



Preliminary JOB HAZARD ANALYSIS CHECK LIST

August 2011

APPENDIX A

Project Title: **Master.**

Project No.

Inspection Date:

Inspection/Job Hazard Analysis Conducted By:

Note:

1. This form is also intended for use as a checklist when making daily inspections of the worksite. Therefore some questions will not apply to the initial inspection/ job hazard analysis.
2. This form is intended as a guide only and does not necessarily cover every situation regulated by WORKSAFEBC or other jurisdictions. It is imperative that the Contractor be familiar with safety requirements and add anything that is relevant but not listed below. New items should be noted to the attention of the Project Manager for inclusion in future revisions. Contractors must finalize the JHA to reflect the methods/equipment etc. they will use to do the work.
3. Project Managers must review all items as part of creating preliminary JHA. Do not simply reuse this form from a previous project. Delete or add to "Hazard/action required" items as appropriate for your project and enter checkmarks or NA (not applicable) or TBD (to be determined with Contractor) under "Existing" column as appropriate.
4. **CODES:**
 - "*" indicates covered in Basic Site Orientation for Contractors presentation by PWGSC.
 - "S" indicates item covered in startup meeting with Contractor and up to Contractor to carry out appropriate action. Not covered in EGD orientation session.
 - "O" indicates item covered in EGD project specific orientation session. This does not relieve the contractor of responsibility for training workers with regards to this item.

5. Column "WORKSAFEBC Ref." May also contain Canadian Occupational Safety & Health (COSH) regulation references.

Add brief description of work to be done:

Significant Risks include but are not limited to:



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	Cond No.	Condition	Existing √	CODE	WORKS AFEBC Ref. #	Hazard/ Action Required
GENERAL	1.1	<p>Notice of Project (NOP) given to WORKSAFEBC? Check regulations for conditions requiring notice:</p> <ul style="list-style-type: none"> - Over \$100,000. - All or part of works are required to be designed by P.Eng. - Asbestos removal - Disturb Lead coatings - Significant Risk of Occupational Disease - New construction, major alteration, structural repair or demolition of : <ul style="list-style-type: none"> - Bldg over 2 stories (or 20ft.) - Bridge - Earth/water retaining structure over 10' - Silo/chimney over 20' - Work in compressed air environment - Work in a caisson - Work in a tunnel (see 22.2) - Work on underground working (22.6) - Trenches 4' deep and 100' long or other type of excavation over 4' a worker must enter. - Diving Operations check 24.9 - Aircraft involved? check 29.8 	√	S	20.2 24.9 22.6 29.8	<p>Contractor to provide NOP to WORKSAFEBC and provide copy to Project Manager before pre-startup safety orientation meeting.</p> <p>Note that WORKSAFEBC NOP Form 52E49 is used for general construction work and when asbestos or lead is involved. Use WORKSAFEBC Form 52E48 for NOP when diving, underground workings or aircraft are involved. NOP should go to WORKSAFEBC 4-5 days before starting work if possible and MUST be submitted no less than 24 hrs before commencing work.</p> <p>The white copy is for the site and the canary and pink copies go to the WORKSAFEBC.</p> <p>Photocopies should be posted on the safety notice board, placed on the project file, contract file and sent to the Regional Safety Coordinator.</p> <p>Note also the requirement to provide written notice to WORKSAFEBC before commencing (under Part 19) if workers, equipment, machinery or materials could come in contact with energized high voltage conductors or other exposed electrical equipment.</p> <p>Note application to underground workings in WORKSAFEBC section 22.2</p>
	1.2	<p>Multiple Contractor Coordination.</p> <ul style="list-style-type: none"> - 2 or more employers? - Overlapping work areas - Appoint qualified safety coordinator - Post construction procedures and JHA 	√	S	Review WORK SAFEBC 20.3	Contractor to appoint Worker Safety Representative and Construction Superintendent. Coordination with EGD personnel and others on site will be through Project Manager. Post Final JHA and procedures.
	1.3	Building and other permits obtained?	√	S		Building permit required for new construction.
	1.4	Notice of Project Posted?	√	S		Contractor will post on safety notice board.



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1.5	Post emergency response plan and site plan? Workers trained in emergency response? Conduct risk assessment for: Work at high-angles Special needs individuals Others as required by 4.13 or identified in other sections below	√	*	4.13-4.18 20.3	Site plan and emergency response to be posted on safety notice board. Contractor to ensure all workers trained in emergency response for fire, earthquake, medical, bomb threats and hazardous materials accidents before starting work. Note the special rescue requirements for high-angle work and the need for written agreements to provide service.
1.6	Regular Safety Meeting Minutes Posted?	√	*	3.2	Weekly safety meeting to be held. Contractor to provide minutes to Project Manager for posting.
1.7	WORKSAFEBC Orders, Inspections or "Notice to Workers" Posted? Notification of compliance posted?	√	S	Div. 10 183	Contractor to provide any WORKSAFEBC inspections and/or orders to Project Manager and post any inspections and compliance reports.
1.8	Regular Inspections carried out with Safety Rep and Posted? Conduct special inspection if required due to malfunction or accident.	√	S	3.5 3.7 3.8	Provide inspection reports to P.M. and post.
1.9	Contractor's workers safety representative identified for each employer? Alternatively, a Joint Committee set up if required by WORKSAFEBC Div. 4?	√	S	20.3 Div4 125-140	Worker Safety representative if 9 or more workers.
1.10	Insufficient lighting?	√	S	4.65	Contractor to ensure lighting levels are sufficient for work to be performed. Provide portable lighting where necessary.
1.11	Workers informed of the hazards of the job and that they have the right to refuse work they consider too hazardous without discriminatory action?	√	*	Review 3.12	To be covered in orientation session and reinforced by Contractor
1.12	Workers with physical or mental impairment that could affect work must inform their supervisor.	√	*	4.19	To be covered in orientation session and reinforced by Contractor. Do not work at heights if subject to dizziness or if worker has a fear of heights
1.13	Workers informed no alcohol, drugs or other substance so as to endanger self or others?	√	*	4.20	To be covered in orientation session and reinforced by Contractor. Inform First Aid attendant of any medications being taken as they may be important in case of accident.
1.14	Firearms of any kind are prohibited on site.	√	*		To be covered in orientation session and reinforced by Contractor
1.15	Duties of Employers, Workers, Supervisors and Owners	√	*	Div.3 115-119	Review duties/responsibilities of parties involved. To be covered in orientation session.



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1.16	General Duty: In the absence of a specific requirement, all work must be carried out without undo risk of injury or disease to anyone.	√	*	2.2	To be covered in orientation session and reinforced by Contractor
1.17	Do not remove or render inoperative any safeguard and ensure safeguards are in place before operating equipment.	√	*	4.11 4.12	To be covered in orientation session and reinforced by Contractor
1.17a	All workers must be given adequate instruction in the fire prevention and emergency evacuation procedures applicable to their workplace	√	O	4.16	To be covered in orientation session and reinforced by Contractor
1.18	Do not operate any EGD equipment. Only those trained and authorized by the contractor are to operate contractor's equipment.	√	*	4.10	
1.19	Ensure equipment inspection & maintenance record (s) are readily available to equipment operators or inspectors.	√	*	4.9	To be covered in orientation session and reinforced by Contractor
1.20	Workers must not engage in improper activity that could constitute a hazard to themselves or others including horseplay threats or physical force. Improper activity must be investigated.	√	*	4.24-4.31	To be covered in orientation session and reinforced by Contractor. Violence or harassment will not be tolerated. Contractor carry out risk assessment of injury from violence if there is potential for violence. Inform workers and prepare plans to minimize risk as required by 4.30
1.21	Workers to restrict activity to designated areas of the site.	√	*		Restrictions to be discussed at pre-start-up safety orientation meeting.
1.22	Workers informed of location of copy of WORKSAFEBC Regulations and Worker's Compensation Act.	√	*		Cover at orientation meeting. Contractor to ensure current copy of Regulations and the Act is available on site.
1.23	Written work procedures developed? Provided to P.M. and workers?	√	S & O		Contractor to document work procedures and sequence of activities and provide to Project Manager and workers before starting work.
1.24	Do not work on site outside of agreed working hours.	√	*		EGD must ensure an employee is on site anytime contractors are on site. Therefore notice is required.
1.25	If work damages a utility it must be reported.	√	O	4.18	Immediately inform the Utility and then the Project Manager
1.26	Wildlife, rodents may be encountered on the site.	√	O		Be aware of potential for encounters with wildlife on the site. Rodents may leave droppings in crawl spaces that could present a hazard if dust is breathed. Also, raccoons may be aggressive if cornered and deer may protect their young.



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FIRST AID & INVESTIGATIONS	2.1	Has the Contractor carried out an assessment and identified the numbers of workers who may require first aid at any time; the types of injuries that might occur; barriers to first aid being provided to an injured worker; and time required to transport an injured worker to medical attention?	√	*	3.16 & 3.17	Contractor to provide <u>written</u> first aid assessment and written procedures for providing first aid to comply with first aid amendments effective 1 Feb/08
	2.2	Workers instructed to report ALL injuries or near misses, hazardous conditions?	√	*	3.10	To be covered at the pre-startup safety orientation meeting.
	2.3	Workers know where first aid is located and how to call for first aid? Communication between first aid attendant and ambulance service defined?	√	*	3.17 & 3.18	Contractor MUST have own F.A. Before starting work. Identify location & adequacy of Contractor's F.A. equipment. Cover procedures in orientation.
	2.4	First Aid qualified person(s) on contractor's crew? ORIGINAL Certificate(s) must be with person(s) on site. Provide photocopy to Project Manager.	√	S	Part 3	Required. Provide certificate(s) to Project Manager before orientation session.
	2.5	F.A. equipment on site where required? Must comply with "High" Hazard class 20 min or less travel to hospital.	√	S	3.16	Provide location and type.
	2.6	Provide immediate investigation & notice to WORKSAFEBC for: - serious injury/death - major structural failure of bldg., bridge, tower, crane, hoist, excavation, temp. construction support system. - major release of a hazardous substance - incident required to be reported.	√	S	Div. 10 172	To be covered in project startup meeting with Contractor. Do not disturb the accident site except to attend injured persons, prevent further injuries or protect property. Assist investigators every way possible.
	2.7	Provide emergency transport to hospital as required by WORKSAFEBC and written procedures for transport	√	S	3.17	Contractor to define procedures for provision of first aid, calling ambulance service etc. as required by regulation. Post them and ensure workers are informed.
	2.8	Is the first aid attendant available to render prompt service?	√	S	3.18	Do not assign activities that will interfere with the attendant's ability to receive and respond to call for first aid. Ensure coverage during lunch and other breaks. Provide backup first aid immediately for planned absences. About ½ shift absence is permissible for unplanned absence until replacement attendant is in place.



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	2.9	Has the general contractor included all subs in determining the numbers or workers and first aid requirements	√	S	3.20	General Contractor's first aid assessment and procedures to include sub-contractors.
	2.91	Has the contractor assigned a person to manage first aid service?	√	S	3.17	Assign someone to ensure attendants, supplies, facilities and equipment are always available.
	2.92	Does the Contractor have New or Young Workers as defined by WorkSafeBC regulations?	√	S	3.22-3.25	Ensure New or Young workers receive special orientation and training as required by regulations and documentation is provided to the Project Manager. Ensure follow up observation and provide reinforcement training if required or requested by the worker.
	2.91	Has the contractor assigned a person to manage first aid service?	√	S	3.17	Assign someone to ensure attendants, supplies, facilities and equipment are always available.

CHEMICAL/ BIOLOGICAL - WHMIS	3.1a	Hazardous Substances Used? Provide details.	TBD	O	PART 5	Contractor to provide Material Safety Data (MSD) Sheets for all hazardous substances to be used including welding materials and gases. Sheets must be provided by the contractor at first meeting with the engineer in order to complete the Job Hazard Analysis and define safe work practices. Ensure effective written procedures are prepared and implemented to prevent exposure by any route that could cause an adverse health effect, and to address emergency and cleanup procedures in the event of a spill or release of the substance. Ensure the supervisor and the workers are trained in and follow the established procedures.
	3.1b	Environmental Assessment completed? Check identified hazards and measures to be taken.	TBD	S		Environmental Assessment to be provided to Contractor.
	3.1c	EGD Environmental Best Management Practices applicable?	TBD	O		Contractor to follow Best Management Practices provided by Environmental Services.
	3.2	Implementation Plan Checklist completed?	TBD	S	5.7	Contractor to follow Implementation plan checklist for hazardous substances. See WORKSAFEBC section 5.7
	3.3	Material Safety Data Sheets Available?	TBD	O	5.16	Contractor to provide MSD Sheets and make available at worksite to all workers.
	3.5	Emergency Response Defined?	TBD	O		Contractor to define emergency response as appropriate for hazardous substances.
	3.6	Training Checklist Completed?	TBD	S	5.7	Contractor to follow education & training checklist for hazardous substances provided by WORKSAFEBC. See 5.7
	3.7	Flammable/Combustible Substances?	TBD	O	5.27-5.35	

Insert "CCRP Cleanup" Here



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3.8	Substances under pressure?	TBD		5.36-5.47	
3.9	Controlling Worker Exposure	TBD	O	5.48-5.59	
3.10	Ventilation controls?	TBD	O	5.60-5.71	
3.11	Internal Combustion Engines operated in poorly ventilated areas?	TBD		5.72-5.75	
3.12	Hazardous Wastes & Emissions	TBD	O	5.76-5.81	
3.13	Personal Hygiene	√	O	5.82-5.84	Wash hands before eating or smoking or at breaks as required by regulation.
3.14	Emergency Washing Facilities, eyewash required?	TBD	O	5.85-5.96	Contractor to provide emergency washing facilities where required due to hazardous substances.
3.15	Emergency Procedures defined? Review First Aid, Fire, Spill Control.	TBD	O	5.97-5.102	Contractor to review emergency procedures with workers
3.16	First Aid and Fire depts. aware of substance and quantities used and locations stored?	TBD	S	4.17	Contractor provide notice if required by regulations.
3.17	Supervisor & Workers trained? General WHMIS instruction as well as substance specific training?	TBD	S		Contractor to ensure Workers and Supervisors have WHMIS training and training in dealing with specific substances.
3.18	Substance specific requirements?	TBD	S	PART 6	Review Part 6 and ensure compliance as per MSD sheets. See also sections 25, 28 and 29 below.
3.19	Evaluate worker understanding of substance specific requirements and emergency/spill procedures during inspections.	TBD	S		Inspection item.
3.20	Ensure containers for hazardous substances are maintained to ensure secure containment. Keep covered when not in use.	TBD	S	5.20-5.22	Inspection item.
3.21	Keep only enough for one shift, store balance of quantity in designated separate area. Ensure workplace/supplier labels are on EVERY container.	TBD	S	5.23	To reduce the risk of a major spill, fire etc. minimize quantities on site. Ensure workers can easily tell what is in every container. Inspection item.
3.22	Store incompatible substances so that they can not mix in event of leakage, breakage etc.	TBD	S	5.24	Serious consequences can result from mixing certain substances. Ensure they cannot mix. Inspection item.
3.23	Store hazardous substances so they can't fall, be damaged or exposed to extreme temperatures.	TBD	S	5.25	Inspection item.
3.24	Ensure the designated storage area meets design requirements.	TBD	S	5.26	Inspection item.



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	3.25	Protective and spill equipment available?	TBD	O		Contractor to ensure all personal protective equipment and spill response equipment is readily available and workers are trained in spill response plan.
	3.26	Follow proper procedures in disposing of hazardous substances.	TBD	S		Follow MSD Sheet instructions.
	3.27	Other	TBD			
		Note: Refer to WHMIS Implementation Plan checklist when doing inspections for hazardous substances	TBD	S		Create inspection checklist where required.

WORKING ALONE	4.1	Working alone process defined for workers assigned to work alone? Note new guidelines Nov./08 for determining if working alone regs apply. Amongst other things a "person check" system alone is unlikely to meet the "readily available" test.	No working alone	*	4.21-4.23	There will generally be no working alone. Document special procedures and agree with Project Manager if working alone is necessary. Note regulation changes 1 Feb/08
	4.2	Working alone process followed?	√		4.21-4.23	Inspection item.
	4.3	Restricted Access area?	√	O		Contractor to ensure workers follow procedures for restricted access.

CONFINED SPACE	5.0	Confined Space Entry Control required?	NA	S		Considerable danger may exist if personnel enter designated confined spaces without proper ventilation and other controls/procedures being in place. No confined space identified on this project.
	5.1	Confined Space Entry Controlled and/or hazard identified?	√	S	9.3, 9.12	Project Manager to identify confined space and inform Contractor.
	5.2	Hazard Assessment Completed by Qualified Person?	√	S	9.9-9.11	Ensure space has been assessed by a Qualified Person. All known spaces have been assessed at EGD.
	5.3	Entry permits completed, signed and posted per regulations? Keep permit for 1 year.	√	S	9.13- 9.16	Inspection item.
	5.4	Confined Space Entry Program Defined?	√	S	9.5	Follow WORKSAFEBC regulations. Contractor will use own policy and forms. EGD CSE policy and forms to be used for EGD workers. Ensure emergency/rescue plans are coordinated and compatible.
	5.5	Person assigned to administer confined space program?	√	S	9.6	EGD confined space program coordinator is Kim Wilson



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5.6	Confined Space Entry Program followed?	√	S		EGD workers will Follow the program outlined in the binder in the Pump House. Contactor will follow own program. Inspection item.
5.7	Workers & Supervisors Trained?	√	O		Ensure workers are trained in written procedures for entry, monitoring air quality and rescue. Only trained workers may participate in the work, rescue, monitoring etc.
5.8	Ventilation adequate?	√	O	9.31-9.33	Check ventilation considering work to be done and airborne contaminants etc. Each job must be separately assessed.
5.9	Lockouts Performed when required?	√	O	9.17-9.20	Lockout may be required as part of the confined space entry procedure. Follow EGD lockout policy.
5.10	Rescue Equipment condition checked.	√	S		Check equipment maintenance log.
5.11	Standby worker requirements being followed?	√	O	9.34-9.36	Inspection item.
5.12	Rescuer's trained and drills conducted?	√	O	9.37-9.38	Standby Rescuers to have performed drills in this area, otherwise conduct drill before starting work.
5.13	Notify Rescue personnel before workers enter and again when workers complete work unless agreement is for 24 hour service. Ensure rescuers monitor the signalling system.	√	O	9.39-9.40	Follow agreed protocol with rescuers. Generally must have rescuers on standby at entrance with Fire Dept. considered backup.
5.14	No cylinders of compressed gas inside confined space.	√	S	9.48	Inspection item.
5.15	Welding/Cutting torches and hoses must be removed when not in use.	√	S	9.49	Inspection item.
5.16	Ensure electrical tools & equipment meets WORKSAFEBC 9.50	√	S	9.50	Inspection item.
5.17	Use only non-sparking tools if flammable/explosive gases, vapors or liquids are present.	√	S	9.51	Inspection item.
5.18	Provide means of communication – radio for workers inside confined space.	√	O		Inspection item.
5.19	Ensure rescue equipment is inspected by Qualified Person before each use.	√	S		Contractor to ensure inspection and document.
	Note: Follow Confined Space Entry program details as inspection guideline. These must be agreed with Rescuer personnel.	√	O		



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LOCK-OUT & ELECTRICAL	6.1	Has the EGD Lockout policy been reviewed and relevant sections complied with?	√	S		Policy to be reviewed by Contractor with workers as part of training.
	6.2	Each worker has own lock, no combination locks? Means of identifying lock owner?	√	O	PART 10	Every worker must have own lock and tag identifying worker and company.
	6.3	Lockout procedures documented for project?	√	O	PART 10	To be documented and agreed with J. Lezetc and permit issued before initiating lockout.
	6.4	Workers and Supervisors trained in lockout? Only certified electricians to do electrical work.	√	O	PART 10	Contractor to ensure all Workers and Supervisors are trained in the lockout procedure. Contractor to provide proof of certification to Project Manager before start of work.
	6.5	All isolation points identified?	√	S	PART 10	To be done in conjunction with J. Lezetc and documented in lockout procedure.
	6.6	Electrical ground hazard?	√	S		To be done in conjunction with J. Lezetc and documented in lockout procedure.
	6.7	Pneumatic Devices hazard?	√	S		Document if this type of hazard exists and controls required.
	6.8	Potential Energy hazards? All parts secured against inadvertent movement?	√	S		Document if this type of hazard exists and controls required.
	6.9	Kinetic Energy hazards? All parts secured against inadvertent movement?	√	S		Document if this type of hazard exists and controls required.
	6.10	Hydraulic Energy hazards?	√	S		Document if this type of hazard exists and controls required.
	6.11	Chemical Energy hazards (eg. Flammable, Combustible, corrosive) ?	√	S		Document if this type of hazard exists and controls required.
	6.12	Radiation hazards (eg microwave, lasers, Ultraviolet, infrared)	√	S		Document if this type of hazard exists and controls required.
	6.13	Thermal Energy hazards (eg, steam, hot water or other substances, refrigeration lines)	√	S		Document if this type of hazard exists and controls required.
	6.14	If over 750V follow H.V. guidelines in lockout policy.	√	O		Document if this type of hazard exists and controls required.
	6.15	No working NEAR energized H.V. equipment or conductors.	Not permitted	S	Lockout Policy	Not permitted.
	6.16	No working on <u>energized</u> lighting circuits.	Not permitted	S	Lockout Policy	Not permitted.
	6.17	Control the use of metal ladders, wire reinforced ladders,, metal scaffolds or work platforms.	√	S	19.10	Planned use of ladders, scaffolds etc. to be determined with Contractor and electrical risks assessed.
	6.18	No Qualified workers within 1 m. of uninsulated, energized parts.	Not permitted	S	Lockout Policy	Not permitted. Keep unqualified personnel at least 3 m. from energized parts.



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6.19	If using an insulated aerial device has it been tested as required by WORKSAFEBC Reg. 19.9	√	S	19.9	Check plans to use aerial device & insure compliance.
6.20	Is all portable electrical equipment either double insulated and so marked or effectively grounded? Workers trained to inspect?	√	S	19.14	Contractor to check any portable equipment and ensure workers trained in inspecting electrical equipment for safe operation.
6.21	Is all portable electrical equipment used outdoors or in wet/damp conditions protected by Class A Type ground fault circuit interrupters?	√	S	19.15	Contractor to check any portable equipment and ensure workers trained in inspecting electrical equipment for safe operation.
6.22	Ensure good access to electrical equipment and that no flammable materials are stored or placed close to electrical equipment.	√	O	19.7	Practice good housekeeping. Keep areas clear in front of electrical panels, fire alarms & extinguishers. No flammables inside work areas unless agree by Project Manager.
6.23	Other, specify:				
6.24	Are lockout points easily identifiable (e.g. By number) to prevent lockout errors and identify the equipment it serves?	√	S	19.13	All lockout points are labelled.
6.25	Note that lockout of a panel door preventing access to other live breakers is unacceptable.	√	S		Generally there should be no other users of panels while the project work is underway. Confirm.
6.26	Note lockout of Control Circuits is not sufficient for total isolation.	√	S		Reminder item
6.27	Be SURE to understand what will happen if an energy source is activated.	√	S		Reminder item
6.28	Consider severity of injury, frequency of doing the job and probability of injury in assessing tasks.	√	S		Reminder item
6.29	Before the conclusion of the job and after energizing, have conspicuous signs been placed near the equipment stating "Danger – Energized Equipment"?	√	O	19.11 19.17	Place signs when finished.
6.30	Ensure electrical instrumentation is functioning properly and has not been the subject of recall by the manufacturer.	√			Note that some Fluke Model 179 Multimeters have exhibited faulty readings and need to be replaced.



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FALL PROTECTION	7.0	Fall Protection required?	√	S	11.2	1.Work over 7.5 ft. (CLC requirement) or shorter distance if risk of injury greater than fall to flat surface 2.Use guardrails or similar restraint if practicable. 3.Use other fall restraint if 2 not practicable. 4.If 3 not practicable use fall arrest system 5.If 4 not practicable ensure work procedures acceptable to WORKSAFEBC are used. Note changes to WORKSAFEBC regulations 1 Jan/05
	7.1	Fall Protection System defined in writing?	√	S&O	11.3	Contractor to define fall protection plan for any work over 7.5 ft. (CLC requirement) above ground on unguarded surfaces from which fall greater than 7.5m.(25ft) can occur or 11.2(5) applies.
	7.2	Workers & Supervisors Trained?	√	S&O	11.2(6)	Contractor to ensure all workers & supervisors trained in fall protection procedures before work starting and provide documentation to Project Manager.
	7.3	Workers trained & Fall Protection Procedures followed?	√		11.2(6)	Inspection item.
	7.4	Inspection of fall arresting equipment before each use by a qualified person being done?	√	S	11.9-	Qualified Person to perform inspection before use on each shift. Keep free from foreign substances & conditions that can contribute to deterioration & keep in good working order.
	7.5	Fall Protection System used?	√	S	11.2(7)	Ensure workers use system
	7.6	Safety Belts used for fall restraint only? Otherwise use body harness.	√	S	11.4	Follow written fall protection plan.
	7.7	Ensure equipment meets standards	√	S	11.5	Ensure components are suitable and compatible, sufficient to support the forces and meet and are used in accordance with standards.
	7.8	Ensure anchors meet standards	√	S	11.6	Check anchors meet WORKSAFEBC requirements. Changed 17 May/06
	7.9	Temporary horizontal lifeline system used?	√		11.7	Acceptable if 1) manufactured for commercial use and installed and used per written instructions and drawings (available on site) 2)designed, installed & used per written instruction and drawings (available on site) certified by P.Eng. 3) other acceptable to WORKSAFEBC Changed 17 May/06
	7.10	Need to remove from service?	√	s	11.10	If fall protection system has arrested fall of a worker remove from service until inspected and recertified safe by manufacturer or P.Eng.



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FIRE RELATED	8.1	Workers aware they generally do not fight fires? First priority is to raise the alarm and get selves and others to safety.	√	*		Workers to fight fires only if small (2'x2') and they have been trained in fire extinguisher use and they are confident they can extinguish the fire. To be reinforced at orientation meeting and reinforced by Contractor.
	8.2	Fire Extinguishers Available and accessible?	√	O		Contractor to ensure proper type and number of extinguishers available. Check monthly inspection and tags.
	8.3	Electrostatic Discharge	√	O		Contractor to determine risk of ignition due to discharge and take preventive measures.
	8.4	Ignition Sources eliminated or controlled if flammable gas or liquid used or stored?	√	O	5.27	No smoking on this project except in designated areas defined by Project Manager. Define any other ignition sources and controls required.
	8.5	Flammable gas concentrations	√	S&O		Ensure adequate ventilation to comply with WORKSAFEBC regulations. Monitor flammable gas concentrations and use forced ventilation if required.
	8.6	Combustible materials	√	O		Keep area clear of combustibles. Practice good housekeeping. Store oily rags in approved metal containers with tight fitting lids and empty daily. Burning of waste is prohibited.
	8.7	No smoking in buildings, on cranes, in caissons or tunnels. Define other restrictions. Rules being followed?	√	O	4.81	Contractor to enforce no smoking except in areas designated by the Project Manager.
	8.11	Do not use flammable liquids as a manual cleaning solvent.	√	S	5.32	Flammable fumes can collect on clothes and result in the worker being engulfed in flames should ignition occur. Also, these substances are often hazardous to health and can be absorbed through the skin. Contractor to reinforce with workers and monitor for compliance.
	8.12	Hot Work Permits issued and posted?	√	*		Obtain permit from Project Manager before starting any cutting, welding, brazing, soldering, grinding, heat-treating or other hot work like roof tarring, thawing pipe, hot riveting or using powder-driven fasteners.
	8.13	Fire Alarms explained?	√	*		To be covered at pre-startup meeting and worker orientation session.



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LADDERS/SCAFFOLDS & TEMP WORK PLATFORMS	9.0	Is work off ladders/scaffolds etc planned? Note new guidelines Nov/08 re suitable ladders, work platforms, and scaffoldings, and to specify that the top plate of interior or exterior walls, the top plate/top walers used in concrete formwork, or other elevated surfaces narrower than 50 cm (20 in) are not considered suitable work platforms or acceptable as elevated walkways.	NA	S		No work off ladders/scaffolds foreseen.
	9.1a	Workers trained and authorized to use temporary work platform?	√	S	COSH 3.5	Ensure all workers trained before authorizing use.
	9.1b	Weather conditions likely to be hazardous to use of temporary structure?	√	S	COSH 3.3	No work in rain, snow, hail or electrical/wind storm likely to be hazardous to worker safety
	9.2	Has Qualified Person inspected temporary structure before use each shift?	√	S	COSH 3.6	If defect found, do not use until remedied.
	9.3	Could temporary structure be contacted by person or vehicle?	√	S	COSH 3.7	Install hi-viz barricade around base or post a person.
	9.4	Ladder type and condition? Meet specifications per WORKSAFEBC?	√	S	PART 13	Contractor to ensure all ladders are in good condition and meet WORKSAFEBC requirements for the application. Ensure portable ladders are marked with grade of material and use for which ladder constructed.
	9.5	Ladder Inclination, Footing and Support and use according to WORKSAFEBC regulations	√	S	PART 13 COSH 3.11	Check for minimum ¼ maximum 1/3 inclination, solid footing and support. Projects at least 1m(3ft.) above upper landing to which it supplies access. Check extension overlap. Tie off if possible for stability during use.
	9.6	Contractor to ensure work off ladders meets regulations. If work cannot be done safely from a ladder provide work platform.	√	O	13.6	Follow safe ladder work practices
	9.7	Heavy/bulky objects or others that may make ascent or descent unsafe not to be carried up ladders	√	O	13.6	Use an assist to raise & lower tools.
	9.8	Scaffold or other work platforms to be designed and approved by a P.Eng.?	√	S	Check WORKS AFEBC PART 13 13.11	Contractor to provide P.Eng. certified scaffolding plan where required by regulation 13.11. Follow instructions including fall protection during erection/ dismantling and use of the system. Signed copy to be available on site.



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9.9	Employer must ensure scaffold is in a safe condition regardless of who erected it. Ensure scaffold manufacturer's technical data & instructions for erection available on site.	√	O	13.13, 13.15 COSH 3.10	Ensure manufacturer's documentation is on site or follow P.Eng. instructions. Contractor ensure compatibility if different manufacturers of components used. Ensure qualified Person supervises erection, use and dismantling and scaffold capable of holding 4 times load likely to be imposed. (COSH)
9.10	Guardrails and toe boards installed at every open edge of platform?	√	S	4.55-4.60 COSH 3.8	Ensure guardrails and toeboards installed
9.11	Tools/equipment/materials arranged to prevent being accidentally knocked off platform?	√	S	COSH 3.4	Ensure safe arrangement on platform
9.12	Check Scaffold Stability, Bracing, Access and all connections secure.	√	S	13.17 13.18	Ensure scaffold is stable, plumb and level and WORKSAFEBC requirements are met. If height 3 times min. base dimension or other circumstance requiring stability- bldg ties/guys required. Inspection item.
9.13	Plank type & condition inspection. Planks secured?	√	S	13.14 13.16	Contractor Inspect planks regularly and secure to scaffold frame. Dimensions and guardrails meet requirements?
9.14	Scaffold grounded if near high voltage or hazardous level of voltage likely to be induced in scaffold?	√	S	13.19	Ensure grounding. Inspection item
9.15	Safe access provided to work platform?	√	S	13.7 COSH 3.9	Provide safe access. Temporary stairs have uniform steps, slope not exceeding 1.2 in 1; hand-rail between 90 and 110cm above stair level. Ensure temporary ramps securely fastened; safe footing, braced if necessary; slope 1 in 3 except in stairwells check COSH Inspection item
9.16	Work platform strength sufficient for load and secured against separation form supporting equipment, structure or surface?	√	S	13.8	Ensure scaffold can support 4 times load likely to be imposed on it (COSH 3.10)
9.17	Work platform subjected to sudden drop, contact with electrical conductors or showing signs of mechanical damage/wear?	√	S	13.12	Remove from service until certified safe by manufacturer or P.Eng.
9.18	Ensure movable work platforms are clearly marked with rated capacity	√	S	13.20	Also check for marking on components (e.g. rigging capacity, counterweight, etc.) as required by regulations
9.19	For elevating work platforms ensure operation manual, maintenance instructions, replacement parts information are reasonably available to workers.	√	S	13.21	If information is not available, equipment must not be used until obtained or written instructions provided by P.Eng.



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9.20	Employer must keep records regarding inspection, maintenance, repair or modification for each elevating work platform, swing stage, and permanent powered platform	√	S	13.22	If inspection and maintenance records other than pre-shift inspections not available, do not use until certified safe by manufacturer or P.Eng.
9.21	Vehicle-mounted and self-propelled boom-supported elevating work platforms tested?	√	S	13.23	Inspect and certified by manufacturer or P.Eng. every 12 months. In 10 th year after manufacture & every 5 years thereafter include structural inspection to verify integrity and stability. Dielectric test insulated units at least annually- certified by testing agency.
9.22	If a movable work platform is not designed to be moved while a worker is on it, ensure it is secured before being accessed by the worker. Move platforms designed to be moved while occupied only as specified by the manufacturer.	√	S	13.24	Exceptions: If the height of the work platform of a rolling scaffold is: (a) not more than 1 1/2 times the least base dimension of the scaffold, the scaffold may be moved by the effort of the person occupying the platform or a person on the floor or other supporting surface, (b) more than 1 1/2 times the least base dimension of the scaffold, the scaffold must be moved only by the effort of a person on the floor. (c) more than 2 times the least base dimension of the scaffold, the scaffold must not be moved while the person is occupying the platform
9.23	Elevating work platform meets requirements for warning devices and controls?			13.25 13.26	Ensure intermittent horn or flashing light and warning system for deviation from level are provided as required by regulation. Ensure controls including STOP are clearly marked. Clearly mark overriding lowering control to be used in emergency.
9.24	Guardrails installed? Ensure temporary guardrails meet specs.	√	S	4.58	Contractor to ensure guardrails are installed and meet regulations. Inspection item.
9.25	Forklift mounted work platform not to be used except as defined by WorkSafeBC regulation.	√	S	13.30	Check revised regulations 1 Feb/08. Inform Project Manager before using a forklift mounted platform.
9.26	Work platforms suspended from a crane or hoist must be certified and loaded weight including rigging not over 50% of crane/hoist rated capacity at the working radius or configuration.	√	S	13.27-	Boom must be powered or fixed. No platform suspended from articulating boom crane unless approved by manufacturer. Secondary hoisting line must not be used when workers are on platform suspended from a crane.



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	9.28	Hoisting and lowering work platforms done according to safe practices?			13.29	Operate as slowly as practicable. Lower under power if device powered. May not be controlled only by brakes. Ensure lower travel limit device is used where required. Carry out a trial lift before platform is occupied.
	9.29	Portable powered platform capable of raising/lowering by 2 or more separately controlled hoists?			13.31	Ensure controls located so one person can operate all hoists simultaneously.
	9.30	Ensure fall protection meeting WORKSAFEBC requirements is in place for suspended or elevating work platforms	√	S	13.33	Include in fall protection plan. Each person on a work platform attached to a crane boom must use a personal fall arrest system secured to an anchor on the boom or on the platform that is designated by the manufacturer, or a professional engineer.
	9.31	WORKSAFEBC approval obtained for high risk situations?	√	S	13.32	A swing stage, boatswain's chair and portable powered platform must not be used without prior permission of the Board if (a) one work platform will be used above or below any portion of another work platform, (b) a deck or planking will be used to span a gap between two independent work platforms, (c) the work platform will exceed 10 m (32 ft) in length, or (d) the suspension height will exceed 91 m (300 ft).
PROTECTIVE EQUIPMENT	10.1	Hard Hats Worn at all times. Chinstraps available for high wind/ bending over?	√	*	8.11-8.13	Contractor to monitor and enforce hardhat and chinstrap usage.
	10.2	High Visibility Clothes, correct type for the job.	√	O	8.24-8.25	Wear high viz vests when required. Traffic Control Persons will have special requirements.
	10.3	Approved Buoyancy Equipment (note change in acceptable standards G8.27-2).	NA	O	8.26-8.30	Required if working within 5 feet of water.
	10.4	Safety Footwear	√	*	8.22-8.33	Approved steel-toed footwear in good repair, required at all times meeting WORKSAFEBC requirements for the work to be performed.
	10.5	Approved Safety Eyewear/ Face Shields. Note new guidelines re acceptable standards Nov/08	√	O	8.14-8.18	Eye protection required when energizing and de-energizing breakers. Also when doing any other work where flying objects may be encountered. Also may be required when using hazardous substances (TBD).
	10.6	Wear Hearing Protection when required by WORKSAFEBC regulations.	√	O	7.1-7.9	Hearing protection required when in high noise situations exceeding WORKSAFEBC noise exposure limits. Implement and provide evidence of noise control and hearing conservation program where required by regulation. Post warning signs in high noise areas.



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10.7	Respiratory Protection & Fit	√	O	8.32-8.37	Wear approved respiratory protection considering the respirator protection factor and maximum use concentration, MSD Sheets, exposure to oxygen deficient atmosphere when selecting respirators for workers that may be exposed to dusts or hazardous fumes/mists above exposure limits.
10.71	Respirator fit tests conducted?	√	O	8.38-8.41 8.44	Ensure proper fit tests per regulations and keep records. Workers must perform a positive or negative pressure user seal check in accordance with <i>CSA Standard before each use</i> .
10.72	Worker's ability to use a respirator in doubt for medical reasons?	√	O	8.42	Ensure worker examined by a physician, and advice obtained re the ability of the worker to wear a respirator.
10.73	Self Contained Breathing Apparatus (SCBA) used?	√	O	8.35 8.37 8.45	Ensure air quality complies with regulation 8.37. Ensure inspection and testing of compressed air cylinders must be done in accordance with <i>CSA Standard</i> and SCBA, including regulators, are serviced and repaired by qualified persons.
10.8	Gloves, Aprons, leg protection	√	O	8.19-8.21	Wear protective clothing when performing work that could result in cuts, slivers, abrasions, etc. Check added requirements from MSD Sheets.
10.9	Flame resistant clothing	√	O	8.31	Wear when welding or cutting or other hot work hazards
10.10	Welding Goggles	√	O		Wear when welding or cutting
10.11	Welding Clothes (e.g. leather aprons, face shields, leather gauntlet gloves etc.)	√	O		Wear when welding or cutting. Also those working nearby may need to wear protective clothing.
10.12	Vibration Reduction	√	O	7.10-7.16; 5.54	Provide written exposure control plan where required by regulation and inform worker of hazards. Employer ensure equipment is labelled to identify hazard. Ensure hands and arms not exposed to cold if also exposed to vibration.
10.13	Radiation Exposure Control	√	O	7.17-7.25	Provide written exposure control plan where required by regulation and inform worker of hazards.
10.14	Personal clothing, rings, hair etc. OK	√	O	8.10	Ensure workers do not have loose clothing, long hair or rings which could become entangled if operating rotating power tools.
10.15	Apply Sunscreen, to protect against sunburn on exposed skin.	√	O		Wear sunscreen when working outdoors.
10.16	Safety belts, harnesses, lanyards & shock absorbers	√	O		Follow fall protection plan and use prescribed equipment.
10.17	Employees must wear suitable personal clothing for the work they are doing to reduce risk of injury.	√	S		Contractor to ensure workers wear suitable clothing.



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		Note: Check all protective equipment for proper fit and condition.	√	S		Contractor responsible for ensuring proper fit and care of all protective equipment and documentation thereof.
HEAT STRESS	11.1	Heat Stress Control Required? Followed?	√	S	7.27	To be determined by Contractor's Superintendent based on section 7 WORKSAFEBC regulations (Jan/05), weather conditions, and worker proximity to heat sources and clothing worn.
	11.2	Check for heat stress if temp warrants.	√	S	7.28- 7.30	Contractor to monitor environmental conditions and take action accordingly if ACGIH standard requires. If required, conduct assessment and develop exposure control plan. Provide engineering controls if practicable, otherwise reduce exposure or provide admin controls or PPE.
	11.3	Potable drinking water nearby?	√	O	7.31	Contractor to supply adequate drinking water for Workers
	11.4	Workers & Supervisors trained to recognize?	√	O	7.32	Contractor to ensure Workers and Supervisor recognize symptoms and know proper response. Contractor's F.A. attendant to be instructed to monitor workers for signs. Remove workers exhibiting stress from exposure and provide First Aid or physician treatment.
COLD STRESS	12.1	Cold Stress Control Required? Followed?	√	S	7.33	Cold stress not likely to be a factor during summer months. Contractor to be aware of conditions under which cold stress could be a concern based on ACGIH standard (Jan /05)
	12.2	Check Table 7-4 for conditions	√	S	7.34- 7.37	Contractor to monitor for cold stress risk conditions and take appropriate action. if ACGIH standard requires. If required, conduct assessment and develop exposure control plan. Provide engineering controls if practicable, otherwise reduce exposure or provide admin controls or PPE.
	12.3	Workers & Supervisors trained to recognize?	√	O	7.38	Ensure workers trained. First Aid attendant may be asked to monitor for cold stress. Remove workers exhibiting stress from exposure and provide First Aid or physician treatment



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CRANES, HOISTS & RIGGING	13.1	Note WorkSafeBC definitions for “critical lift” “duty cycle work”, “load bearing component”, “sign truck” and “tandem lift”	√	S		Changes effective 1 Feb./08 to add clarity.
	13.1a	Only EGD Operators operate EGD Cranes/hoists or other equipment.	√	*		No plans to use any EGD equipment. Contractor to reinforce that only EGD workers are to operate EGD equipment.
	13.1b	Contractor supplied crane meets specifications and has required labelling etc per WORKSAFEBC regulation?			14.2-14.8	Ensure crane is marked with: a) Manufacturer, model, sr# b) rated capacity or load chart. c) boom angle, boom extension and load measure (where applicable) d) any modifications to the crane or components
	13.1c	Crane Hoist documentation available?			14.12	Ensure manufacturer’s crane/hoist manual, including instructions for assembly/disassembly, maintenance, and safe operation are readily available on site.
	13.1d	Inspection and maintenance carried out and documented including any modifications? Operator to carry out start of shift inspection and document.	√	S	14.13 to 14.16 14.35	(1) Each crane and hoist must be inspected and maintained at a frequency and to the extent required to ensure that every component is capable of carrying out its original design function with an adequate margin of safety. (2) A crane or hoist must not be used until any condition that could endanger workers is remedied. (3) Any repair to load bearing components of a crane or hoist must be certified by a professional engineer or the original equipment manufacturer.
	13.1e	Crane properly equipped?			14.17 to 14.33	Ensure crane/hoist meets all WORKSAFEBC requirements for stops, audible warnings, guards, controls, operator protection, etc. as per WORKSAFEBC regulations
	13.2	Weight lifted determined and communicated to operator and all others involved in lift?	√	O	14.36 14.38	Contractor to ensure that load weights are accurately determined and communicated to the crane operator and others involved. Crane operators must not lift if there is any doubt about the safety of the lift.
	13.3	Ensure crane operators meet the trade qualification specified by WORKSAFEBC	√	S	14.34	Provide proof of qualification to Project Manager before starting work.
	13.4	Ensure workers stay clear of swinging loads and equipment when swinging creates a hazard	√	O	14.40 14.41	Position equipment to ensure 2 ft. clearance or more between crane parts etc. and obstructions in any area accessible to workers.
	13.5	Multiple Crane lift? Follow WORKSAFEBC regs	NA	S	14.42	No multiple crane lifts planned.
	13.6	Travel with load? Follow WORKSAFEBC regs.	√	S	14.43	Follow safe practices.



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13.7	Prevent passing over workers with load	√	O	14.44	Contractor to ensure loads do not pass over workers.
13.8	Load left suspended and unattended?	√	O	14.45	Do not leave loads suspended & unattended.
13.9	Hook position over load to prevent side loading?	√	O	14.46	Ensure straight lifts are used. If lifts on an angle are necessary observe working load limit (WLL) reduction.
13.10	Designated signalman? Use std signals? Use radio if possible.	√	O	14.47 to 14.49	Ensure trained workers use standard signals when communicating with crane operator. Use dedicated 2-way radio communication on UHF at power assigned and coordinated by the WORKSAFEBC whenever possible.
13.11	High voltage in vicinity? Risk of induced charge? Review and follow WORKSAFEBC requirements.	√	O	14.51-14.52	No lifts planned near high voltage.
13.12	Up-travel limit tested for bridge, gantry & OH traveling cranes? (crane operator daily check)	√	O	14.55	If crane/hoist is not EGD operated equipment, Contractor to ensure operator has tested limits.
13.13 a	Ensure mobile cranes are on surface capable of supporting the load	√	S	14.69	Contractor to check before lift.
13.13 b	Mobile cranes or boom trucks inspected at least annually?	√	S	14.71	Ensure mobile cranes or boom trucks are inspected at least annually. Provide proof to Project Manager.
13.14	Rigging/slinging work done by or under direct supervision of qualified workers familiar with the rigging to be used.	√	S	15.2	Contractor to use trained riggers following accepted good practices when performing lifts and provide a list of trained individuals to the Project Manager.
13.15	Ensure rigging is identified with the manufacturer and Working Load Limit (WLL) as well as any other information required by WORKSAFEBC and meets the WORKSAFEBC requirements for the work to be performed.	√	O	15.5 15.42 15.46 15.55 15.59	Do not use rigging without proper permanent identification. DO NOT EXCEED the designated WLL; also applies to below-the-hook lifting devices.
13.16	Use only rigging permanently marked with an adequate working load limit considering the angle of lift, termination efficiencies, numbers of legs used, conditions for the lift, temperature restrictions and good rigging practices.	√	S	15.9	Follow good rigging practices. Ensure design factors comply with changes Jan/05.
13.17	Ensure any attachments (rings, shackles, couplings etc) are designed for use with the rigging to which they are fastened.	√	S		Contractor to ensure compatibility in design.
13.18	Slings & attachments must conform with specifications and be visually inspected before use on each shift.	√	S	15.30 15.31	Remove defective equipment from service immediately.
13.19	Do not subject the rigging to dynamic loading.	√	S		Apply the load slowly & smoothly



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	13.20	Do not use rope/slides with evidence of wear or distortion, broken strands, kinking, bird-caging, corrosion, heat or arc damage that meets the rejection criteria specified by WORKSAFEBC.	√	S	15.25-15.27 15.48-49	Remove equipment from service immediately if it meets rejection criteria.
	13.21	Do not use worn or damaged hooks that fail to meet WORKSAFEBC regulations.	√	S	15.29	Remove rejected hooks from service immediately.
	13.22	Protect slings from damage if passing over a sharp edge and store properly.	√	S	15.37 15.39	
	13.23	Follow WORKSAFEBC rules for slinging to prevent slipping or overstressing the sling and when lifting multiple piece lifts.	√	S	15.40 15.41	
	13.24	Hooks must have safety latches unless meeting the exemption of WORKSAFEBC 15.10(2)	√	S	15.10	
	13.25	Consider effect of wind on loads	√	S		Crane operator to use judgement and consider wind velocity in determining if lift can be safely made. Crane operator has final decision on making any lift.

MOBILE EQUIPMENT & TRANSPORT OF WORKERS	14.1	Does the contractor intend to use any mobile equipment on site other than trucks for transporting workers?	TBD	S	PART 16	To be determined. Define equipment to be used and any special requirements.
	14.2	Are contractor's vehicles safe for transport of worker's?	√	S	16.3	Contractor to ensure vehicles are properly equipped and maintained.
	14.3	Are workers obeying speed limits? Max speed 20kph	√	*	PART 16	Cover at start up orientation meeting.
	14.4	Are vehicles properly parked?	√	*	PART 16	Workers will be shown the designated parking areas. Do not park in areas where crane travels, Fire Lanes, blocking fire hydrants, fire/emergency alarm pull stations or fire extinguishers.
	14.5	Elevating work platform(s) operations manual and inspection certificate on site? Daily inspection log available?	√	S	PART 16	Requirements depend on contractor use of this type of equipment. TBD in final JHA
	14.6	Ensure seat belts used and roll over protection provided if required. Note guidelines Nov./08	√	O	PART 16	Requirements depend on contractor use of this type of equipment. TBD in final JHA
	14.7	Suspended work platforms/chairs used? Conform to specifications? Verify engineering design. Support structures in place?	NA	S	PART 16	Generally, not planned to be used. Check WORKSAFEBC regulations if suspended platforms to be used.



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	14.8	Do not leave delivery vehicles unattended for extended periods.	√	*		
	14.9	Do not hitch a ride on forklifts unless proper seats exist for this purpose.	√	*		Contractor to enforce.
	14.10	Ensure volatile, flammable, or hazardous materials transported in isolated compartment accessible only from outside & properly ventilated & drained	√	S	17.6	Contractor to ensure vehicles meet WORKSAFEBC requirements.
	14.11	Ensure tools/materials/ equipment are carried in separate designated area for that purpose.	√	S	17.5	Contractor to ensure workers cannot be injured by unsecured items in the vehicle.
	14.12	Equipment properly secured if elevated? No use of hydraulic or pneumatic lifts as blocks unless collapse not possible.	√	S	16.37	Ensure workers do not leave equipment parts unattended in an elevated condition or work under equipment unless properly secured.
	14.13	Loads secured according to regulations? Loads do not interfere with lift truck operation?	√	S	16.44-16.46	Contractor to ensure loads are properly secured.
	14.14	Workers have procedures, equipment and training for tire repairs?	√	S	16.47-16.48	Contractor to ensure workers have training & equipment if they will change tires.
TRAFFIC CONTROL	15.1	Is there any blocking of roadways, or aisles during the project? If so install signs, barricades etc.	√	S&O		Define road blocking and traffic control requirements. Contractor to ensure proper traffic control if temporary road blocking is required to deliver materials etc. Contractor to ensure non-project personnel are kept out of the work area as agreed with the P.M. before starting work.
	15.2	Will gantry crane travel through the work area? Coordinate with the crane supervisor.	√	*		Workers to be instructed regarding crane travel and alarms during pre-startup meeting as they may encounter them enroute to work location. Ensure work is planned and communicated to crane supervisor before start.
	15.3	Is there operations activity near the project site? Ensure coordination and minimize impact.	√	S&O		The Engineer will ensure all supervisors and contractors on site are aware of the work and schedule.
	15.4	Control boat traffic and ensure flags and markers are in place.	√	S&O		Provide controls if working near water.
	15.5	Is there a need to protect Public Roadways? Review WORKSAFEBC PART 18.	√	S&O	PART 18	Define need and document special traffic control measures. Ensure traffic control plan prepared by a qualified person is in place meeting MoTH requirements and WORKSAFEBC regulations. NOTE changes effective 1 Jan/07



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15.4	Is there a defined inspection program for traffic control devices to ensure they are well maintained and effective under all weather and light conditions? Documentation of inspections & repairs made kept?	√	S&O		Contractor to define an inspection program including repair/replacement procedures, inventory of devices, Contractor to ensure documentation is maintained including follow-up to ensure work has been done.
15.5	Are pavement markings clear and old markings removed?	√	S&O		Ensure markings are clear and not confusing. Remove old markings.
15.6	Are markings removed/covered when not in use?	√	S&O		Contractor to ensure markings are removed/covered when not required.
15.7	Is there an individual assigned supervisory responsibility for traffic control?	√	S&O		Contractor to assign an individual. Ensure all workers and supervisors are trained in safe work requirements and supervisors ensure workers follow prescribed procedures.
15.8	Are Traffic Control Persons trained?	√	S&O		Contractor to ensure only trained individuals engage in traffic control and that they have written instructions. Provide proof of completion of MoTH approved course.
15.9	Has the Contractor kept records of changes in traffic control?	√	S&O		Contractor to maintain records to assist investigation in event of an accident.
15.10	Are there risks to workers due to vehicles/equipment operating on the construction work site?	√	S&O		Contractor to define risks to workers on the construction site due to vehicles and measures to minimize risks of injury. Risks to employees of other companies to be acknowledged, minimized and communicated to appropriate supervisors.

EVACUATION & RESCUE	16.1	Written procedures developed?	√	S&O	4.13	Contractor to ensure need for emergency rescue assessed and procedures for rescue documented. Call 911. Rescue will be by DND/Esquimalt Fire Dept. Ensure all workers understand process to call for assistance and have emergency numbers. Review emergency procedures at orientation session.
	16.2	Simulations/ Training completed?	NA		32.2	Fire Dept. Rescuers are trained.
	16.3	Equipment warranted or P.Eng. certified?	NA		32.3	Fire Dept. responsibility
	16.4	Rope suitable per std.?	NA		32.4	Fire Dept. responsibility
	16.5	Visual & physical inspection by qualified workers after use or training?	NA		32.5	Fire Dept. responsibility
	16.6	Maintenance per manufacturer & records kept?	NA		32.6	Fire Dept. responsibility
	16.7	At least 1 on rescue team Level 1 F.A. Certificate?	NA		32.7	Fire Dept. responsibility
	16.8	Communications between rescuers & support?	NA		32.8	Fire Dept. responsibility



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	16.9	Rescue boat available? Buoy & rope? Sufficient rescuers?	NA		32.9	
DIVING/MARINE OPERATIONS	17.0	Diving /Marine Operations?	NA	S		No diving or marine related work on this project.
	17.1	Wharf ladders & condition?	√	O	24.2	Ladders are available every 100 feet.
	17.2	Marine lifesaving equipment available & condition?	√	S	24.3	Contractor will supply own PFD's and other rescue equipment per Part 24 WORKSAFEBC regulations.
	17.3	Handrails, bullrails, & markings?	√	S	24.4-24.5	
	17.4	Notice of Project submitted for diving projects?	√	S	24.9	Required.
	17.5	Rescue boat available if required for rescue or evacuation?	√	S	24.6 24.31	Contractor will supply rescue boat and sufficient rescuers.
	17.7	Medical Certification for each diver available at dive site?	√	S	24.10	Required.
	17.8	Diving supervisor approves diver as being physically capable of diving?	√	S	24.11	Required.
	17.9	Divers, standby divers and tenders not fatigued or have consumed drugs/alcohol which could impair their ability to work safely	√	O	24.11	Sufficient divers available to prevent fatigue and ensure ability to work safely?
	17.10	All divers, diving supervisors and diving tenders trained in CPR, oxygen therapy and diving accident management?	√	S	24.12	Entire crew trained and certified?
	17.11	Certified competency documents available for each diver at the site?	√	S	24.13	Included in divers logs?
	17.12	Current chronological dive logs available on site for each diver?	√	S	24.14	Available for each diver?
	17.13	Dive site has list of hyperbaric chambers?	√	O	24.15	Available? Nearest is still at DND across the bay?
	17.14	Dive site has location of nearest hospital and phone # ?	√	O	24.15	Record on dive plan document.
	17.15	Dive site has Level 1 F.A. kit and an oxygen therapy unit of sufficient capacity to reach emergency services?	√	O	24.15	Required.
	17.16	Dive site has complete set of approved dive tables (not sport type)? Diving computers must not be used instead of tables.	√	O	24.15 24.21	Required



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17.17	Dive site has copy of WORKSAFEBC reg. PART 24?	√	O	24.15	Required
17.18	Is there an appropriate way of entering and leaving the water, including rescuing an incapacitated diver?	√	O	24.15	Contractor to document in rescue plans.
17.19	Dive site has equipment for voice communication with emergency services personnel?	√	O	24.15	Radio supplied by EGD to supervisor for continuous contact to pumphouse for fast 911 call if required. Work will be 7a.m to 4 p.m. only unless agreed ahead of time with Doug Ferrier.
17.20	Divers on a lifeline wear suitable harness? Lifelines not attached to weight belt, free of knots & splices.	√	S	24.16	Contractor has proper equipment and will ensure safe usage.
17.21	Diver tender must tend lines at all times.	√	S	24.16	Agreed by contractor.
17.22	Diving contractor has safety procedures documented and available at dive site?	√	S&O	24.17	Contractor's safety manual will be on site at all times.
17.23	Diving supervisor's detailed plan presented in writing to EGD before work starting?	√	S	24.18	Dive plan to be presented to Doug Ferrier and posted.
17.24	Diving supervisor must not leave the area during diving operations.	√	S	24.19	Entire crew qualified to act as supervisor. Sufficient divers and supervisors will always be in the area during diving operations or no divers will be in the water.
17.25	Before each dive has the crew briefing been carried out? This will include discussion of hazards, planned duration and maximum depth, decompression procedures, location of other divers, work to be done, recall signals and emergency procedures.	√	O	24.19	A briefing will be carried out ahead of the dives.
17.26	Divers made aware of their responsibilities under 24.20?	√	O	24.20	Divers responsibilities to be reviewed with them by contractor as part of pre-start meeting. Diving will be one day only.
17.27	If decompression is required check compliance with WORKSAFEBC regs 24.22- 24.25	√	S		No decompression planned as part of dives. Depth less than 50 ft.
17.28	Ensure breathing mediums and equipment comply with WORKSAFEBC reg 24.26 to 24.29	√	S		Contractor will ensure compliance.
17.29	Ensure control of boat traffic and proper warning devices, flags etc.	√	O	24.30	Project manager to ensure ship engines will not be started during this project.
17.30	If a hoisting device is used to raise or lower the diver dedicated for dive duration?	√	S	24.32	Needs to be defined.



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17.31	Hoist operator takes directions from diver, supervisor or tender only.	√	O	24.32	Needs to be defined.
17.32	Standby diver required? If so, meets requirements and able to enter water in 1 min.?	√	O	24.33	Required.
17.33	In event of an accident or incident comply with WORKSAFEBC regs for information and not tampering with equipment.	√	O	24.34	Contractor will comply.
17.34	Are all hazardous mechanisms secured against inadvertent movement and locked out?	√	S	24.63	Project Manager will ensure no docking/undocking work will take place during this project and that any nearby ship will not start engines.
17.35	If working near or in an intake /pipe/tunnel/duct comply with WORKSAFEBC reg 24.64	√	S	24.64	Project Manager will ensure no docking/undocking work will take place during this project.
17.36	If there are exceptional hazards, additional dive team members with independent equipment and capable of effecting rescue must be on site.	NA	S	24.65	No exceptional hazards identified.
17.37	If diving in contaminated environments comply with WORKSAFEBC reg 24.66	NA	S	24.66	

CONSTRUCTION, EXCAVATION & DEMOLITION	18.1	Protection from falling materials	√	S	20.9	Requirements to be determined in final JHA based on detailed construction plans.
	18.2	Safe access/ egress to worksite? Ramps at least 20" wide with guardrails & cleats.	√	S		Requirements to be determined in final JHA based on detailed construction plans.
	18.3	Temporary Floors	√	S	20.5-20.6	No temporary floors foreseen. Permanent floor will be built first.
	18.4	Fall prevention / protection required? See also group 7 checklist items.	√	O	20.9	Required for all work over 7.5ft on unguarded surfaces (CLC requirement). Fall protection plan required.
	18.5	Chutes	√	S	20.10	Requirements to be determined in final JHA based on detailed construction plans.
	18.6	Glass Panels	√	S	20.12	Requirements to be determined in final JHA based on detailed construction plans.



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18.7	Thrust out Crane landing platforms used?	√	S	20.13	P.Eng. must certify each thrust-out crane landing platform and certify that the building structure can adequately support loads to be imposed by use of the platform. Drawings and certification must be available on site, rated capacity clearly marked on platform and not be exceeded. Control measures acceptable to the Board must be implemented to ensure all loads placed on a thrust-out crane landing platform are safely supported, and can be safely attached to and detached from the rigging. Requirements to be determined in final JHA based on detailed construction plans.
18.8	Temporary support of partially assembled components adequate?	√	S	20.14	Requirements to be determined in final JHA based on detailed construction plans. Ensure partially assembled components are properly supported and braced including for possible wind loading.
18.9	All construction details available on site including drawings, erection procedures, temp. bracing, falsework	√	O	20.15	All drawings and specifications will be available on site at the project office. Contractor will also ensure his Superintendent has latest copies on site.
18.10	Walkways /runways provided on structural members to prevent tripping?	√	S	20.16	Requirements to be determined in final JHA based on detailed construction plans.
18.11	Plans & specs for Concrete Formwork & Falsework approved by P. Eng.?	√	S	20.17	Requirements to be determined in final JHA based on detailed construction plans.
18.12	Qualified Supervisor for erection/use of formwork/ falsework? Workers trained in hazards & proper methods?	√	S	20.18	Contractor to ensure Superintendent qualified to install formwork and workers are trained in the hazards and proper methods.
18.13	Erection drawings, design responsibility, continuity of engineering complies?	√	S	20.19-20.21	PWGSC will ensure continuity of design services.
18.14	Protruding reinforcing steel removed or guarded?	√	O	20.23	Guard or remove during construction.
18.15	Worker access restricted under formwork when steel or concrete has just been placed?	√	O	20.23	Requirements to be determined in final JHA based on detailed construction plans.
18.16	Formwork inspected before pour?	√	O		No pouring until Qualified Supervisor has performed final inspection and OK given.
18.17	Formwork exhibits any weakness, excess distortion, or undue settlement?	√	O	20.23	Superintendent to monitor and take appropriate action.
18.18	No loads on uncured concrete except as per dwgs or specs.	√	S	20.23	Superintendent to ensure drawings/specifications followed regarding loading.



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	18.19	Erection and temporary bracing of pre-manufactured open web joists and trusses or laminated beams must be according to written instructions from a P.Eng. or the manufacturer detailing safe erection procedures.	√	O	20.72	Contractor to ensure documentation is on site and that all workers have been trained in the prescribed erection procedures before work starting.
	18.20	Ensure crawl boards/ladders used for roof work are securely fastened	√	O	20.74	
	18.21	Work on roofs having slope 8 vertical to 12 horizontal or greater require nailed toeboards in conjunction with personal fall protection or safety nets.	√	S	20.75	Toe-holds must be used if the roofing material allows for it. Note: Exposed horizontal roof strapping may be used as toe-holds as long as it provides safe footing.
	18.21a	Roof edge guarded?	√	S	20.76	The roof edge about a chute, bitumen spout and material hoist must have guardrails meeting the requirements of Part 4 (General Conditions) or barriers of at least equivalent strength to at least 2 m (6.5 ft) on each side of such a work area.
	18.22	Mechanical or powered equipment that has the potential to push or pull a worker over an unguarded roof edge, must not be used unless operated according to procedures acceptable to the Board.	√	S	20.77	Secure WORKSAFEBC approval of procedures if using this equipment.
	18.23	Loose insulation, polyethylene, roofs with smooth surfaces, asphalt and surfaces with water, snow, ice or frost increase the risk of losing footing.	√	S		Work under severe weather conditions will be under the control and advisement of their supervisor
	18.24	Avoid walking backwards on roofs.	√	S		Contractor's Supervisor will advise all workers of safe working practices

EXCAVATION /DEMOLITION	19.0	Excavation work to be carried out?	NA		S	No excavation on this project.
	19.1	Written instructions/ drawings by P.Eng. available for excavation work ?	√	O	20.78	Keep all instructions/ drawings readily available at the site. Train workers to follow instructions.
	19.2	All utilities accurately located & danger determined?	√	S&O	20.79	Contractor to get details on utility location and necessary approvals before digging.
	19.3	Utilities instructions followed regarding excavation?	√	S	20.79	Obtain necessary approvals and instructions.
	19.4	Nearby objects secured or removed if hazardous?	√	S&O	20.80	Ensure any objects are removed as required to meet regulations depending on depth of excavation etc.
	19.5	Sloping/shoring requirements met as defined by P.Eng. or Geoscientist ?	√	O	20.81-	Follow requirements of P.Eng. or Geoscientist



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DEMOLITION/EXCAVATION	19.6	Control of water addressed?	√	O		Ensure water in excavation is controlled to prevent possible trench wall collapse.
	19.7	Ladder provided in immediate work area extending min. 3' above ground?	√	S		Requirements to be determined in final JHA based on detailed construction plans.
	19.8	Barricades in place to prevent fall into trench if over 7.5' deep? If excavation is a hazard to workers, cover or guard it.	NA	O	20.88	No trenching over 7.5ft deep foreseen. Barricade work area and position flashing warning signs to prevent accidental falling into trench.
	19.9	End shoring in place equal to depth of excavation?	√	S		
	19.10	Loose excavated materials well back from slopes/ trenches in use?	√	O	20.90	Keep at least 2' from excavation and 4' from any other excavation
	19.11	Are there soil contaminants expected or chance of encountering archeological materials?	√	O		Workers to be shown sample of archeological materials and instructed to stop excavating if they encounter possible archeological materials. Also provide workers with details of soil contaminants and potential risks. Stop work and immediately report to P.M. if anything is encountered including suspected soil contaminants.
	19.12	All Workers must be aware that soils on the site may contain hydrocarbons and metals such as arsenic, zinc, copper, lead.	√	O		All excavation and management of soils must be in compliance with the Interim Soil Management Plan for Munroe Head, Esquimalt Graving Dock and North Naden - stored fully contained, sampled, and disposed off-site if above federal industrial criteria. Project Manager to provide guidance for specific project.
	19.13	Ensure structure and adjoining structure are properly supported during demolition to the extent and manner prescribed by a P. Engineer IF Workers could be endangered by the demolition or adjoining structures could have their stability compromised.	√	S&O	20.111	Follow demolition/ temporary support procedures and detailed schedule as defined by an Engineer in writing. Copy of the plan must be available on site.
	19.14	Ensure hazardous materials are identified before beginning demolition or salvage of machinery, equipment, buildings or structures.	√	S	20.112	Hazardous substances will be defined in the Environmental Assessment as well as by inspection with the Contractor. Details will be available at the site and procedures identified for safe containment and removal.
	19.15	Stop all work if hazardous materials are discovered during demolition and not previously identified.	√	O		Report to Project Manager immediately.



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19.16	Ensure all electric, gas, water and other services are disconnected	√	O	20.113	Contractor to ensure all services are properly disconnected before starting work.
19.17	Glass must be removed from top to bottom and before other work commences.	√	S	20.114	
19.18	Ensure floors are not overloaded by materials and equipment.	√	O	4.2	
19.19	Protect workers from falling materials including covering floor or roof openings and barricading areas where materials will be dropped.	√	O	20.116 20.117	
19.20	Dangerous or unstable walls must be adequately braced.	√	O		Follow Engineer's demolition plan.
19.21	Do not let debris accumulate if it will in any way endanger workers	√	O	20.120	Follow Engineer's demolition plan.
19.22	Stairways and handrails must be left intact until access to the level they serve is no longer required.	√	O	20.121	Follow Engineer's demolition plan.
19.30	Restrict access to pile driver when hoisting piles	√	O	20.103	Only workers engaged in the operation to remain on superstructure or any area where pile could fall. Control general access to site with barricades and signs.
19.31	Operator protected from falling objects, rigging failures & weather?	√	S	20.104	Contractor to ensure suitable roof or shelter.
19.32	Any air or steam discharge controlled to prevent injury to workers or impair ability to see operation?	√	S	20.105	Contractor to control discharge.
19.33	Chock suspended hammer securely when not in use.	√	O	20.106	Operator to ensure.
19.34	Do not raise hammer with swinging/suspended leads until necessary.	√	O	20.106	Operator to ensure.
19.35	Wooden piles properly prepared?	√	O	20.107	Cut wooden pile square, clean of debris, bark & slivers before driving. Trim pile to fit the follower or pile driving cap.
19.36	Follower or pile driving cap being used correct size & type?	√	O	20.107	Ensure suitability for type of piling being driven.
19.37	Do not use a cracked drop hammer.	√	O	20.108	Remove defective hammer from service immediately.
19.38	Do not use spliced ropes to support a pile driver hammer.	√	O	20.109	Contractor to ensure.



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HOUSEKEEPING; MATERIALS STORAGE	20.1	Refuse spills and waste materials not allowed to accumulate and create a hazard	√	O	4.41	Cover at start up orientation meeting.
	20.2	No use of compressed air to clean clothing of any potentially hazardous dusts etc.	√	O	4.42	Compressed air can penetrate skin, enter bloodstream and result in death. Do not use compressed air to clean work surfaces. Cover at start up orientation meeting.
	20.3	Check state of repair of floors, ramps, stairs and free of tripping and slipping hazards	√	O	4.39	Cover at start up orientation meeting.
	20.4	Material stacked securely and stable?	√	S	4.43	Check plans for stacking materials. Also Inspection item.
	20.5	Are areas free of risk of entrapment or falling materials? If not take appropriate measures per 4.44 and 4.45	√	S	4.44-4.45	Evaluate risks. Also Inspection item.
	20.6	Use metal containers with tight fitting lids for oily or painting rags & empty daily.	√	O		Oily or paint soaked rags can ignite through spontaneous combustion. Store properly. Also Inspection item
	20.7	Use proper containers for refuse.	√	O		Inspection item
	20.8	Are work areas free of protruding nails?	√	O		Ensure nails are either removed or bent over to eliminate the hazard of stepping on them.
	20.9	Are nuts/bolts etc. stored in containers to reduce tripping hazards?	√	O		Clean up components frequently to reduce risks.
	20.10	Returned tools to proper place after use.	√	O		Ensure tools are properly stored.

EQUIPMENT MAINTENANCE & USE	21.1	Equipment operator's manuals at site?	√	S		Keep manuals on site with equipment. Includes equipment like concrete pumping trucks
	21.2	Equipment operated by qualified persons?	√	S		Contractor to provide proof of qualification of equipment operators.
	21.3	Equipment maintained according to manufacturer's instructions?	√	S		Maintain equipment as specified by manufacturer and maintain a record of maintenance.
	21.4	Equipment inspection before use carried out?	√	S	16.34	Operators inspect equipment before use, record results (where required by WORKSAFEBC) and report any defects to Supervisor. Do not use defective equipment until defect is remedied.
	21.5	Explosive operated tools maintained, and used properly? Operator's trained? Equipment & shots stored in restricted area?	√	S		Provide proof of training to Project Manager for users of this equipment before starting work. Check with P.M. for Hot Work permit requirement also.
	21.6	Air operated nailing guns trigger mechanism working properly?	√	S		Ensure safety mechanisms working properly.



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	22.0	Follow safe lifting practices. Use mechanical lifting assist wherever feasible or get assistance.	√	S		Contractor to train all workers in safe lifting practices and monitor for compliance.
CONCRETE PUMPING	23.1	Placing boom certified safe within last 12 months?	√	S	20.47	Serious injury could result due to failure of components, couplings etc. if pressures or other loads are exceeded. Contractor provide certificate copy to P.M.
	23.2	Permanent equipment labels on pump, boom and mast per WORKSAFEBC requirements?	√	S	20.27	Inspection item.
	23.3	Outriggers used properly and within maximum extension and load?	√	S	20.40	Inspection item
	23.4	Ensure concrete delivery pipe meets boom manufacturer's specs and is rated at greater than maximum pressure pump can generate. Ensure pipe clamps are of proper rating and properly installed per regulations.	√	S	20.42 20.43 20.44	Inspection item.
	23.5	Ensure agitator guards meet WORKSAFEBC specifications & are properly used and maintained. Do not stand on the grill when agitator is running.	√	S	20.37	Inspection item
	23.6	Ensure discharge line couplings are guarded and attachments to placing boom restrained	√	S	20.45 20.46	Inadvertent disconnection could cause injury from flying concrete. Inspection item
	23.7	Weight of each removable section of placing boom marked?	√	S	20.49	Inspection item.
	23.8	Placement boom not to be used for hoisting loads	√	S	20.50	Contractor to instruct workers in proper use. Inspection item.
	23.9	Clean out operations are to be done off site	√	S	20.51	Excess concrete to be properly disposed of by Contractor off site unless agreed with Project Manager. If cleanout on site is agreed follow WORKSAFEBC restrictions
	23.10	Pumper operator must have full control and no other duties while operating or placing boom or mast.	√	S	20.52	Contractor to ensure control.
	23.11	If operating near H.V. lines or exposed energized conductors, comply with WORKSAFEBC PART 19	√	S	20.53 PART 19	No operation near electrical conductors foreseen.
	23.12	Operator must see hopper on concrete pump at all times or means of signalling a problem must be provided.	√	O	20.54	Contractor to enforce.



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	23.13	Wear eye protection at all times when pumping concrete. Wear gloves to protect against concrete.	√	O		Contractor to ensure protective equipment is used.
	23.14	Controls have functions identified and emergency shutoff to stop pumping?	√	S	20.31 20.36	Inspection item.
	23.15	Hydraulic valves have pressure relief and holding valves?	√	S	20.32	Inspection item.
BLASTING	24.0	Blasting operations are not usually permitted at EGD.	√	S	PART 21	Use drilling and hoe-ram methods to break up rock.
	24.1	Ensure only competent workers trained in the proper methods of blasting, hazards of fire and mishandling and procedures to follow in event of fire or explosion are to be involved in blasting operations.			21.2, 21.7	Provide proof of formal training program and documentation of training session signed by workers trained and authorized to assist the Blaster of Record.
	24.2	Provide a qualified "Blaster of Record" who will exercise authority and visual supervision over all assistants or others involved during explosive loading, priming, fixing or firing.			21.5	Provide copy of blaster's certificate for anyone planned to conduct or direct blasting operations as the Blaster of Record. Ensure scope of the certificate is valid for the planned work. Keep ORIGINAL certificate at job site.
	24.3	Maintain records of blasting operation as required by regulations.			21.4	Blaster of Record maintain personal log of pre-blast loading details and results of post-blast inspection and log available for inspection at the site.
	24.4	Any dangerous incident, including unexpected result or problem with explosive products, or Blaster has failed to comply with regulations or safe practices, must be reported and all blasting operations and duties of the Blaster of Record will be suspended until agreed with Project Manager/WORKSAFEBC to continue.			21.3 21.13	Notify Project Manager and WORKSAFEBC immediately and complete required reports.
	24.5	Comply with all other legislation besides WORKSAFEBC regulations including Explosives Act (Canada), Transportation of Dangerous Goods Act, 1992 (Canada) governing storage, handling and use of explosives.			21.6	Contractor to ensure understanding of regulations and comply with them.



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24.6	Keep explosives and detonation materials separated until the last practical moment before bringing them together.			21.16- 21.17, 21.20 21.21	Contractor to ensure safe and secure storage of explosives and detonation materials.
24.7	Ensure signage is in place to identify magazines, day boxes, vehicles containing explosives and that all workers are aware of the location of storage and restrictions on access and activities around explosives and detonators.			21.18	Contractor to provide signage meeting regulations and ensure effective communication.
24.8	No passengers in explosive vehicles other than those assigned to assist in handling explosives.			21.22	
24.9	Ensure vehicles meet the transport requirements with proper separation of flammables and detonation devices from explosives. Ensure exposed ferrous metal in a conveyance is prevented from contacting packages containing explosive			21.23 21.24 21.25 21.27 21.32	If transporting on a mobile drill rig, ensure special restrictions are met including attending by the Blaster of Record at all times. No trailers. If a semi-trailer is used, ensure power brakes can be operated from inside cab.
24.10	Provide written procedures to address emergencies while transporting or working with explosives and ensure all workers are adequately instructed.			21.28	Provide documentation to Project Manager
24.11	Operate vehicle transporting explosives according to regulations but not exceeding 90 km/h; do not exceed 80% of manufacturer's load rating; follow special railway crossing requirements; ensure vehicles have been serviced before loading.			21.29 21.30 21.33 21.34	
24.12	Ensure vehicles containing explosives are parked away from habitation and bldgs containing flammables; premises are used for a purpose unlikely to cause an explosion or fire; vehicle is at all times attended by a qualified person.			21.35	Define overnight parking location(s) and ensure vehicles are attended.
24.13	Follow manufacturer's recommended practices for storage, transport, handling and use of explosive materials. Do not use materials believed to be defective.			21.36 21.37	



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24.14	No smoking or open flame ignition sources on this project work site. Dispose of empty containers as recommended by manufacturer.			21.40 21.41 21.42	Project manager will define designated smoking areas well away (min. 15m.) from where explosives are stored, handled or loaded into holes. Hot work permit required from Project Manager for this kind of work.
24.15	Follow safe drilling procedures including location of utilities, stabilizing slopes to prevent slides and checking blasted areas for misfires before continuing.			21.42 21.43 21.44	Ensure hole sizes are adequate and don't drill within 6m. of a hole containing explosives or within 15cm of a bootleg
24.16	Follow proper loading practices including making up primers just before use, no carrying explosive material in clothes, no removal of wrappers,			21.45- 21.48 21.67 21.68	Ensure tools are non-spark generating materials. Don't attach blasting circuit until just before being ready to fire and ensure logical sequence of detonation is used.
24.17	If there is a sign of thunderstorm, suspend blasting			21.49	Lightning can result in an unplanned explosion. Suspend all blasting, clear the danger area and guard it.
24.18	Loaded holes present a hazard in that someone could drive over them or tamper with them.			21.50	Do not leave loaded holes unattended overnight. Post a worker whose sole responsibility is the security of explosives.
24.19	No driving vehicles over loaded holes an explosion could accidentally result.			21.51	
24.20	Holes are hot after being "sprung" and could result in accidental explosion if loaded too soon.			21.52	Allow ample time for cool down.
24.21	Accidental explosion could result if detonators are attached sooner than necessary			21.53 21.54	Don't interconnect detonating cords or attach detonators or detonator connectors until everything is in readiness for the blast.
24.22	Static electricity or hazards from stray currents could result in accidental explosion if loading explosives pneumatically.			21.55 21.56	Define procedures and ensure equipment used will prevent this hazard. Use only safety fuse assemblies with antistatic protection.
24.23	Inadequate or damaged fuse assemblies can result in faster than planned ignition.			21.56 21.57	Follow safe practices when lighting safety fuses.
24.24	Stray currents or static electricity may cause unexpected detonation resulting in injury or death.			21.58 21.59 21.60	Follow safe practices to prevent unplanned detonation. Do not use electric detonators if extraneous current exceeds 50 milliamps.
24.25	Radio frequency transmitters, including mobile units, can cause unplanned detonations.			21.61 to 21.65	Contractor to provide details demonstrating that all regulations are being met and get prior approval from Project Manager if electrical blasting circuits are to be used.



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	24.26	Accessing the blasting area during a detonation could result in serious injury or death.			21.66	The Blaster of Record will ensure proper covers are used to control flying materials and that workers are posted at all necessary points to ensure no one enters the area and that a warning system is in place. Provide written warning procedures and blasting signals and post conspicuously. Ensure workers are trained in procedures and provide documentation to Project Manager. Project Manager will ensure all EGD occupants are made aware of the procedures and signals.
	24.27	Misfires or other hazards could injure workers if they enter the area after a blast. The Blaster may be hurt if entering the area as a result of electrical detonation of unexploded loads.			21.71 21.81	Ensure the area is inspected by the Blaster before allowing anyone to enter. Blasters must disconnect all circuits and short circuit leads, and ensured the blasting machine switch is locked open. In the event of misfire, follow standard practice including waiting at least 10 minutes before anyone enters the blast area. Contractor to provide written procedures for the standard handling of misfires and ensure all workers understand the process.
	24.28	Ensure procedures are well defined and regulations reviewed if blasting is to involve underwater blasting, or seismic blasting			21.82- 21.85	
ASBESTOS	25.1	Workers possibly exposed to potentially hazardous levels of asbestos? E.g. - workplace has asbestos-containing materials present or used - operation involves abatement of asbestos-containing materials - exposure to asbestos fibre in excess of 50% of exposure limits may occur	√	O	PART 6 6.2	Should the Contractor encounter any questionable situation involving asbestos, lead paints or other potentially hazardous substance, immediately stop work and report to Project Manager for direction.



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ASBESTOS	25.0	Workers possibly exposed to potentially hazardous levels of asbestos? E.g. - workplace has asbestos-containing materials present or used - operation involves abatement of asbestos-containing materials - exposure to asbestos fibre in excess of 50% of exposure limits may occur	NA	O	PART 6 6.2	No exposure to asbestos is foreseen under this JOB ORDER. Should the Contractor encounter any questionable situation, immediately stop work and report to PWGSC Representative for direction.
	25.2	Workplace exposure monitoring done and results provided to workers	√	O	5.53	
	25.3	Contractor exposure control plan developed meeting WORKSAFEBC 5.54?	√	O	6.3	Plan to include: - Purpose & Responsibilities - Risk identification; assessment & control - Education & training - Written work procedures - Hygiene facilities & decontamination procedures, when required - Health monitoring, when required - Documentation, when required
	25.4	Qualified person prepare and keep current an inventory of all asbestos-containing materials; identify all such materials by signs, labels etc.	√	O	6.4 6.5	
	25.5	Qualified Risk assessment conducted by qualified person before any demolition, repair, etc work where asbestos-containing materials may be disturbed.	√	O	6.6	
	25.6	Procedures documented providing task-specific work direction addressing both hazards & controls and eliminating or minimizing the airborne release of asbestos fibres	√	O	6.7 6.8	WORKSAFEBC publication "Safe Work Procedures for Handling Asbestos" provides procedures acceptable to the Board.
	25.7	No use of pressure spraying to remove asbestos-containing materials from buildings/structures	√	O	6.9	
	25.8	No use of compressed air to clean up or remove asbestos-containing materials, dusts, fibres. Also no dry sweeping or dry mopping.	√	O	6.9	
	25.9	Employer must substitute material less hazardous than asbestos where practicable	√	O	6.10	If not practicable, document why and make available to workers and health & safety representative



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	25.10	Workers trained in hazards, means of identification, procedures, correct use of protective equipment, operation of engineering controls, and purpose/significance of health monitoring	√	O	6.12	
	25.11	Monitoring carried out as req'd by PART5?	√	O	6.12	
	25.12	Monitoring during high risk activities carried out and provided to workers within 24 hrs?	√	O	6.12	During high risk activities, provide regular sampling of workers, areas outside the containment area but nearby, clean room, contaminated area as required by regulations.
	25.13	Glove bags used for containment? Adhere to requirements of WORKSAFEBC 6.15	√	O	6.15 6.12(4)	If not, provide sampling as defined in WORKSAFEBC 6.12 (4)
	25.14	Work area boundary defined, all objects not required for the work removed, openings secured to prevent release of fibres?	√	O	6.13	Prepare area before starting work
	25.15	Signs posted restricting entry?	√	O	6.13	
	25.16	For HIGH RISK WORK provide maintain & inspect a containment and a decontamination facility	√	O	6.16	Not required if using glove bag containment. See detailed requirements in 6.16
	25.17	Ventilation airflow from clean area into contaminated area only?	√	O	6.17 6.18 6.19	Airflow through decontamination exhausted through containment area. Exhaust from containment thru effective HEPA filter. All ventilation exhaust thru HEPA filter tested maintained and used per manufacturer instructions.
	25.18	Is asbestos spread being controlled/	√	O	6.20 6.21 6.22 6.23	Use measures to keep work surfaces and other work areas adjacent to containment area, as free as practicable from dust accumulation. Wet asbestos containing material before and during work whenever practicable Repair damaged asbestos-containing materials
ASBESTOS	25.19	Proper waste collection and disposal measures followed?	√	O	6.25	All asbestos waste and asbestos contaminated material including clothing, cleanup equipment etc. place in sealed containers identified as containing Asbestos.
	25.20	Clean up equipment.	√	O	6.26	Ensure exterior of waste containers, reusable equipment cleaned after work complete
	25.21	Work area cleaned?	√	O	6.27 6.28	Ensure work area is cleaned after each shift and at completion of work involving asbestos and dispose of containers promptly.



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	25.22	Proper respiratory protection used? Fit checked?	√	O	6.29	No single-use respirators permitted. Ensure adequate protection and enforce usage.
	25.23	Proper protective clothing supplied and worn & maintained?			6.30	Ensure asbestos resistant clothing with proper coverage and fit is used. Repair/replace damaged clothing immediately. Clean clothing using HEPA filter vacuum before removal. Remove protective clothing/equipment before leaving designated work area. Protective clothing being sent to an acceptable laundry must be HEPA vacuum cleaned, placed in a soluble plastic bag, sealed and labelled before being sent.
	25.24	Workers to launder own clothing?			6.31	Ensure workers informed of hazards of asbestos and precautions required.
	25.25	Documentation maintained?			6.32	Employer to keep records of inventories, risk-assessments, inspections and air monitoring results at least 10 yrs. Keep records of corrective actions to control release, training/instruction to workers, work procedures and notification to WORKSAFEBC for at least 3 years.

TREE REMOVAL	26.1	Risk of injury due to tree falling practices	√			The hazards associated with removing large trees exist. To ensure workers and passers-by are not injured: <ul style="list-style-type: none"> - Coordinate with all concerned and barricade off all potential fall areas. - Document the tree falling plan Employ only qualified / experienced fallers to do this work - Define tree falling plan and agree with P.M. Drop in sections not entire tree. - Check trees for internal rot that could put persons at risk if scaling tree. - Clean up and remove trees from site immediately after falling and cutting up.
	26.2	Are workers trained to carry out tree removal?	√		26.3	Ensure workers meet WBC training requirements and provide documentation to the Project Manager.
	26.3	Are workers using all required PPE for tree removal operations?	√		26.7	Ensure workers using chainsaws use leg protective devices in addition to other PPE. Also ensure all PPE is checked for wear, fits the users and is in serviceable condition



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	26.4	Have workers been trained in the hazards of operating chain saws?				Contractor to ensure workers are aware of hazards, safe working practices and protective equipment to be used.
WELDING & CUTTING	27.1	Are workers qualified to perform welding/cutting work and work performed according to standard?	√		12.112	Contractor to provide proof of qualification. Perform work according to CSA Standard W117.2-94 Safety in Welding, Cutting and Allied Processes or other standard acceptable to WORKSAFEBC and manufacturer's instructions for equipment being used.
	27.2	Workers must be aware of the health effects of exposure to welding smoke. The combination of base materials, coatings, shielding gases and other factors can create many different substances that can potentially have an adverse effect on almost any part of the body.	√		12.124	Contractor to identify the specific hazards associated with a particular welding operation and the environmental conditions and ensure workers understand the short-term and long-term health effects of exposure to welding smoke and how to protect him or herself. Undertake appropriate engineering controls or work practices to control/remove welding fumes. Ensure respirators are the correct type and fit-tested.
	27.3	Coatings must be removed from base metal before welding/cutting.	√	S	12.115 12.129	Coatings could emit harmful contaminants during welding or cutting. Remove coatings and wear protective equipment. Do not apply paint to materials about to be welded.
	27.4	Workers must be aware of the risk of burning due to contact with hot slag, metal chips, sparks and hot electrodes.	√		12.125	Contractors to ensure workers protect themselves and others against the risk of burns. Wear suitable protective clothing. Ensure recently welded or flame cut work is marked "HOT" or guarded to prevent accidental contact.
	27.5	Workers must be aware of the risks associated with exposure to ultraviolet or infrared light from welding which can damage the eye and result in skin burns.	√		12.122	Contractors to ensure workers understand the hazards of exposure to the welding arc and how to protect themselves. Be sure the lens shade number is adequate for the type of welding/cutting being performed. Hand-held screens are not acceptable. Use barriers of flame resistant non-reflective material to protect other people from exposure to the arc, heat, and hot spatter. Also use signs to warn of the dangers of looking at the arc.
	27.6	Workers must be aware that exposure to the noise of welding can permanently damage hearing, cause stress leading to increased blood pressure.	√			Contractor to ensure workers have regular hearing test and that wearing protective equipment is enforced.



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27.7	Workers must be aware of the risks of electrical shock especially in wet or cramped conditions. Even a small shock can lead to a fall or other accident. Brain damage or death can result from a large shock.	√			Ensure workers use dry gloves, rubber-soled shoes or an insulating layer. Ensure work piece and frame of electrically powered machines are grounded. Keep electrode holders and cables dry and in good condition. Electrodes should not be changed with bare hands, with wet gloves or if standing on grounded surfaces or wet floors.
27.8	Workers must be aware of dangers of welding on containers, pipes or structures or in any place that has held flammable or combustible materials unless thoroughly cleaned.	√		12.116	Fires, explosions or release of toxic vapours can result. Containers with unknown contents should be assumed flammable or combustible. Ensure a qualified person has tested
27.9	Beware of backfires and flashbacks when using compressed gases.	√		12.120	Do not ignore these warnings. Undertake immediate corrective action. Ensure safety devices are used to prevent reverse flow and arrest flashbacks on oxyfuel systems
27.10	Ensure fire prevention and fighting capabilities before welding/cutting.	√		12.121	Suitable fire extinguishing equipment must be available close to the work. Use a firewatcher if work is being done where other than a minor fire might develop. Maintain the fire watch at least ½ hour after welding or cutting work is completed to detect smouldering fires. Keep areas clear of combustibles and cover those that cannot be removed with flame-resistant materials, Cover doorways, windows and cracks. Provide and use receptacles for electrode stubs.
27.11	Welders must wear required personal protective equipment including flame resistant clothing, gauntlet gloves, etc.	√		12.123	Ensure welders wear all required special PPE
27.12	Check Gas Cylinder Condition & Securing/Upright storage, & protection from sparks, flames, heat, physical damage or corrosion. Ensure pressure relief valves are present.	√	S	5.36	Cylinders of compressed gas can explode or become projectiles if exposed to excessive heat, or if the valve stem were to break should the tank be knocked over from a vertical position. Inspection item
27.13	Ensure empty gas cylinders have regulator removed, capped & are tagged as empty.	√	S		Identify empty tanks. Inspection item
27.14	Ensure Cylinders are identified re type of gas and valid testing.	√	S	5.37-5.39	Cylinders must be pressure tested to ensure ability to perform safely and the test date recorded. The cylinder must be identified regarding the type of gas in the cylinder to prevent confusion and potential accidents. Inspection item Do not use cylinders or contents for other than intended purpose.



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	27.15	Ensure Cylinder valves are closed when not used.	√	S		Do not rely on the welding torch or other device to control the release of gas other than when manned by an operator. Dangerous leakage could occur with gas building up inside buildings, vessels etc. with potential for explosion or other hazards. Inspection item
LEAD	28.1	Worker exposure to lead?	√	S	6.60 6.67	Develop and implement an exposure control plan meeting the requirements of section 5.54 if workers are or may be exposed to lead in excess of 50% of the exposure limits, or if exposure through any route of entry could result in elevated lead body-burdens. Develop and maintain a health protection program.
	28.2	Airborne exposure possible?	√	S	6.61	Provide monitoring per regulation.
	28.3	Warning signs	√	S	6.62	Post signs at the boundary of any work area where hazardous lead exposures could occur
	28.4	Contamination of exposed skin and/or clothing possible?	√	S	6.63 PART 5	Follow personal hygiene requirements
	28.5	Work surfaces protected?	√	S	6.64 6.65	Protect work surfaces from finely divided lead; prevent dispersal of finely divided lead into work area
	28.6	Workers trained?	√	S	6.66	Provide training in hazards of lead, written work procedures, correct operation and use of any required engineering controls and personal protective equipment, personal hygiene and decontamination procedures, and purpose and significance of any health monitoring.
	28.7	Records maintained?	√	S	6.68	Maintain records of risk assessments, worker exposures and worker training. Produce for Project Manager if requested.
NON-IONIZING RADIATION	29.0	Is there exposure to microwave radiation?	TBD	S		
						Get safety procedures from Rogers
						No approach within 3 meters



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ROCK DUST	29.1	Rock crushing, drilling, mucking, excavation, loading, transportation, road grading, road construction or conveying of rock or similar operations?	√	S	6.110 6.111	Ensure that dust concentrations to which a worker may be exposed are maintained at or below the established exposure limits, by one or a combination of (a) mechanical ventilation, (b) the use of water spray, (c) other equally effective methods.
	29.2	Access restricted?	√	S	6.112	Restrict access to area of exposure
	29.3	A rock drill, other than a manually-powered rock drill used?	√	S	6.113	Must be equipped with a dust suppression system, that uses water jet, spray, or other equally effective means to suppress drilling dust.
MUSCULOSKELETAL INJURY	30.1	Is there a risk of musculoskeletal injury?	TBD	S	4.47	Contractor to eliminate or control risk
	30.2	Are controls required?	TBD	S	4.50-4.52	Contractor to define control measures and train workers in risks and safe work procedures, use of PPE etc. Contractor to monitor for compliance and effectiveness.

Contractor's Superintendent: _____ Date: _____.

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EGD Supervisors
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