 *Scaffolding Couplers and Accessories*
AS 1576.3 *Scaffolding Prefabricated and tube-and-coupler scaffolding*
AS 1576.4 *Scaffolding Suspended scaffolding*
AS/NZS 1891.1 *Industrial fall arrest systems and devices – Harness and ancillary equipment*
AS/NZS 1891.4 *Industrial fall arrest systems and devices – Selection, use and maintenance*
AS/NZS 4389 *Roof Safety mesh*
AS/NZS 4576 *Guidelines for scaffolding*
AS 3610.1 *Formwork for concrete – Specifications*
AS 1319 *Safety Signs for the Occupational Environment*
AS 2550.10 Cranes*, hoists and winches – Safe use Mobile elevating work platforms*
AS 2550.1 Cranes*, hoists and winches – Safe use General requirements*
AS 2550.19 Cranes*, hoists and winches – Safe use Telescopic handlers*
AS 1418.1 *Cranes, hoists and winches General requirements*
AS 1418.10 Cranes, hoists and winches: *mobile elevating work platforms*
AS 1418.17 Cranes (including hoists and winches) *Design & construction of workboxes*
AS1657 Fixed platforms, walkways, stairways and ladders – Design, construction and installation
AS/NZS 1891.4 Industrial Fall Arrest – Selection Use & Maintenance
AS/NZS ISO 22846.1:2020 : Personal equipment for protection against falls - Rope access systems
AS/NZS ISO 22846.2:2020 : Personal equipment for protection against falls - Rope access systems - Code of practice

8. Additional Information

Work at Heights - MMR Reference Document. (for Mirvac personal only).

Temporary Works – Design & Installation MMR

9. Hierarchy of Controls Triangles

Hierarchy of Controls – Fall Prevention (worker)

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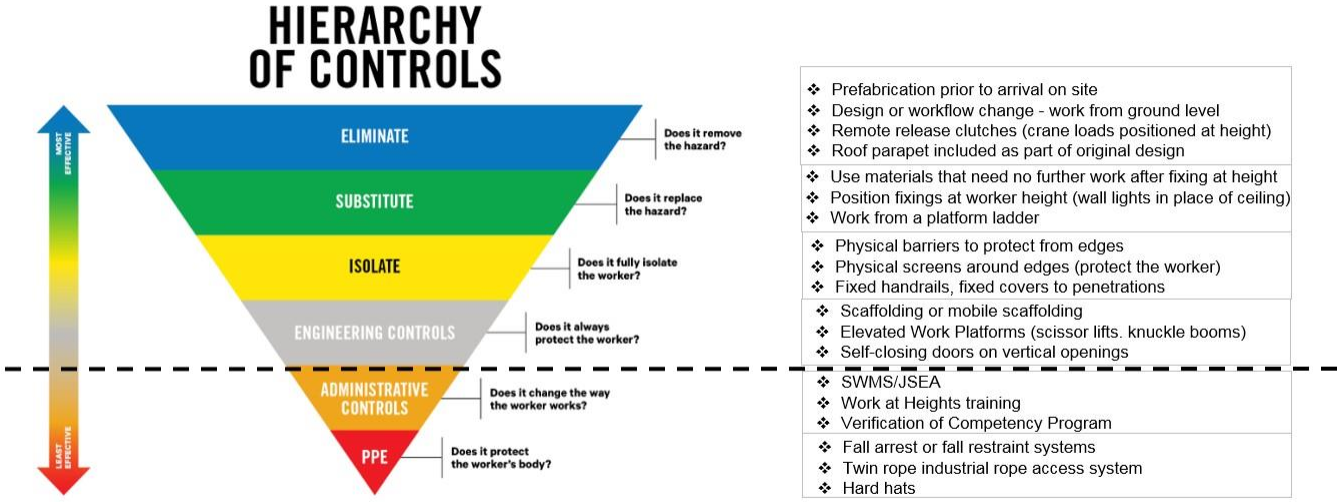
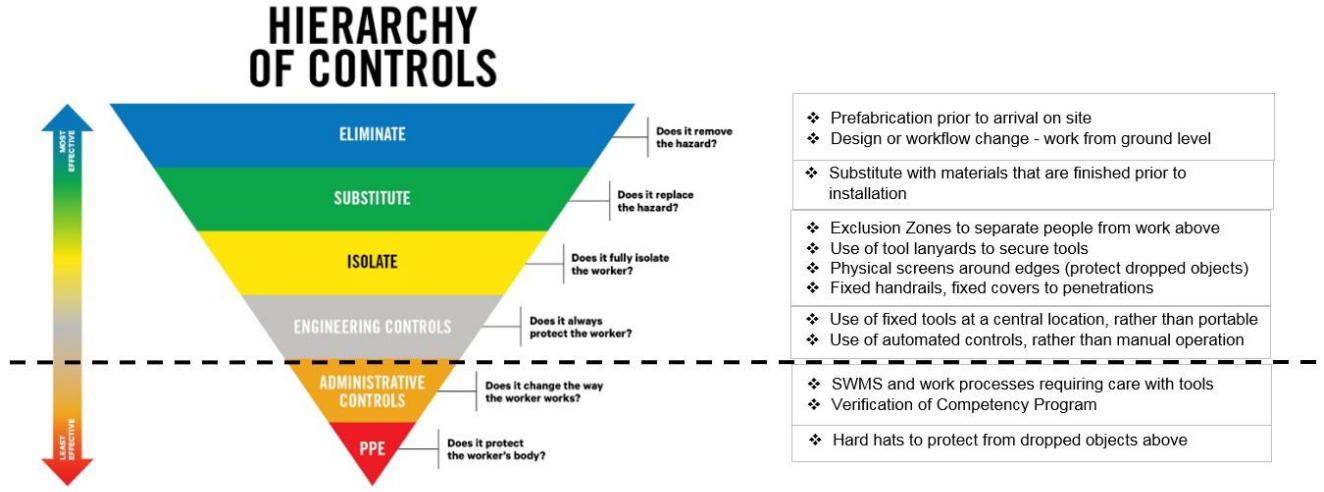


Hierarchy of Controls – Fall Prevention (dropped objects)



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