

## Table of Contents Notes

TOC #	Documentation	Required Y/N
<b>PRE-ASSEMBLY DOCUMENTATION</b>		
1	<b>Land Use/NAVCAN</b>	
	8-12 weeks prior to starting construction, the Land Use Crane Submission Form must be filled out and submitted to NAVCAN for all cranes, in all locations, regardless of proximity to an aerodrome. <a href="https://www.navcanada.ca/en/aeronautical-information/land-use-program.aspx">https://www.navcanada.ca/en/aeronautical-information/land-use-program.aspx</a>	
2	<b>Aeronautical Agreement (if applicable)</b>	
	8-12 weeks prior to starting construction, submission of an aeronautical agreement to Transport Canada may be required when working within 6kms of an aerodrome- including hospitals with helicopter pads.	
3	<b>30M33/ Record of Discussion/ Assurance in Writing</b>	
	If the minimum distances outlined in WorkSafeBC Table 19.1.A cannot be maintained because of the circumstances of work or the inadvertent movement of persons or equipment, an assurance in writing on a form acceptable to the Board (30M33) and signed by a representative of the owner of the power system, must be obtained. All versions/revisions of the 30M33 should be kept here.	
4	<b>Trolley Overhead (TOH) Adjacent Works Documentation</b>	
	When working in proximity to any over, or underground transit systems there should be approval from the entity/owner your work can go through as planned. In Vancouver, consent from TransLink and an approved "Construction Safe Work Plan" is required if working within limits of approach of any powered or non-powered Trolley Overhead Infrastructure, or adjustment or relocation of TransLink TOH systems. <a href="https://www.translink.ca/about-us/doing-business-with-translink/temporary-transit-changes">https://www.translink.ca/about-us/doing-business-with-translink/temporary-transit-changes</a>	
5	<b>Power Source Information</b>	
	Specify site power or generator power for the crane. Must include electrical permit (issued by municipality or Technical Safety BC and specifying the type of volts required for the crane), proof of installation from a qualified individual (Electrical Field Safety Representative (FSR)) and installed as per manufacturer instruction. Proof of grounding (pictures) are recommended to be filed here as well.	
6	<b>Notice of Project- Tower Crane (NOP-TC)</b>	
	NOP-TC comes into effect October 1, 2024, more information on the NOP-TC can be found in part 14 WorkSafeBC Regulations. Self-erect cranes are included in NOP-TC requirements.	
7	<b>Site Layout/ Design Package</b>	
	Documents showing specific crane information and location on site- crane operating radii, boom and tower configurations and lengths, complete set of specifications, drawings, and instructions for this crane, including: the engineer's assembly drawing, complete with foundation design, custom transitions, tie-downs, etc. If multiple cranes on site it must show the overlap and include all clearance distances between cranes/buildings/adjacent structures etc.	

## SELF-ERECT TOWER CRANE BINDER

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8	<b>Foundation, Shoring, Geotechnical/Soils Engineering Documentation</b>	
	Include foundation design drawings (Issued for Construction (IFC) drawings), foundation inspection report, reshoring/cribbing inspection (if applicable), and concrete compressive strength test report. Minimum concrete MPa requirement for crane foundation is determined by manufacturer or engineer (if applicable). Soils/Geotechnical report is provided by the geotechnical engineer following their visit to inspect the site preparation. If the crane is erected on a suspended slab, shoring must be in place, drawings and instructions approved by an engineer and inspected/signed off. If applicable, a separate geotechnical report for the mobile crane used will be filed under the Mobile Crane tab. Note - a Geotechnical Report is also required following a prolonged shutdown.	
9	<b>Pre- Assembly Meeting</b>	
	BC Crane Safety SWP Checklist document outlining responsibilities and documentation is a requirement of the WorkSafeBC Notice of Project-Tower Crane (NOP-TC) submission documentation. If possible, recommended to complete checklist with all associated parties a minimum of two weeks prior to assembly/disassembly to ensure the timely collection of all required documentation to complete the crane binder.	
10	<b>Traffic Control/ Municipal Permits/ Street Use</b>	
	Responsibility of the jobsite to organize and approve Traffic Management Plan (TMP) with the municipality, confirm trucking routes, designated parking areas, street closures, etc.	
11	<b>Radio Frequency Application/ Coordination</b>	
	Employers operating tower cranes, self-erecting cranes, or industrial cranes need to submit the Radio Frequency Coordination Request Form (found online through WorkSafeBC) when cranes will be in operation for more than one week, if there are any changes to the assigned radios, and/or on an annual basis as a frequency confirmation.	
12	<b>Non-Destructive Testing (NDT) Report</b>	
	Self-erecting tower cranes must be visually inspected annually by a qualified person each time they are erected and must be inspected and certified by an NDT at least once every 12 months. NDT's may also be used as diligence following an incident or misadventure to confirm integrity of the crane and components. Also note, a structural report is required after a prolonged shutdown of the crane. Regarding a certification of repairs or modification (if applicable), any repairs to the crane must be done by or with approval from the manufacturer or under direction/approval by a Professional Engineer in accordance with FEM Design Rules 1.001.  COUNTERWEIGHT DOCUMENTATION to be included in this section. Each counterweight and ballast element must be accurately weighed and clearly marked with the information, and additionally noted in the Construction Site Tower Crane Report (Erectors Report).	
13	<b>Variance or Acceptance Documentation</b>	
	Documented approval from WorkSafeBC and all supporting files must be filed here.	
14	<b>"Additions" to Crane Surface</b>	
	Must be as per instruction from the manufacturer or certified by an engineer. Examples: company signs, horizontal lifelines for jib/boom access, banners, anti-climbing equipment, etc. This tab does not apply to added sections when climbing a tower crane.	
15	<b>Crane-Specific Manual</b>	
	Must be on-site readily available to the operator, and on request by the Board.	

TOC #	Documentation	Required Y/N
16	<b>General Crane Specifications &amp; Load Chart</b>	
	Load charts are found in the crane manual, must be permanently posted on the crane, or must be available to the crane operator who must keep it available at all times while operating. Load charts must be visible to the operator while seated at the controls and at remote control stations. Specification documents will often include typical crane configurations, load charts, and crane component dimensions and weights.	
17	<b>CSA Compliance Documentation</b>	
	Must include certification report and stickers on the structure/electrical panel. Recommendation to include pictures from erectors of the locations of the inspection stickers on the various locations if not visible from the ground.	
18	<b>Crane Component Inspections</b>	
	A visual inspection of the crane components must be performed by the Crane Activity Supervisor who assesses for damage occurred during transport or otherwise. CSA states: "Prior to erecting the crane, the crane components shall be visually inspected on site for damage from shipping and handling. Damaged structural members shall not be used until repaired or replaced and the repair or replacement approved by a professional engineer. Reports of these inspections shall be made available upon request." Suggestion to have documented proof filed in this tab.	
19	<b>Mobile Crane Documentation</b>	
	All information and documentation to do with the mobile crane involved in the assembly, disassembly, repositioning, climbing, etc. to be filed here. Annual inspection, critical lift procedures (if required), lift plan, machine placement/ground conditions (Geotech report), etc.	
20	<b>High Angle Rescue Information or Technical High Angle Rope Rescue Program (THARRP) Agreement (if applicable)</b>	
	If using high angle rescue for assembly, maintenance, operation, climbing, or disassembly and the jobsite is outside of the service area for a fire/rescue department or the department is incapable of rescue, high angle rescue must be in place for the jobsite by the employer. If calling 911 is the mode of rescue for a crane emergency, approval from the local fire department is required through the THARR Program administered by the British Columbia Construction Safety Alliance. More information found under WorkSafeBC Guideline-G4.13(3)(a).	
21	<b>Derrick Documentation (if applicable)</b>	
	If a derrick crane is used for erecting, climbing, dismantling, etc. All procedures and documentation required to be filed here. Documentation to include detailed drawings authenticated by a professional engineer showing the location of the equipment, anchor bolts, guy wires, and all loads imposed on the structure by the weight of the equipment.	
22	<b>Crane Climbing Documentation (if applicable)</b>	
	Equipment design and specifications, Safe Work Procedures/Instructions, climbing system NDT (prior to assembly, and annually inspected thereafter when in use), NDT for any additional crane components being installed, and shoring inspection.	

TOC #	Documentation	Required Y/N
<b>ZONING &amp; ANTI-COLLISION</b>		
<b>23</b>	<b>Zoning System Documentation</b>	
	Including manuals, procedures, daily testing instructions/procedures, and a detailed site plan to show the power lines or items of avoidance. Non-OEM systems require additional approval or instruction from the manufacturer or professional engineer. Zoning system installation is required when in an overlap situation with an adjacent crane. (OHSR 14.84.1).	
<b>24</b>	<b>Anti-Collision System Documentation</b>	
	Including manuals, procedures, daily testing instructions/procedures, and a detailed site plan showing the multiple crane locations. Non-OEM systems require additional approval or instruction from the manufacturer or professional engineer. Anti-collision system installation is required when there is an overlap situation with an adjacent crane. (OHSR 14.84.1).	
<b>ROPES &amp; TEST BLOCKS</b>		
<b>25</b>	<b>Testing Certification for Hoist Ropes</b>	
	Commonly referred to as a "mill certificate" which includes manufacturer information on testing and certification. More information on content requirements outlined in the CSA standard.	
<b>26</b>	<b>Hoist Rope Record (if applicable)</b>	
	Rotation resistant hoist ropes must be shortened 3 metres per every 500 hours of use (by a qualified person) unless specified by manufacturer, has 14+ outer strands, or has a plastic-coated inner core. File information required in OHSR 14.91(3) here on hoist rope.	
<b>27</b>	<b>Rigging Certification Documentation</b>	
	Annual chain sling inspections filed here. Periodic inspection intervals shall not exceed 1 yr. Documentation that the most recent periodic inspection was performed shall be maintained.	
<b>28</b>	<b>Test Block Documentation</b>	
	Test blocks and their lifting points shall be as specified by the crane manufacturer, or by a professional engineer. The weight of each test block must be accurately determined and durably/legibly marked on it.	
<b>BELOW THE HOOK (BTH)</b>		
<b>29</b>	<b>Below the Hook Lifting Devices Documentation</b>	
	Manufacturer instructions for use and capacity information, NDT inspection hard copies (inspection plates on the unit must be accompanied by a hard copy document), sealed engineering/design documents, and proof of inspections from qualified individuals filed here.	
<b>30</b>	<b>Below the Hook Lifting Devices Documentation</b>	
	Manufacturer instructions for use and capacity information, NDT inspection hard copies (inspection plates on the unit must be accompanied by a hard copy document), sealed engineering/design documents, and proof of inspections from qualified individuals filed here.	

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<b>PROCEDURES &amp; COMPLIANCE</b>		
<b>31</b>	<b>Crane Assembly/ Disassembly Written Procedures (site-specific)</b>	
	Crane to be erected according to manufacturer procedures or approved engineering direction signed off by all assembly/disassembly workers involved. If applicable, the design, location, and method of attaching the crane operators cab must be approved by the crane manufacturer or by a professional engineer. Rated capacities must be adjusted as necessary if using a cab type and location not approved by the manufacturer.	
<b>32</b>	<b>Crane Activity Supervisor &amp; Lead Hand Qualifications</b>	
	Outlined in the Notice of Project- Tower Crane requirements, the supervisor and lead hand must be qualified and competent in all phases of crane erection, dismantling, and climbing. Certification is an asset.	
<b>33</b>	<b>Safe Work Procedures - Assembly/ Disassembly</b>	
	Examples can include: fall protection plan (required to be site-specific, accurate to the task being performed, must be adjusted for changing site conditions such as pre/post building construction), overlap procedures (to include other cranes, mobile equipment, pump trucks, etc.), lockout/tagout, limits of approach (LOA), blind lifts, etc.	
<b>34</b>	<b>Safe Work Procedures - Operation &amp; Maintenance</b>	
	Examples can include: fall protection plan (required to be site-specific, accurate to the task being performed, must be adjusted for changing site conditions such as pre/post building construction), overlap procedures (to include other cranes, mobile equipment, placing booms, pump trucks, etc.), lockout/tagout, limits of approach (LOA), blind lifts, etc.	
<b>35</b>	<b>Emergency Response Plan</b>	
	Rescue procedures must be available and clearly outlined for the operator, technicians, inspectors, etc. who will be in the cab or on the crane. Procedures must be signed and understood by all parties prior to work - Rescue team identified? Appropriate equipment on site for rescue? THARRP application completed (WorkSafeBC Guideline- G4.13(3)(a))? If a DEP box is to be used, pre-use inspection, dry run, secondary support rigging, etc.	
<b>POST- ASSEMBLY DOCUMENTATION</b>		
<b>36</b>	<b>Construction Site Tower Crane Report</b>	
	Comprehensive document commonly referred to as the "erectors report" is filled out by the crane erector confirming it has been inspected, repaired, erected, and tested in accordance with manufacturer's specifications, professional engineer direction, applicable standards, and the Occupational Health and Safety Regulation in mind. Supporting documentation may be required for some items.	
<b>37</b>	<b>Preventive Maintenance Schedule &amp; Instruction</b>	
	Include crane-specific maintenance program, applicable procedures, and information on the qualified maintenance/repair personnel. Recommendation to have maintenance dates pre-arranged with the jobsite as close to assembly as possible to avoid re-scheduling/conflicts.	
<b>38</b>	<b>Operator Crane Orientation</b>	
	Each operator must have a documented orientation on the specific crane to which they are operating on site. If a new or backup operator is hired, they must also receive the crane-specific orientation.	

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39	<b>Operator Certification &amp; Proof of Qualification</b>	
	<p>Certification and proof of qualification are separate documents- a ticket/certification is not acknowledged as proof of qualification by WorkSafeBC. The crane operator's employer should have proof of qualification on file to provide for this section. If the operator has a Provisional designation, their Full Scope mentor/qualified supervisor and any supporting documentation to their mentorship should be filed here as well. More information on operator qualifications and competencies can be found in WorkSafeBC's Occupational Health &amp; Safety Guideline G14.34</p>	
40	<b>Inspections Documentations/ Logs</b>	
	<p>If the following inspections are not filed in this crane binder, they must be accessible to the operator, associated workers, and WorkSafeBC at all times. The OPERATOR LOG includes records of any tests, inspections, maintenance, repairs, revisions, modifications, misadventures, damage, and subsequent repairs done to the crane while erected at the current site.</p> <p>PRE-USE INSPECTIONS are as per manufacturer instruction and/or Regulation requirements. Documented proof of pre-use inspections is required by WorkSafeBC Regulation; if filed electronically, operator must be able to produce inspections on request.</p> <p>DAILY, WEEKLY, MONTHLY, ANNUAL, &amp; SPECIAL INSPECTIONS are hard copies performed by the operator or rigger. If filed electronically the operator or rigger must be able to produce the documents on request.</p> <p>HOIST ROPE INSPECTIONS are to be completed daily and monthly, inspections to be verified as complete and recorded in the operators log by the crane activity supervisor. A specific, dated report is required if damage as listed in CSA Z248 standard is found.</p> <p>RIGGING INSPECTION REQUIREMENTS found in CSA standard must be done daily when in use and recorded in the operator's log. Rigging inspection logs can be helpful to document these inspections.</p>	