Appendix K: Tilt-up and precast concrete panel checklist example

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>ACCEPTANCE CRITERIA</th>
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<tbody>
<tr>
<td>Drawings required</td>
<td>- Include approved drawings, relevant standards, engineer’s instructions, client specifications and manufacturer’s instructions.</td>
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<td></td>
<td>- Attach any item-specific checklists to this form.</td>
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<td>Drawings certified by a competent person exist for the following:</td>
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<tr>
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<td>- panel design: location of lifting anchors and bracing points, steel content, panel weight, panel dimensions, panel number, location of strongbacks (where applicable), concrete strength, rigging arrangement required to suit lifting anchors</td>
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<td></td>
<td>- erection and temporary bracing drawings: types of braces required (primary, knee, lateral, end), brace angles, levelling pads</td>
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<tr>
<td></td>
<td>- deadman (or floor slab) design: dimensions/depth, soil type, bearing capacity, terrain (wind) category, concrete strength, anchors required</td>
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<tr>
<td></td>
<td>- permanent supporting structure</td>
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<td></td>
<td>- panel layout and erection sequence.</td>
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It is the sub-contractor’s responsibility to have all sections ticked off and actioned as the item is completed. This checklist is to be completed each day when tilt-up or precast panels are being installed.

The completed forms and all other completed items must be given to:

| Name: | Role: |

Identify who is responsible for each item. The responsible party initials this section, or submits documentation, as evidence that each item has been inspected or actioned.

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| Sub-contractors’ documentation | The following documentation has been provided before work begins:  
- Tilt-up/precast panel Erection Contractor’s Job Safety Analysis (JSA).  
- Crane/Rigging Contractor’s Lift Plan/JSA showing:  
  - crane set-up locations  
  - location of obstacles, hazards and existing structures in proximity to the crane (especially temporary braces)  
  - rigging procedures and equipment  
  - spotters’ duties  
  - method of communication between operator and dogman/rigger  
  - references to erection sequence  
  - release of panels after braces installed  
  - other: | Name/role | Name/role | Name/role |
| Other documentation | Other documentation providing evidence of the following:  
- concrete strength tests (minimum MPa when cured)  
- casting dates  
- anchor specifications for braces (panel and floor/deadman)  
- brace type and specifications  
- lifting anchor and clutch design  
- pre-pour inspection of panels by competent person in accordance with design specifications. | | | |
| Qualifications | Crane operator and dogmen/riggers have appropriate training and qualifications. | | | |
| Pre-erection checks | - Concrete panels have achieved the correct strength for lifting as specified in the shop drawings. (Verification has been obtained from the builder or supplier.)  
- Deadmen and/or floor slab have achieved required concrete strength as specified in drawings.  
- Panels have been identified and marked with casting date and panel numbers.  
- Spreader bar and/or rigging configuration used meets load requirements for type of panel.  
- All lifting slings have working load limit (WLL) and current inspection tags displayed.  
- Lifting anchors and clutches are compatible.  
- Ground conditions adequate for supporting crane (level and compacted surface, outriggers used  
- slewing cranes only, no penetrations or pits in proximity).  
- Site access is adequate.  
- Proximity of power lines considered and appropriate action taken.  
- Exclusion zone has been barricaded and sign-posted to keep non-essential people away during erection and rigging.  
- Exclusion zones installed to mitigate risk to workers.  
- Wind conditions are suitable for lifting. | | | |
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<td>Name/role</td>
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| Panel lifting and erection | - Back-up chains fitted when using a clamp arrangement to lift elements.  
- Lift plan prevents side lifting or `suicide lifting' (lifting in such a way that if the rigging fails, the panel will strike the crane and/or operator).  
**Note:** This should be addressed at the building design stage to ensure that the crane has the capacity to lift the panel.  
- Bond breakers used (no jacking or shock loading when lifting to break panel from stack).  
- Levelling pads installed and set at correct height and location as per design.  
- Locating (dowel) pins and levelling shims installed as specified in design drawings. | |
| Temporary bracing for panels and supporting structure | - Temporary bracing for the panels is in accordance with relevant drawings and specifications.  
- Temporary bracing for the structure is in accordance with relevant drawings and specifications (knee, lateral and end braces and strongbacks installed where specified by designer).  
- Anchors used for fixing braces to the slab or deadman are an approved type.  
- Minimum of two braces per panel or as otherwise specified in drawings.  
- Only specified or calculated number of braces fitted to each deadman (where applicable).  
- No mix and match braces (all braces must be of same type unless otherwise specified by a competent person).  
- Brace angle does not exceed 5° from perpendicular and is approximately 50-60° from horizontal (or as otherwise specified in drawings).  
- Batch marked with manufacturer’s name and type, WLL and maximum extension.  
- Panels released from crane only after temporary bracing has been properly installed.  
- Exclusion zones have been barricaded and sign-posted to keep vehicles and plant away from temporary braces and supporting structures.  
- People, equipment and braces are kept clear/or at a safe distance when lifting, slewing and travelling with panels. | |
| Permanent structure capable of supporting panels prior to removing temporary support system | - All bracing or supporting structure fixing points have been installed and fixed as per shop drawings and engineering requirements.  
- The supporting structure is adequately braced or structurally sound.  
- A competent person inspects and confirms that the structure can adequately support panel prior to release of temporary propping or support system. | |
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| Ongoing monitoring of panels and support systems | - Regular inspections of panels, support systems, and temporary isolation barriers (e.g., safety inspections, health and safety committee observations, reviewing control measures to eliminate or minimise risk).  
- Re-inspection at intervals and after weather events.                                                                                                                                                                                                                                                                                                                                                       | Name/role  Name/role  Name/role |
| Grouting                                        | - Grouting undertaken using specified product and within required timeframe.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           |
| Training, communication and worker engagement†  | - Workers are adequately trained to work with tilt-up and precast concrete panels.  
- Toolbox talk carried out with all relevant workers each day before work starts.                                                                                                                                                                                                                                                                                                                                                                                                  |                           |
| Specify any additional requirements             | - There are also other ways in place to engage with workers, share information, and support their participation in health and safety.  
- Workers identify health and safety risks and help to manage them.  
- Workers know how and when to report health and safety concerns.                                                                                                                                                                                                                                                                                                                                                  |                           |

† See also ‘Worker engagement, participation and representation’ in Section 2 of these guidelines.