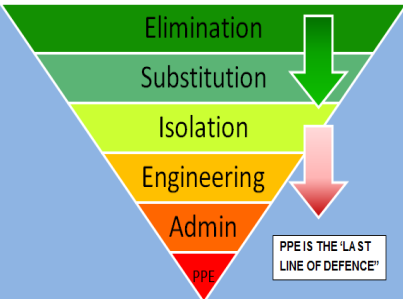


SJD ELECTRICAL PTY LTD - ABN 53 127 802 608 - ACN 127 802 608 - ELECTRICAL LICENCE 68608 - QBCC LICENCE 1270514 - ARC LICENCE AU19801 - MOLEX LICENCE CIAU3372













|   |  |                |                           |
|---|--|----------------|---------------------------|
| <b>Safe Work Method Statement Title: SWMS: 020 WORKING ON ROOFS AND IN CEILING SPACES</b> |  |                | Date Created:<br>09/06/16 |
| Project Name:   | Person responsible for ensuring compliance with this SWMS: |                | Review Date:<br>09/06/17  |
| Project/Client:   | Job No:  | Authorised By: | Revision No. 1            |

| Licences, Permits, Competencies Required: <i>(tick items relevant to this task and site)</i> |   |   |   |   |
|--|---|---|---|---|
| <input type="checkbox"/> Confined Space  | <input type="checkbox"/> Work at Heights    | <input type="checkbox"/> Excavation             | <input type="checkbox"/> Hot Work                 | <input type="checkbox"/> Radiation      |
| <input type="checkbox"/> White Card  | <input type="checkbox"/> EWP                | <input type="checkbox"/> Electrical License     | <input type="checkbox"/> Rescue and Resuscitation | <input type="checkbox"/> Network Access |
| Common Hazards to Manage: <i>(tick items relevant to this task and site)</i>                 |   |   |   |   |
| <input type="checkbox"/> Manual handling   | <input type="checkbox"/> Working at Heights | <input type="checkbox"/> Risk of Electric Shock | <input type="checkbox"/> Slips, Trips and Falls   | <input type="checkbox"/> Housekeeping   |

| HAZARD CLASSIFICATION MATRIX    |               |   | Probability |            |            |             |                |
|---------------------------------|---------------|---|-------------|------------|------------|-------------|----------------|
| POSSIBLE RESULTS                |               |   | RARE        | UNLIKELY   | POSSIBLE   | LIKELY      | ALMOST CERTAIN |
| Risk = Consequence x Likelihood |               |   | A           | B          | C          | D           | E              |
| Consequences                    | Catastrophic  | 5 | Medium (M)  | High (H)   | High (H)   | Extreme (E) | Extreme (E)    |
|                                 | Major         | 4 | Medium (M)  | Medium (M) | High (H)   | High (H)    | Extreme (E)    |
|                                 | Moderate      | 3 | Low (L)     | Medium (M) | High (H)   | High (H)    | High (H)       |
|                                 | Minor         | 2 | Low (L)     | Low (L)    | Medium (M) | Medium (M)  | High (H)       |
|                                 | Insignificant | 1 | Low (L)     | Low (L)    | Low (L)    | Medium (M)  | Medium (M)     |



| RISK RATING                             | ACTION REQUIRED (ALARP – As Low As Reasonably Practicable)  |
|---|---|
| E = Extreme, UNACCEPTABLE               | Intolerable risk. Activity must not be undertaken prior to Management / CEO review of potential risk mitigation measures and a decision that risk is ALARP  |
| H = High risk, Only acceptable if ALARP | Implement strict control measures to reduce risk to an acceptable level. Activity must not continue until the level of risk is reduced to <b>As Low As Reasonably Practicable (ALARP)</b> and preferably Medium rating. Operations Manager and/or Project Supervisor approval of the risk controls is required. |
| M = Medium risk Undesirable             | Specify, document and implement existing risk controls and additional management actions to reduce the risk to <b>ALARP</b> and <u>preferably Low rating</u> . Activity must not continue without Operations Manager and/or Project Supervisor approval.  |
| L = Low risk, Tolerable                 | Tolerable risk. Carry out activity  |

|                      |   |   |   |   |  |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|--|---|---|---|---|---|---|---|
| Basic PPE to be used |  |  |  |  |  |  |  |  |  |  |  |  |
|                      | ✓ app   |   |   |   |  |   |   |   |   |   |   |   |
| <b>Other PPE:</b>    |   |   |   |   |  |   |   |   |   |   |   |   |

|  |   |             |
|--|---|-------------|
| SWMS No 020  | <div>SJD Electrical</div> <div>Job Safety Analysis / Safe Work Method Statement</div> | Page 2 of 9 |
| Safe Work Method Statement Title: SWMS: 020 WORKING ON ROOFS AND IN CEILING SPACES |   |             |

| Job Task # | Job Step                                      | Potential Health, Safety and Environmental Hazards   | PROBABILITY | CONSEQUENCE | RATING | Control Measures  | PROBABILITY | CONSEQUENCE | RATING | PERSON(S) RESPONSIBLE                                   |
|------------|---|--|-------------|-------------|--------|---|-------------|-------------|--------|---|
| 1          | Planning and preparation for working on roofs | Non-compliance with current legislative requirements and company processes.  | D           | 4           | H      | <p>All personnel to complete site specific induction.</p> <p>All personnel to have completed company specific induction.</p> <p>Personnel are to hold the required licenses and certificates for the work, and be assessed as competent to use or operate equipment and plant.</p> <p>All personnel must read, understand and sign off on this SWMS. All personnel are given the opportunity to provide input into the content of this SWMS.</p> <p>Daily pre-starts will be held at the beginning of each shift.</p> <p>Any changes throughout the shift will be communicated prior to the commencement of the next task.</p> <p>A JSA is to be completed for any changes to the task.</p> <p>Ensure permit requirements are understood.</p> | B           | 4           | M      | <p>Work crew</p> <p>Supervisor</p> <p>Permit Holder</p> |
| 2          | Access roof by ladder or platform             | <p>Personal injury -</p> <ul style="list-style-type: none"> <li>- Cuts, strains, abrasions, burns</li> <li>- Possible eye injury</li> </ul> <p>Dust inhalation (depends on surrounds – these tasks should not cause dust or fumes)</p> | C           | 3           | H      | <p>Authority and empowerment to Stop the Job.</p> <p>Ensure adequate lighting.</p> <p>Refer to Confined Space SWMS (remove if not applicable)</p> <p>Follow all site rules and procedures.</p> <p>Ensure correct manual handling techniques are followed.</p> <p>Wear all mandatory PPE and task specific PPE.</p> <p>Communicate task clearly with all work crew members. Ensure a thorough understanding of expectations.</p> <p>If a hazard is identified in the work area – fix it immediately or if unable to do so, isolate the hazard and inform you supervisor.</p> <p>Work on flat surface where practicable</p> <p>Secure all tools and/or equipment by lanyard or store in a toolbox/basket when on the work platform.</p>         | B           | 3           | M      | <p>Work crew</p> <p>Supervisor</p>                      |

| Job Task # | Job Step                               | Potential Health, Safety and Environmental Hazards  | PROBABILITY | CONSEQUENCE | RATING | Control Measures   | PROBABILITY | CONSEQUENCE | RATING | PERSON(S) RESPONSIBLE   |
|------------|--|---|-------------|-------------|--------|--|-------------|-------------|--------|-------------------------|
| 3          | Managing the risks of working on roofs | <p>Possible electricity sources such as photo voltaic (PV) systems installed</p> <ul style="list-style-type: none"> <li>- Electric shocks</li> <li>- Electrical burns</li> <li>- Trips and falls</li> </ul> | D           | 4           | H      | <p>Before starting any work, turn off all electricity to the property at the main switchboard and take steps to prevent the electricity from being turned back on while work is in progress.</p> <p>Where solar photo voltaic (PV) systems are installed, supply cables from the solar cells on the roof to the inverter unit will be live when the solar cells are generating electricity. For this reason, care must be taken when working around these cables.</p> <p>Care must also be taken when working on roofs or in ceiling spaces to minimise or avoid contact with exposed conductive parts such as guttering, roof sheeting or metal battens as these could be live if there is a fault with the wiring.</p> <p>Note 1. Turning off electricity to the property at the main switchboard does not turn off the electricity supply from the street to the switchboard. This means the incoming overhead service lines and the cables supplying the switchboard will still be live.</p> <p>Extreme care must be taken to avoid touching any of these live overhead electrical lines or supply cables.</p> <p>Note 2. <b>Exclusion zones exist for working near incoming service lines and need to be maintained at all times (generally 3 metres).</b> For further details on exclusion zones, refer to Appendix B of the <i>Electrical safety Code of Practice 2010 – Working Near Exposed Live Parts</i>.</p> | B           | 3           | M      | Supervisor<br>Work Crew |
| 4          | Completion of work on roof             | Slips, trips and falls  | C           | 4           | H      | <p>Once work has been complete on roof:</p> <ul style="list-style-type: none"> <li>- Dispose of waste material</li> <li>- Perform a visual observation for compliance and electrical safety</li> <li>- Descend from roof by ladder / platform</li> <li>- Perform electrical testing from switchboard as per wiring rules.</li> </ul>   | B           | 3           | M      | Supervisor<br>Work Crew |

| Job Task # | Job Step  | Potential Health, Safety and Environmental Hazards  | PROBABILITY | CONSEQUENCE | RATING | Control Measures  | PROBABILITY | CONSEQUENCE | RATING | PERSON(S) RESPONSIBLE   |
|------------|---|---|-------------|-------------|--------|---|-------------|-------------|--------|-------------------------|
| 5          | Planning and preparation for working in ceiling space                             | Working in confined space with exposure to; <ul style="list-style-type: none"> <li>- high temperatures causing heat stress / dehydration / sunburn</li> <li>- Fauna and insects causing bites and stings</li> </ul>   | D           | 3           | H      | <p>Ensuring someone is aware of where you are and contact with them is maintained until work is completed</p> <p>Comply with the Queensland Worksafe heat stress procedure.</p> <p>Ensure there is an area in the shade for rest (preferably Crib Facilities).</p> <p>Work Breaks are compulsory at nominated times (preferably during the hotter parts of the day)</p> <p>Drink adequate water amount of water.</p> <p>Use sun block for protection from sun.</p> <p>Use insect repellent (if applicable).</p>   | B           | 3           | M      | Supervisor<br>Work crew |
|            |   | Interactions with other trades working in the vicinity; <ul style="list-style-type: none"> <li>- Inadvertently cause hazardous situation including trips, slips, falls</li> </ul>   | D           | 3           | L      | <p>Ensure other workers are informed and aware of all other trades working in the area.</p> <p>Communicate potential interactions during prestart.</p>  | B           | 3           | M      | Supervisor<br>Work Crew |
|            |   | Unauthorized access to work area by other authorized personnel without correct PPE.   | D           | 3           | H      | <p>Follow all site rules and procedures.</p> <p>Wear all mandatory PPE and task specific PPE.</p> <p>If a hazard is identified in the work area – fix it immediately or if unable to do so, isolate the hazard and inform your supervisor immediately.</p> <p>Site wide barricading to be installed to restrict access to unauthorized personnel.</p> <p>Signage to be visible around all site and at all access points.</p> <p>All visitors must report to site office before entering site.</p> <p>All visitors to be escorted by a site inducted personnel member.</p> | B           | 3           | M      | Supervisor<br>Work crew |
| 6          | Work area preparation / set up access way with ladder / platform to ceiling space | Personal injury – <ul style="list-style-type: none"> <li>- Fall from height</li> <li>- Cuts, strains, abrasions, burns</li> <li>- Possible eye injury</li> <li>- Dust inhalation (depends on surrounds – these tasks should not cause dust or fumes)</li> <li>- Fall from heights (remove if not applicable)</li> </ul> | C           | 4           | H      | <p>Authority and empowerment to Stop the Job.</p> <p>Ensure correct manual handling techniques are followed.</p> <p>Wear all mandatory PPE and task specific PPE.</p> <p>If dust is present, a dust mask must be used. A dust extraction device will be used in the event dust becomes excessive.</p> <p>Refer to Working at Heights SWMS (remove if not applicable)</p>  | B           | 4           | M      | Supervisor<br>Work crew |

| Job Task # | Job Step                        | Potential Health, Safety and Environmental Hazards | PROBABILITY | CONSEQUENCE | RATING | Control Measures   | PROBABILITY | CONSEQUENCE | RATING | PERSON(S) RESPONSIBLE   |
|------------|---------------------------------|--|-------------|-------------|--------|--|-------------|-------------|--------|-------------------------|
| 7          | Prior to entering ceiling space | Live electrical wiring                             | D           | 3           | H      | <p>Prior to entering the ceiling space turn the electricity off. Once all electricity has been turned off, complete a pre-work risk assessment of the roof cavity by looking around the ceiling space to identify hazards that may pose risks. These may include:</p> <ul style="list-style-type: none"> <li>- High temperatures</li> <li>- Evidence of vermin</li> <li>- Sharp objects</li> <li>- Asbestos</li> <li>- Type of lighting</li> <li>- Type of insulation material</li> <li>- Accessibility to the work area (e.g. cramped and awkward positions)</li> <li>- Location of electrical wiring and water or gas piping</li> </ul>  | B           | 3           | M      | Supervisor<br>Work crew |
|            |                                 | Defective installation causing electrocution.      | D           | 3           | H      | <p>Ensure appropriate test equipment is being used</p> <p>Appropriate tools for the job are available</p> <p>Ensure all appropriate barricading is in place to isolate the area</p> <p>Working kits are used and maintained, and first check operation of test apparatus.</p> <p>Visual inspection shall include:</p> <ul style="list-style-type: none"> <li>- Basic protection (protection against direct contact with live parts)</li> <li>- Fault protection (protection against indirect contact with exposed conductive parts)</li> <li>- Protection against hazardous parts (guarding/screening)</li> <li>- Protection against spread of fire (fire blanket / fire extinguisher)</li> <li>- General condition of equipment.</li> </ul> | B           | 3           | M      | Supervisor<br>Work crew |

| Job Task # | Job Step   | Potential Health, Safety and Environmental Hazards  | PROBABILITY | CONSEQUENCE | RATING | Control Measures   | PROBABILITY | CONSEQUENCE | RATING | PERSON(S) RESPONSIBLE       |
|------------|--|---|-------------|-------------|--------|--|-------------|-------------|--------|-----------------------------|
| 8          | Entering ceiling space and undertake work (Traversing the roof cavity) | Personal injury – <ul style="list-style-type: none"> <li>- Fall from height</li> <li>- Cuts, strains, abrasions, burns</li> <li>- Possible eye injury</li> <li>- Dust inhalation (depends on surrounds – these tasks should not cause dust or fumes)</li> </ul> | C           | 4           | H      | Taking care accessing and traversing the work area, avoiding tripping over debris, material and the ceiling trusses.<br><br>Step carefully on ceiling joists or other beams- not the ceiling material (i.e. Gyprock sheeting) – to avoid risk of falling or injury.<br><br>Using / providing appropriate tools – preferably manual or battery operated tools.<br><br>Being aware of the location of electrical cables, fittings and equipment and avoiding contact with them.<br><br>Ensuring that, if fixing points are required (e.g. saddling TV aerial cable in place), fixings are well clear of all electrical cables and equipment.<br><br>Making sure you do not damage any electrical cables or electrical equipment. Please note: if any electrical cable or equipment is damaged, consult with the owner and engage a licensed electrical contractor to inspect the installation.<br><br>Wearing appropriate, well maintained and correctly fitted personal protective equipment when working in dusty ceiling spaces, including: <ul style="list-style-type: none"> <li>- A half-face (class P1 or P2) disposable particulate respirator, in accordance with AS/NZS 1715</li> <li>- A head-covering and goggles, to avoid eye irritation</li> <li>- Long-sleeved, loose-fitting clothing and gloves to minimise skin contact with insulation material</li> </ul> Wearing appropriate footwear.<br><br>Keeping your work areas clean and clear of fibres and dust and place waste in plastic bags capable of containing dust. | B           | 3           | M      | Supervisor<br><br>Work crew |
| 9          | Carrying out work in ceiling space                                     | Asbestos containing material in work area   | D           | 3           | H      | If asbestos containing material is found refer to SWMS 36.<br><br>Considerations to be made when carrying out work in ceiling spaces include: <ul style="list-style-type: none"> <li>- Ensuring someone is aware of where you are and contact with them is maintained until work is completed</li> <li>- Being aware that heat and humidity may cause heat stress, so make sure fluid intake is sufficient to ensure you do not become dehydrated</li> <li>- Taking additional lighting (e.g. torch) with you as the lighting is generally poor in ceiling spaces</li> </ul>   | B           | 3           | M      | Supervisor<br><br>Work crew |

| Job Task # | Job Step                                | Potential Health, Safety and Environmental Hazards  | PROBABILITY | CONSEQUENCE | RATING | Control Measures  | PROBABILITY | CONSEQUENCE | RATING | PERSON(S) RESPONSIBLE   |
|------------|---|---|-------------|-------------|--------|---|-------------|-------------|--------|-------------------------|
| 10         | Completion of work in the ceiling space | Slips, trips, and falls.  | C           | 4           | H      | Once work has been completed: <ul style="list-style-type: none"> <li>- Replace any insulation material that may have been disturbed or moved for access to the work area, ensuring that it is not covering any electrical fittings or equipment, especially down lights</li> <li>- dispose of waste and debris appropriately</li> <li>- wash your hands, face, neck and hair, with soap and water</li> </ul>  | B           | 4           | M      | Supervisor<br>Work crew |
|            |   | Defective installation causing electrocution  | D           | 3           | H      | Ensure appropriate test equipment is being used<br>Appropriate tools for the job are available<br>Ensure all appropriate barricading is in place to isolate the area<br>Working kits are used and maintained, and first check operation of test apparatus.<br>Visual inspection shall include: <ul style="list-style-type: none"> <li>- Basic protection (protection against direct contact with live parts)</li> <li>- Fault protection (protection against indirect contact with exposed conductive parts)</li> <li>- Protection against hazardous parts (guarding/screening)</li> <li>- Protection against spread of fire (fire blanket / fire extinguisher)</li> <li>- General condition of equipment.</li> <li>- Ensure appropriate mechanical protection is provided to wiring in ceiling.</li> <li>- Ensure an electrical visual in accordance with AS/NZS:3000 is done in work area before vacating the work area.</li> </ul> | B           | 3           | M      | Supervisor<br>Work crew |
| 11         | Replace man hole cover                  | Personal injury – <ul style="list-style-type: none"> <li>- Fall from height</li> <li>- Cuts, strains, abrasions, burns</li> <li>- Possible eye injury</li> <li>- Dust inhalation (depends on surrounds – these tasks should not cause dust or fumes)</li> </ul> | C           | 4           | H      | Step carefully on ceiling joists or other beams – not the ceiling material<br>Authority and empowerment to Stop the Job.<br>Ensure correct manual handling techniques are followed.<br>Wear all mandatory PPE and task specific PPE.<br>If dust is present, a dust mask must be used.<br>Ensure hands, neck and hair are washed with soap and water.  | B           | 4           | M      | Supervisor<br>Work crew |
| 12         | Test Installation/alterations           | Electrical hazards – <ul style="list-style-type: none"> <li>- Electric shocks</li> <li>- potential fire hazard</li> </ul>   | C           | 4           | H      | Once out of the ceiling space – <ul style="list-style-type: none"> <li>- Complete all mandatory electrical tests from the main switchboard</li> <li>- Record test results</li> <li>- Complete Certificate of Testing and Compliance</li> </ul>  | B           | 3           | M      | Supervisor<br>Work crew |

|   |   |             |
|---|---|-------------|
| SWMS No 020   | <b>SJD Electrical</b><br>Job Safety Analysis / Safe Work Method Statement | Page 8 of 9 |
| <b>Safe Work Method Statement Title: SWMS: 020 WORKING ON ROOFS AND IN CEILING SPACES</b> |   |             |

| Personnel Qualifications and Experience Required         | Personnel Duties and Responsibilities                                 |   | Training Required to Complete Work   |
|--|---|---|--|
|  | Supervisor  | All Personnel   |  |
| Personnel will need to be trained and <b>confident</b> . | Empower all personnel to <b>STOP the JOB</b> if required to do so.    | All personnel to maintain tidy work area on site at all times. Personal Protective Equipment (PPE) to be worn at all times on site. | Supervisor to be trained in risk identification, assessment and control e.g. Job Safety Analysis (JSA).  |
| Appropriate industry and site specific induction.        | Supervisor to carry out daily inspections of work site for hazards.   | Ensure housekeeping is maintained throughout the task to avoid the risk of injury.  | Electrician to be trained in hazard identification, Risk Level and control.  |
| Must be a Licensed Electrician to carry out the works.   | Ensure appropriate permits are in place for the task (if applicable). | Barricading to be used as appropriate to protect others from working below elevated work.   | Safety observer who is competent to perform the task being observed and is also competent in electrical rescue and cardio-pulmonary resuscitation (CPR). |

| Engineering Details / Certificates / Australian Standards  | Referenced – Codes of Practice / Regulations / Legislation  |
|--|---|
| <ul style="list-style-type: none"> <li>AS/NZS 3000 Wiring Rules</li> <li>AS/NZS 3012:2010 Electrical Installations – Construction and Demolition Sites.</li> <li>AS/NZS 3017 - Electrical installations - verification guidelines</li> <li>AS/NZS 4836 Safe working on or near low voltage electrical installations and equipment</li> </ul> | <ul style="list-style-type: none"> <li>Work Health and Safety Act and Regulations 2011</li> <li>Electrical Safety Act 2002 and Electrical Safety Regulations 2013</li> <li>Electrical Safety Code of Practice 2013 - Managing Electrical Risks in the Workplace</li> <li>Hazardous Manual Tasks Code of Practice 2011</li> <li>WorkCover Queensland – Working on roofs and in ceiling spaces</li> <li>Working at heights</li> <li>Ladders, trestles and scaffolding</li> <li>Heat Stress</li> <li>Personal protective equipment</li> <li>Electrical Safety Code of Practice 2010 – Working Near Exposed Live Parts</li> </ul> |
| Plant / Equipment Required (Mobile or Static)  | Maintenance Checks / Calibration Intervals  |
| <ul style="list-style-type: none"> <li>Portable hand tools, electrical power tools / drills (insulated tools)</li> <li>Appropriate testing equipment</li> </ul> <p><b>NOTE:</b> <u>No low voltage mains powered tools</u> to be used in ceiling space (battery operated only)</p>  | <ul style="list-style-type: none"> <li>Hand tools and ladders to be checked daily.</li> <li>All electrical testing equipment to be tested and in test date.</li> </ul>  |



