

APPENDIX C

CN SAFETY REQUIREMENTS

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

GENERAL CONDITIONS**1. CONSTRUCTION SAFETY MEASURES**

- .1 The purpose of this Section is to outline minimum CN safety standards for Contractors and their employees.
- .2 The aim of these safety guidelines is to eliminate at the source the dangers to the health, safety and physical well-being of workers.
- .3 Contractors using these guidelines for Contract work are responsible for reviewing the appropriate laws and regulations governing worker health and safety and for determining their applicability in relation to the Contract prior to the start of work. Contractors are solely responsible for ensuring compliance with legislation and these guidelines.
- .4 Observe and enforce construction safety measures required by the Canada Labour Code, CN, Canadian Code for Construction Safety, Provincial Government, Workers' Compensation Board and Municipal statutes and authorities.
- .5 As CN is a federally chartered Railway Transportation Company, Contractors are advised that work undertaken on CN right-of-way is governed by Federal Regulations.
- .6 In the event of conflict between any provisions of above authorities the most stringent provision will apply.
- .7 The safety guidelines may not address all potential health and safety problems associated with the use of materials, equipment and/or operations detailed or referred to within these guidelines. The Contractor shall be responsible for determining the appropriate measures to ensure the health, safety and physical well-being of workers, in consultation with the appropriate regulatory authorities if necessary, to achieve compliance with applicable laws and regulations prior to the implementation of these safety guidelines.
- .8 A safety program drawn up by the Contractor working on CN property shall complement these guidelines. Such complementary programs shall take into account the dangers inherent to the work performed.
- .9 Contractors and their personnel are required to familiarize themselves with and ensure the day-to-day application of this safety program.
- .10 Be fully aware of the contents of Clause (INSERT), Section (HC01005) (HC01006) of this Specification entitled "*Existing Utilities and Facilities*" and be governed accordingly.

2. DEFINITIONS

- .1 In this standard, unless the context requires otherwise, the following definitions shall

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

apply:

- .1 **Accident:** An undesirable and unexpected event resulting in personal injury, property or environmental damage, or losses in the production process.
- .2 **Act / Law:** All applicable municipal, provincial and federal acts, regulations, laws and codes.
- .3 **CN:** Canadian National Railway Company or a designated representative thereof.
- .4 **Construction Site:** A place where foundation work and erection, maintenance, renovation, repair, upgrading or demolition of buildings or civil engineering structures is performed on the site itself. Site inspection, advance earth-moving work and other work determined by regulation are also included, as are the premises provided by the employer to construction workers for lodging, eating or leisure.
- .5 **Contractor:** The person to whom the Contract is awarded and who is obliged to perform all the work stipulated in the Contract. The Contractor is at all times and under all circumstances responsible for all Subcontractor activities.
- .6 **CROR:** Canadian Rail Operating Rules, as well as the special instructions in use at Canadian National.
- .7 **CSST:** Commission de la santé et de la sécurité du travail du Québec.
- .8 **Employee:** Any person employed on the construction site, by Contractors or their Subcontractors, or as a Consultant to these parties.
- .9 **Governing Authority/Body:** Authorities and bodies with the authority to enforce regulations.
- .10 **Incident (Near Miss):** An undesirable and unexpected event which under slightly different circumstances could have resulted in personal injury, property or environmental damage, or losses in the production process.
- .11 **Operator:** A person responsible for operating or driving vehicles or equipment.
- .12 **Professional Engineer:** Professional Engineer registered in the province where the work is being performed.
- .13 **Protecting Foreman (also referred to as "CN Assigned Employee"):** A Protecting Foreman is a CN employee qualified in the Canadian Rail Operating Rules (CROR). Protecting Foremen are responsible for protecting employees against Railway traffic. Protecting Foremen are charged solely with the safe movement of trains and are not responsible for the safety of the Contractor, the Contractor's personnel or the Contractor's equipment.
- .14 **Qualified Person:** A person who, by reason of his/her knowledge, training and experience in a specific field, has the skills necessary to perform a task safely and efficiently.
- .15 **Responsible Person:** A person authorized by the Contractor as their representative to direct the works.
- .16 **Risk:** The possibility that a specific undesirable event may occur, within a given time period or under specific circumstances, and that the event may produce negative effects or consequences.
- .17 **Risk Evaluation:** A quantitative estimation of the possibility of a given undesirable event occurring and of its consequences.
- .18 **RTC:** Rail Traffic Controller. Person responsible for controlling train movements in a given sector.
- .19 **Subcontractor:** Any person to whom the Contractor assigns the execution of

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- work or the supply or manufacturing of materials or equipment.
- .20 **Visitor:** A person authorized to visit the construction site to examine conditions, or to give or gather information, but who is only at the site for a short time. The Contractor shall accompany visitors.
- .21 **WCB:** Workers' Compensation Board of the province where work is being performed.
- .22 **Work Site:** Any place where the Contractor performs tasks as part of the Contracted work.
- .23 **Worker:** See employee.

3. GENERAL RULES

.1 Assumptions

- .1 These guidelines are based on the following assumptions:
- .1 All accidents and incidents causing loss or injury can be prevented.
- .2 It is possible to eliminate or prevent all risks that may lead to injuries, property damage or loss of time.

.2 Conditions to be Respected by the Contractor

- .1 These guidelines require that the following conditions be respected:
- .1 The respect for safety in the performance of work shall be a condition of the Contract.
- .2 The Contractor shall be responsible for enforcing and respecting safety rules in the performance of all work covered by the Contract.
- .3 It is the Contractor's responsibility to quickly solve any problems related to health and safety at the work site.
- .4 No task, regardless of its urgency, shall be performed unless it can be done in complete safety.

.3 Contractor's Responsibility

- .1 Contractors taking part in CN projects shall:
- .1 Take all reasonable steps necessary to ensure the protection of employees, customers, subcontractors, property and the public.
- .2 Conduct regular work site inspections and act promptly in all situations where there is a risk to safety, health or the environment.
- .3 Investigate all accidents and incidents having caused or risked causing losses or injury, in order to identify the cause or causes, and immediately take the appropriate corrective action to prevent their recurrence.
- .4 Take all necessary steps to ensure that employees and all persons admitted to the work site and who are under the Contractor's control or who are present at the Contractor's request comply with these safety guidelines and with all codes, regulations, safety programs and other instructions in effect.
- .5 Give employees proper training so that they can perform their work safely.
- .6 Provide and maintain in good condition all personal and collective

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

protection devices for employees and/or any other safety devices required by CN for the performance of the work.

.4 Site Set-up

.1 Before Entering CN Right-of-Way

.1 Before entering CN right-of-way, Contractors shall:

- .1 Undertake in writing, before commencing any activities whatsoever on the site, to respect these safety guidelines.
- .2 Submit to and have reviewed by CN the Contractor's Safety Program and those of Subcontractors before any activity begins at the site. Authority to commence work will be authorized only once this step has been completed.
- .3 Provide a full-time Safety Officer at the site for the duration of the work, as required by the governing authorities. When a full-time Safety Officer is not required, the Contractor shall indicate to CN in writing the name of the person responsible for enforcing the safety program at the site, as well as his/her alternate.

.2 Start-Up Meeting

.1 Attend a start-up meeting with CN Representatives prior to mobilizing on site. The agenda of this meeting shall include as a minimum the following topics:

- .1 Review of CN policies.
- .2 Review of Contractors' obligations.
- .3 Review of Contractors' safety programs.
- .4 Review and planning of project activities.
- .5 Ensuring compliance with laws and regulations.
- .6 Initial briefing session planning.
- .7 Railway protection planning.

.2 Take and submit a copy of the start-up meeting minutes to the CN Representatives within 10 days of the meeting date.

.3 The Contractor shall communicate all information discussed at the meeting to its foremen and others responsible for Contract execution, including Subcontractors.

.3 Initial Briefing Session

.1 Hold an initial briefing session with all people having access to the site.

.2 Inform all employees of the safety program and all instructions applicable to the work site, including all emergency procedures and CN safety guidelines.

.3 Hold a daily briefing session with all persons engaged in work that may interfere with rail operations. The Protecting Foreman shall attend these briefings. Procedures for protection against rail traffic shall be reviewed.

.4 The agenda of the initial briefing session shall be reviewed by CN Representatives and shall include as a minimum the following topics:

- .1 Track protection.
- .2 Policy to prevent workplace alcohol and drug problems.
- .3 Emergency procedure.
- .4 First-aid facility.
- .5 Rescue procedure.

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- .6 Evacuation plan.
- .7 Any unique site conditions.
- .8 Discussions regarding CN's "*Contractor Safety Package*" which explains Contractor's orientation regarding Contractor Safety while working on CN property and outlines CN's Safety Guidelines for Contractors and Non-CN personnel.
 - .1 Contractors, their employees and subcontractors must be properly trained and adhere to CN's policies/guidelines while on CN property by completing a Contractor Orientation Course and registering on the Contractor Completion Database.
 - .2 The course and database can be found at the following website: <http://www.contractororientation.com>.
 - .3 The site has 24 hour access and the course will take approximately 1 hour for each person to complete.
 - .4 Cost of registration on the Contractor Completion database is \$11.00 USD per person and is valid for 3 years in Canada (1 year in the U.S.) after the date of completion.
 - .5 Other information included on the website along with the Contractor Orientation Course is as follows:
 - .1 Safety video, "*Consider Yourself One of US!*".
 - .2 Annex D, "*Safety Guidelines for Contractors*" - A more detailed description of CN's safety rules/guidelines, summarized in the video.
 - .3 "Guidelines Regarding Access to CN Workplace" - Outlines the necessary requirements for permitting access to CN property and equipment.
 - .4 Safety Rule Book - All employees and that of your subcontractors must comply with all safety rules contained in this book while on CN property.
 - .5 The successful Contractor will note that the above "*Contractor Safety Package*" is in addition to this section of the Specification.
 - .6 Upon completion of the course and registration on the database, a "*Course Qualification Card*" verifying completion and a CN approved sticker, "*CN Safety Guidelines for Contractors Sticker*", will be mailed to each individual who has taken the course.
 - .7 The card must be kept on their person at all times while on CN property and the sticker must be affixed to their hardhat where it is readily visible.
 - .6 The aim of these safety rules/guidelines is to minimize risks in the work environment and ensure compliance.
 - .7 The successful Contractor, his employees and subcontractors must watch the video, read and become familiar with all rules/guidelines noted above and abide by their contents, complete the Contractor Orientation Course and register in the Contractor Completion Database.
- .5 Use a qualified instructor approved by CN to lead the initial briefing session. The Contractor shall plan the dates, location, participants, etc.

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- for the course in cooperation with the instructor.
- .6 The CN Representative shall attend the initial briefing session and may take part in discussions.
 - .7 All persons with access to the site shall attend this session and give their personal written commitment to respect the safety programs and site rules.
 - .8 No one will be allowed to enter the work site without having attended a briefing session. The Contractor shall organize additional briefing sessions for new employees. These additional sessions shall be identical to the initial briefing session.
 - .9 Submit minutes of the initial briefing session along with the list of participants to CN Representatives within 10 days of said session.
- .4 Job Briefings
- .1 Prior to commencing work for each shift of duty and as conditions or circumstances change, the person in charge will hold a job briefing session for all persons engaged in the activity.
 - .2 The job briefing shall cover all relevant issues with respect to the task being performed and necessary safety precautions which must be taken, including, but not limited to:
 - .1 Job Basics
 - .1 Discuss the sequence of the basic job steps.
 - .2 Review and discuss track protection that will be provided.
 - .3 Check tools and equipment before using them.
 - .4 Point out potential hazards.
 - .5 Ensure that protective equipment is available and used properly.
 - .6 Review emergency procedures including fire safety, emergency communications and first aid.
 - .2 Work Assignments
 - .1 Review responsibilities of each employee.
 - .2 Confirm understanding of instructions.
 - .3 Follow-Up
 - .1 Additional briefings shall be held as the situation changes.
- .5 Periodic and Daily Briefing
- .1 Hold periodic safety briefings at least once every 2 weeks and prior to the implementation of any new or unique condition at the site.
 - .2 All employees with access to the work site shall attend the periodic briefings. The Contractor shall provide CN with a copy of the minutes within 10 days of each meeting.
 - .3 Each group of workers shall hold a daily job briefing to review the day's work as well as the appropriate safety measures.
 - .4 Hold a daily briefing session with all persons engaged in work that may interfere with rail operations. The Protecting Foreman shall attend these briefings. Procedures for protection against rail traffic shall be reviewed.
- .6 Work Site Access and Delivery of Materials
- .1 Submit your method of controlling access to the site.
 - .2 Admit to the work site only those employees who have attended the initial briefing session.
 - .3 Issue the CN supplied stickers to employees who have received the

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- proper safety training and who are given access to the site.
- .4 All persons with access to the site shall wear their stickers for identification purposes.
 - .5 Keep an up-to-date register on site of all the personnel who have been issued the identification stickers.
 - .6 The register shall be accessible to CN Representatives within 24 hours of receiving such a request.
 - .7 The Contractor shall accompany all visitors at all times. The Contractor shall have each visitor read and sign a *"Release of Liability and Permit for Invitees"*.
 - .8 Communicate safety procedures around live railway track to those delivering materials or equipment.
 - .9 The Contractor shall restrict site access to a person who is not respecting the safety standards or a person who has been ordered off the site by CN.
- .7 Contractor's File
- .1 Draw up a list, by Company and Subcontractor, of the people in charge at the work site, indicating their function vis-à-vis the work, the name and address of their employer and the appropriate telephone numbers (office, fax, cellular, pager, home).
 - .2 Draw up a list of emergency response employees, indicating their employers' names and 24-hour emergency telephone numbers. The list shall be kept at the work site, at the CN and Contractor's offices, and shall be readily accessible.
 - .3 Maintain a safety file. In particular, this file shall contain:
 - .1 Notices issued by CN.
 - .2 Notices issued by the WCB/CSST, Labour Canada or other authorities.
 - .3 Record of disciplinary actions.
 - .4 Accident statistics.
 - .5 Attendance at work site committee meetings.
 - .6 Safety program.
 - .7 A report on periodic briefings.
 - .8 Engineering, mechanical and other certifications.
 - .9 Engineering certifications for fall protection devices if applicable.
 - .4 Maintain on file copies of the proper certification for all persons operating vehicles and/or equipment.
- .8 Notices From Public Agencies
- .1 Immediately advise CN of all notices received from public agencies.
- .9 High-Risk Work
- .1 Advise CN, in writing, of the means of protection to be used for high-risk work (such as lifting a worker using equipment for lifting materials, changes to equipment, working at heights of greater than 18 metres, working in confined spaces, handling heavy loads, etc.).
 - .2 Submit to CN any changes to a high-risk work procedure included in its safety program prior to implementation.
 - .3 The Contractor shall control access to its work area and identify high-risk areas. CN may identify areas as being high-risk.
- .10 Vehicles
- .1 Vehicles shall not exceed 15 km/h (9 mph) on CN right-of-way. More

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- restrictive speed limits may be imposed.
 - .2 Do not authorize vehicles to be parked less than 5 metres (15 feet) from the nearest rail of any track.
 - .3 Vehicles that are parked near rail crossings should be positioned so that workers in the area can still see an approaching train at unprotected crossings.
 - .11 Site Maintenance
 - .1 Remove all rubbish and debris from the site as work progresses, as per CN satisfaction.
 - .2 Keep traffic and worker access routes clear of any obstruction. Access routes with openings, construction material, excavated material or equipment must be protected with approved warning devices and/or barricades.
 - .3 Obtain from CN authorization to store equipment or materials on the CN right-of-way. Such storage shall in no way impede railway operations.
 - .12 Lighting
 - .1 Provide sufficient lighting in a given work area to allow the safe performance of work.
 - .13 Tools, Extension Cords, Hoses
 - .1 Keep all tools, extension cords and hoses in good condition, with a ground or double insulation. Extension cords and hoses shall be protected or hung at least 2.4 metres (8 feet) above the work area. Extension cords not in use shall be unplugged from the power source.
 - .14 Compressed Air
 - .1 Keep all compressed air hoses secured to prevent accidental disconnection from air lines. All hoses must be secured, regardless of diameter or air pressure used.
 - .15 Compressed Gas
 - .1 Keep all cylinders stored in a well-ventilated area. Cylinders shall be restrained and in an upright position when in use, caps shall be used when cylinders are stored and transported, and cylinders shall be secured to the vehicle when in transport. Oxidizing agents shall not be stored with fuels.
 - .2 Keep cylinders adequately protected from vandalism by a proven method.
 - .16 Smoking in the Workplace
 - .1 Smoking is not permitted indoors or in any CN vehicle.
 - .17 Firearms
 - .1 Firearms are strictly prohibited on CN property except where Contractors are given written authorization in association with their work.
- .5 Personal Protective Equipment
- .1 Site Access
 - .1 Persons having access to the work site and CN property shall at all times wear the following CSA approved safety equipment:
 - .1 Protective headwear.
 - .2 Protective footwear - shall meet or exceed CSA Z195 or ANSI 41.1, shall cover and support the ankle and have a defined heel a minimum of 13mm (1/2 inch) and shall not exceed 25mm (1 inch),

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- boots must be equipped with laces, which must be laced to the top and tied.
- .3 Protective eyewear, unless the Contractor can demonstrate that it will not affect the safety of the worker with regards to the task being assigned.
 - .4 Reflective vests.
- .2 Visitors, delivery workers, suppliers, sales representatives and all other persons without access stickers shall also wear personal protective equipment. It is the Contractor's responsibility to ensure that personal protective equipment is used.
 - .3 The wearing of protective glasses does not remove the obligation to wear face shields, welding glasses with filters, welder's masks, etc., when the instructions and rules or nature of the work require the wearing of such equipment to protect the eyes and face.
- .2 Standards and Certification
 - .1 Personal protective equipment shall:
 - .1 Be Canadian Standards Association (CSA) approved.
 - .2 Ensure protection against the hazard for which it is designed.
 - .3 Not in itself constitute a hazard.
 - .4 Be worn and adjusted in accordance with the manufacturer's instructions.
 - .2 Reflective strip clothing must offer a level of visibility, day and night, equivalent to a highway signalling vest with an "X" on the back and 2 vertical stripes on the front over a orange background. The most commonly used product is 50mm (2 inch) wide yellow "Reflexite" strip.
 - .3 Personal protective equipment provided by the Contractor shall be maintained, inspected and checked by a qualified person in accordance with the manufacturer's instructions.
- .3 Potential Danger Zones
 - .1 Use signs to identify potential danger zones where special protection equipment must be used to ensure personal safety.
 - .2 Hearing protection, face shields, respiratory protection, lifejackets, fall protection equipment and all other special protection devices shall be used where signs are posted or when a potential hazard exists.
- .4 Respiratory Protection
 - .1 Respirators shall be worn in compliance with regulations wherever there is a risk of exposure to an airborne hazard or an oxygen deficient atmosphere.
 - .2 Respiratory protection equipment shall be selected, fitted, used and maintained in accordance with the standards set out in the most recent CSA standard Z94.4 - *Selection, Use and Care of Respirators*.
 - .3 Compressed breathing air shall comply with the most recent CSA standard CAN3-Z180.1 - *Compressed Breathing Air and Systems*.
 - .4 Employees shall be trained in the use and maintenance of such equipment.
- .5 Clothing
 - .1 Employees shall be suitably dressed to perform their duties safely. The following shall be considered the minimum requirements in this respect:
 - .1 Pants or trousers shall be ankle length. Flared, loose or torn cuffs

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- shall be tied or secured to prevent catching in machinery or on equipment.
- .2 Shirts shall cover the torso and have at least 1/4-length sleeves. Loose or torn sleeves shall be tied or secured to prevent catching in machinery or on equipment.
 - .3 Long hair shall be secured with a hairnet or appropriate headgear wherever there is a danger of entanglement in machinery or equipment.
 - .4 Facial hair shall be of a style not posing a danger of entanglement in machinery or equipment and allowing full use of personal protective equipment.
 - .5 Neckwear, wristwatches and jewellery shall be of a style that does not pose a hazard of catching on machinery or equipment.
 - .6 Clothing must suit the weather conditions.
 - .7 Clothing of non-synthetic materials shall be worn whenever there is a hazard of sparks or fire, and as required by the work.
 - .8 When employees are exposed to the sun for extended periods of time, they shall wear clothing that protects them from sun exposure.
- .6 Emergency and Accident Plans
- .1 Emergency Procedures
- .1 Prepare emergency procedures and an evacuation plan for the work site prior to commencing work.
 - .2 All persons having access to the work site shall be familiar with the emergency procedures and evacuation plan before being authorized to enter the work site.
 - .3 Keep the following records posted at the work site:
 - .1 Written emergency procedures.
 - .2 List of first-aid attendants.
 - .3 All material safety data sheets.
 - .4 Develop emergency procedures in cooperation with CN. The Contractor shall keep an up-to-date list of emergency numbers, including CN emergency numbers.
 - .5 As part of its emergency procedures, the Contractor shall include immediate notification for CN, including all pertinent details as follows:
 - .1 The location of the emergency (mileage and subdivision).
 - .2 The nature of the emergency.
 - .3 The assistance required.
 - .4 The apparent injuries and condition of the victim(s).
 - .6 Participate and collaborate with CN and all other authorities involved in the planning and in realization of emergency procedure exercises and evacuation exercises implemented by the Contractor, CN or any other authority. These exercises may be conducted at any time and anywhere at the work site.
- .2 First Aid
- .1 Provide CN with a list of qualified first-aid attendants including those of Subcontractors.
 - .2 Provide the appropriate first-aid assistance anytime there are employees

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- working at an isolated workplace.
- .3 A sufficient number of first-aid kits for the number of employees shall be maintained on site.
- .4 Maintain proper order and cleanliness of first-aid materials.
- .3 Rescue Procedure
 - .1 Provide written rescue procedures to the CN Representative 10 days before work is to begin. These procedures shall comply with regulations issued by the governing bodies and any other directive issued by CN.
 - .2 Rescue equipment must be available at the site at all times. Equipment may include but is not limited to:
 - .1 System for raising an employee who has fallen.
 - .2 Water rescue system.
 - .3 System for recovering an employee from a confined space.
- .4 Emergency Transportation
 - .1 Before commencement of work at site, arrange for adequate emergency transportation in the event an injury occurs at the work site.
- .5 Fire Prevention
 - .1 Supply, at each work site, a sufficient number of Type ABC regulation fire extinguishers to provide reasonable protection as dictated by work activity.
 - .2 All employees shall be familiar with the use of fire extinguishers.
 - .3 Maintain a register of fire extinguisher inspections, as well as the location of extinguishers at the work site.
 - .4 Submit to CN the fire protection procedure for work on or about creosote treated timber or under other special conditions as required by CN. This procedure shall be submitted 10 days prior to the start of work.
- .6 Accident Investigation
 - .1 In the event of any serious or fatal accident, notify CN, Labour Canada and the WBC/CSST in writing as soon as possible. The accident scene shall not be disturbed until the investigation has been completed, unless it is necessary to do so in order to avoid exacerbating the injury or to prevent a recurrence of the accident.
 - .2 Further to an accident or incident, or at the request of CN, the Contractor shall not disturb the site and shall suspend operations in the specified area of the work site until completion of the investigation or until the situation has been corrected, unless it is necessary to do so to prevent the situation from deteriorating or a recurrence of the event.
 - .3 Provide CN with a monthly list of work accidents and incidents within 10 days following month-end.
 - .4 Conduct investigations into accidents and incidents, submit accident and incident reports to the work site committee and implement the recommendations resulting from such investigations.
 - .5 Submit to CN an investigative report for all accidents involving:
 - .1 The death of a worker.
 - .2 An injury that prevents a worker from performing his/her duties for 10 or more working days.
 - .3 An injury causing a disability.
 - .4 The fall of an employee attached to a fall protection system.
 - .5 Injuries to several workers that prevent them from working for one

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

working day.

- .6 An employee losing consciousness as a result of electrical shock.
- .7 The tipping over of or damage to scaffolds.
- .8 A fire or an explosion.
- .9 The need for rescue, resuscitation or any other emergency measures.
- .10 Property damages of \$50,000 or more.

4. DRUG AND ALCOHOL POLICY PROCEDURES

- .1 In the performance of all works specified under this Contract ensure that all Contractor personnel conform to the following CN policy statement:

“All employees are required to report and remain fit for duty, free of the negative effects of alcohol and other drugs. It is prohibited to be on duty or to be in control of a vehicle or equipment while under the influence of alcohol or other drugs, including the after-effects of such use”.

- .1 ***Policy Standards:*** The Contractor, subcontractors, employees, suppliers and visitors shall remain free from any adverse effects of alcohol or other drugs and conduct themselves in an appropriate manner while on CN business or premises. The Contractor shall ensure that those having access to the site adhere to the following standards when on CN business or premises, including vehicles and equipment:
 - .1 No use, possession, distribution, offering or sale of illegal drugs or drug paraphernalia.
 - .2 No use, possession, distribution, offering or sale of beverage alcohol or any form of alcohol.
 - .3 Responsible use of prescribed and over-the-counter medications.
 - .4 No distribution, offering or sale of prescription medications.
 - .5 To report for duty and remain during the entire period of duty free of the negative effects of alcohol and other drugs, including the after effects of such use.
- .2 ***Consequences of Violation:*** Failure of the Contractor, its employees or Subcontractors to meet these standards will be considered a Breach of Contract.
- .3 ***Policy Violation Procedures:*** Where the Engineer has reasonable grounds to believe any individual in the employ of the Contractor or a supplier is on duty in an unfit condition or otherwise in violation of the policy, or where during the preliminary phase of an investigation an individual has been identified as being directly involved in the chain of acts or omissions leading up to an accident or incident:
 - .1 The Contractor will be notified.
 - .2 The Contractor will be required to conduct the individual(s) to a safe place.
 - .3 The Contractor will investigate the situation.
 - .4 The Contractor must satisfy CN that there has been no policy breach.
 - .5 If a policy breach has occurred, the individual will not be allowed to

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

continue providing services to CN without permission of a CN official and will be required to adhere to any conditions regarding their return.

5. STOPPAGE OF WORK DUE TO FAILURE TO COMPLY

- .1 Non-compliance with this standard and the applicable regulations will not be tolerated by CN.
- .2 Failure by the Contractor, Subcontractors or employees to respect established safety guidelines may lead to temporary stoppage of the work, suspension of the employee at fault, closure of the site until the situation is corrected or removal of the Contractor from the work site.
- .3 Delays resulting from such closings and any resulting penalties shall be charged to the Contractor. The Contractor shall have no recourse against CN with regards to delays resulting from such stoppage of work.
- .4 No extension to the Contractual work completion date will be granted as a result of any work stoppage resulting from a safety violation.
- .5 CN will withhold payments to ensure correction of safety violations.

6. EXECUTION OF SAFETY COMPLIANCE

- .1 The Contractor is responsible for ensuring compliance with all safety rules, standards and regulations in effect.
- .2 *"Ensure compliance"* or any derivative thereof shall mean: investigating and putting into effect the necessary procedures and mechanisms required to comply with the applicable safety rules, standards and regulations including broadcasting the necessary information to all those having access to the work site controlling and supervising all activities to ensure compliance, and executing corrective measures resulting from non-compliance of activities.
- .3 Governing bodies, such as the WCB/CSST, Labour Canada, Transport Canada, etc., may intervene with the Contractor. A party may intervene on its own or in association with other governing bodies and/or CN. CN may also ask governing bodies to intervene as required to ensure compliance under their respective jurisdiction.

7. SAFETY AND RELATED REQUIREMENTS WHILE ON CN PROPERTY

- .1 The underlying principle with which you must comply while working on Canadian National ("CN") Property is:
 - .1 ***"Expect the movement of a train, engine, rail car or track unit at any time, on any track, in either direction. Protect yourself and others from the***

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

movement of trains, engines, railcars and track units and do not expect them to stop."

- .2 Railway personnel will protect or escort the personnel when working where it is impossible to safely escape more than 4 metres from the nearest rail in restrictive areas. Factors such as train speed, sightlines, noise, weather, bridges, tunnels, rockcuts, etc., must be taken into account. Railway personnel and Non-CN personnel are to discuss specifics of the work contemplated. Railway personnel is responsible for deciding if the work requires track protection.
- .3 Instructions
 - .1 Before entering upon CN right-of-way, the Contractor must have all documentation properly executed and available for review by CN personnel at the working site. (i.e. Permits, Licenses, Contract Documents, Contractor Safety Approved Sticker and/or Waivers).
 - .2 Job briefings must be held at every work site to review the contents of these guidelines and any unique conditions at the site relating to safety.
 - .3 Unless explicitly permitted by CN, no equipment or vehicle may enter upon the operated right-of-way.
 - .4 Unless explicitly permitted by CN, no work shall take place within 8 metres, or approximately 25 feet, of the nearest rail except in the presence of a CN Protecting Foreman. The Protecting Foreman is concerned only with the safe movement of trains and will not be responsible for the safety of the Contractor, the Contractor's personnel or the Contractor's equipment.
 - .5 Equipment operating within 8 metres, or approximately 25 feet, of the nearest rail must come to a complete stop prior to the passage of engines, railcars, or track units and remain stopped until authorization has been received by the Protecting Foreman.
 - .6 No vehicles or heavy equipment are to be situated or moved into the immediate track area within 5 metres, or 15 feet, from the nearest rail when a train is passing unless specifically permitted.
 - .7 Upon the passage of a train, Contractor's personnel shall stand no closer than 6 metres, or 20 feet, from any switch stand and, if possible, on the opposite side of the track.
 - .8 Contractor's personnel shall not crawl under, climb over or pass through standing railway equipment.
 - .9 Contractor's personnel shall not cross a track within 8 metres, or approximately 25 feet, of standing railway equipment.
 - .10 CN has many power and/or communication cables buried within the CN right-of-way. The Contractor shall be sure of their location before making any excavation, driving stakes, or otherwise penetrating the ground surface.
 - .11 In accordance with CN's safety standards, Contractor's personnel must wear CN required personal protective equipment at all times while on CN right-of-way. Such equipment will include hard hats, safety footwear, safety glasses and reflective apparel. Hearing and respiratory protection and fall arrest equipment shall be worn where signs are posted or when a potential hazard exists.
 - .12 No CN plant, signal, structure, equipment or property of any kind may be tampered with, modified or removed.

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- .13 *"Hi-rail"* equipment shall only be operated on the track by personnel qualified in the latest version of the *"Canadian Rail Operating Rules"*.
- .14 Horseplay, practical jokes, fighting or any other activity that may create a hazard will not be tolerated.
- .15 Contractor's personnel shall immediately abide by instructions from CN personnel.
- .16 Metal measuring tapes or other metal appliances are not to come in contact with the rail of any tracks.
- .17 There will no be interference with the safe movement of trains. Any object waived violently by anyone on or near the track is a signal for trains to stop.
- .18 Walking or stepping on a rail, switch, guardrail, interlocking machinery or connection is prohibited. Remotely controlled power switches and switch heaters may be activated at any time. Extreme caution must be used when in the area of these devices.
- .19 Vehicles must stop prior to crossing tracks in yards and observe for approaching movements on track.
- .20 If an emergency occurs, CN can be contacted at **1-800-465-9239**. As an alternate only, contact can be made at CN's Network Operation Centre in Edmonton at **1-800-661-3963**.
- .21 In addition to Provincial Regulations, seat belts must be worn at all times while in or operating vehicles on CN property.

8. RAIL TRAFFIC PROTECTION

- .1 Note that part of the work shall be carried out adjacent to the Railway's operating tracks.
- .2 Up to (INSERT) trains may be operated during any 24 hour period.
- .3 The Railway will provide a Protecting Foreman for the protection of the Railway's plant and equipment.
- .4 Construction operations shall be carried out without interfering with the continued safe movement of rail traffic.
 - .1 Bear all cost of train delays and cost of repairs to any rail, ties and ballast required as result of damage caused by the operation.
- .5 Give the Engineer 72 hours notice of the hours within which work is to be carried out in order that protection may be provided. Time wasted unnecessarily by the Railway personnel due to the Contractor, will be charged against the Contractor.
- .6 General
 - .1 CN reserves the right to prohibit or halt, without prior notice, any of the Contractor's work which may have repercussions on Rail operations, that has not been coordinated with CN personnel.
 - .2 Protection against Railway traffic shall be in accordance with the Canadian Rail

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

Operating Rules (CROR). Contractors shall comply with these rules.

- .3 Workers or visitors shall be made aware of safety procedures to follow when being near a railway track.
- .4 Do not unnecessarily interfere with the movement of trains.
- .5 Do not tamper with, modify or remove CN plant, signal, structure, equipment or property of any kind.

.7 Restriction for Working On or Adjacent to Railway's Tracks

- .1 Do not work within 8 metres (25 feet) of the nearest rail of any railway track unless explicitly permitted by CN.
- .2 Where work is to be performed less than 8 metres (25 feet) from the nearest rail or where otherwise deemed necessary by the Railway, CN will assign a Protecting Foreman for protection of the Railway's operation.
- .3 Depending on the nature and extent of the work, CN will assign CN employees to assist the Protecting Foreman in his duties. CN will determine the number of designated employees required.
- .4 The Contractor shall assign a Responsible Person to be present at all times to whom CN will issue orders regarding work near the tracks and who will comply immediately with such orders and instruction.
- .5 Do not commence work involving track protection at the start of each work day or work shift unless authorized by CN.
- .6 Do not continue or resume site work outside of daily hours unless approved by the Engineer.
- .7 No equipment, worker or visitor shall access a CN Railway track or a CN structure without CN authorization and the assistance of a CN Protecting Foreman.
- .8 No vehicles or machinery shall cross tracks anywhere other than a level crossing unless special precautions are taken with CN authorization.
- .9 Do not crawl under, climb over or pass between standing rail equipment.
- .10 Do not cross a track within 8 metres (25 feet) of standing rail equipment.
- .11 Do not walk or step on rails, switches, guardrails, interlocking machinery or connections.
- .12 Do not allow metal tool or other conductors that may interfere with the signal system to come into contact with two rails of the same track or adjacent tracks. Moreover, no metal tool or other conductor shall come into contact with rails and the steel of a bridge. Note: The Contractor shall be held liable for any damages thus caused to the CN signal system as well as consequential damages.

.8 Protection Against Railway's Traffic Procedure

- .1 CN Protecting Foreman Duties
 - .1 The Protecting Foreman shall have a thorough understanding of the nature of work to be done and the requirement for protection.
 - .2 The Protecting Foreman will arrange for appropriate protection with the RTC.
 - .3 The Protecting Foreman shall hold a track protection briefing to inform the Responsible Person of the protection provided.
 - .4 The Protecting Foreman will handle all communication with train traffic

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- and the RTC.
- .5 The Protecting Foreman will notify the Responsible Person of the approaching trains.
 - .6 The Protecting Foreman or a CN Representative will immediately remove from the work site anyone failing to comply with the safety and the track protection procedures.
- .2 Contractor's Responsible Person Duties
- .1 The Contractor's Responsible Person shall inform the Protecting Foreman of the nature of the work, the tracks affected, mileage limits, time limits etc. and thereby establish the requirements for the protection.
 - .2 The Contractor's Responsible Person shall ensure that all workers and visitors are made aware of the safety and track protection procedures.
 - .3 The Contractor's Responsible Person shall develop a communication chain and arrange groups of workers in the most practical manner possible, depending on the nature of the work, for the "Clearing of the Track".
 - .4 The Contractor's Responsible Person is responsible for safely expediting the "Clearing of the Track" so as not to cause any delays to passing trains.
 - .5 The Contractor's Responsible Person shall immediately notify all employees to "Clearing of the Track". When all employees are "Clear of the Track", the Contractor's Responsible Person shall immediately inform the Protecting Foreman. Once the CN Protecting Foreman has been informed that all employees are "Clear of the Track", the Contractor shall remain clear for the safe operation of trains. The Contractor shall not resume work until notified by the CN Protecting Foreman that it is safe to do so.
 - .6 The Contractor's Responsible Person shall ensure that the track remains clear for the safe operations of trains.
- .3 Track Protection Briefing
- .1 The Contractor's Responsible Person and the CN Protecting Foreman shall conduct a track protection briefing at the beginning of the shift or when required by new or unique conditions at the site.
 - .2 The track protection briefing shall address at least the following topics:
 - .1 The nature of the work.
 - .2 The organization of the groups of workers at sites.
 - .3 The type of track protection.
 - .4 The mileage limits of the track protection.
 - .5 The time limit of the track protection.
 - .6 The tracks affected.
 - .7 The procedures for clearing trains.
 - .8 Other safety-related items.
 - .3 The Contractor and the Protecting Foreman will take written notes of this briefing. The Contractor's Responsible Person and the Protecting Foreman shall sign this document.
 - .4 All persons having access to or near the railway track shall be informed of all topics covered by the track protection briefing.
- .4 Approaching Train
- .1 On the approach of a train, the Protecting Foreman will communicate to

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- the Contractor's Responsible Person, either by radio or by personal contact, that a train is approaching.
- .2 After receiving the train information from the Protecting Foreman, the Contractor's Responsible Person shall ensure that all workers, equipment and materials are "*Clear Of The Track*" then communicate this to the Protecting Foreman.
 - .3 The Protecting Foreman will not authorize any trains through the working limits nor authorize cancellation of protection before receiving confirmation that all workers have been alerted, stopped working and the track is clear of workers and machinery.
 - .4 After the train has passed, no one is to foul the track until the Protecting Foreman has given the authorization. Authorization will be communicated to the Contractor's Responsible Person.
 - .5 *Clear Of The Track*
 - .1 To be "*Clear of the Tracks*" or "*Clearing of the Tracks*" means that all workers, equipment and material are in a location 5 metres (15 feet) from the track, which will allow the safe operation of trains.
 - .2 To be "*Clear of the Track*" shall be defined as:
 - .1 All work has been stopped.
 - .2 All workers are made aware of the approaching train and route to be followed.
 - .3 All workers, equipment and material have been positioned beyond the clearance limits or at any other location deemed safe by CN. (Generally at least 5 metres (15 feet) from the nearest rail of the track on which the train is to pass with additional allowances for curvature and super elevation).
 - .4 All off-track equipment by special approval less than 5 metres (15 feet) of the nearest rail has stopped working and operators have left their equipment.
 - .5 All off-track equipment more than 5 metres (15 feet) from the nearest rail has stopped working. Operators may remain in their cabs unless directed otherwise by the Contractor's Responsible Person.
 - .6 All on-track equipment has been moved in the siding or other track as per the Protecting Foreman's instructions. Operators will leave their equipment unless directed otherwise by the Contractor's Responsible Person.
 - .7 Booms, cranes, or other similar equipment have been immobilized.
 - .8 Provided there is no possible way for the worker to become unintentionally foul of a passing train, and at the discretion of the CN Supervisor, workers may continue working.

9. TRACK PROTECTION

- .1 At all locations where there is a possibility of trees, rock or other debris falling on the tracks, provide track protection such as timber mats or an approved equivalent in order to prevent possible damage to rail, ties and ballast.
- .2 Prevent excavated material from fouling ballast and subballast.

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

10. TRACK UNIT OPERATION

- .1 All Contractor's personnel operating track units on CN trackage must be qualified in CROR Rules and CN Special Instructions and must be current.
- .2 Contractor must provide CN with a list of names of employees qualified with the following breakdown:
 - .1 Current job position of the employee as it relates to Railway operation.
 - .2 Date qualified in CROR and CN Special Instructions.
 - .3 Date qualified to perform the duties of their job position.
 - .4 Re-qualification date for CROR and CN Special Instructions.
- .3 Contractor is responsible to arrange for training and re-qualification of employees in CROR Rules at their cost and ensure their employees are current.

11. RESTRICTIONS ON CONSTRUCTION OPERATIONS

- .1 In order to ensure the continued safe movement of rail traffic, certain restrictions shall be imposed on the construction operations. Without in any way limiting the generality of the foregoing statement, the following are some of the limitations or restrictions that shall be imposed.
 - .1 Carry out blasting operations only during those times when there is a block on the rail traffic.
 - .2 When mucking, clearing or other operations are being carried out which may endanger the existing track or impede the safe passage of trains, perform such work only during such times as there is a block on the mainline rail traffic.
 - .3 Confine all work activities to daylight hours and do not exceed 12 hours per day unless authorized by the Engineer.
 - .4 All equipment within 8 metres from the nearest rail must stop working on the approach of a train and remain stopped until the train has passed.
 - .5 Do not work closer than 5 metres from the nearest rail without the prior consent of the Engineer and only during such times as there is rail traffic protection provided by the Railway.
 - .6 In order to protect the structural integrity of the adjacent track when the existing embankment has been cut, as indicated by Typical Cut and Fill Sections, or as directed by the Engineer, backfill and compact the cut excavation immediately.
 - .1 Do not cut the existing embankment more than 10 metres in advance of backfilling.
 - .2 Backfill and compact all such excavation at the completion of each day's work.

12. BLOCK ON RAIL TRAFFIC

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- .1 The Railway recognizes the project will require work to be carried out in the vicinity of the operating tracks of the Railway, but it is essential that as close to normal train operations as possible be maintained during the construction period. However, to allow construction operations such as blasting to be carried out economically, the following types of protection against movements of trains can be made available.
- .2 Long Block
 - .1 The Railway will, when required, endeavor to delay or advance trains in order to provide one single block of time of duration as listed below. During this block time, no rail traffic shall pass through the construction area except in case of emergency. The existing train pattern indicates that this time block would usually occur during the times stated below. However, since train schedules are subject to change and are based essentially on transcontinental movement and because work locations elsewhere can affect the time of trains, it may be necessary to shift the time of trains from day to day or to reduce work block period for the occasional extreme traffic peak.
 - .2 The Railway shall notify the Contractor, at least 7 hours in advance, of the approximate hours of commencement and of the extent of the block. The hour of commencement shall be confirmed to the Contractor 60 minutes prior to actual commencement as shall be the hour when the track must be open and ready to receive rail traffic. Time required for clearing debris and protective material, inspection of the track by the Engineer and any necessary repairs of the track shall be included in the time block.
 - .3 There may be emergent situations on the Railway from time to time which would affect the foregoing provisions. Should the line be temporarily closed to traffic for any reason, longer time blocks may be made available to the Contractor. On the other hand, once an emergent situation is rectified, in order to permit the Railway to clear the traffic backlog, it may be necessary to suspend temporarily those operations of the Contractor which encroach upon the track area.
 - .4 The Contractor shall give the Engineer a minimum of 48 hours advance notice when work requiring such a block is to be carried out and shall not commence any work requiring such a block until he has received confirmation from the CN Protecting Foreman, that the block is in effect.
- .3 Short Block
 - .1 The Railway may, when required, be able to provide positive protection against train movements for time periods shorter than those covered above.
 - .2 During this block time, no rail traffic shall pass through the construction area except in case of emergency.
 - .3 Generally this train protection is for the construction operations which, in the opinion of the Engineer, have minimal potential to impede rail traffic or damage the main track. The Contractor shall give the Engineer 24 hours advance notice when work requiring such a block is to be carried out and shall not commence any work requiring such a block until he has received confirmation from the CN Protecting Foreman that the block is in effect.

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

13. CROSSING TRACKS

- .1 Do not cross tracks of the Railway Company with scrapers, bulldozers, trucks, barrows or other mechanical equipment at grade nor place crossing planks except by authority of the Engineer, at locations designated by him. Ensure that both rails of the same tracks are never connected with any conductor of electricity such as steel measuring tapes or metal traction equipment.
- .2 Construct grade level track crossing at a location and to a standard acceptable to the Engineer. Crossings constructed to a standard less than the following shall be used by equipment only when flagging protection has been provided by Railway personnel.
- .3 The crossing shall:
 - .1 Have a level gradient on either side for a distance of 8 metres or not less than the maximum length of vehicle using it.
 - .2 Have approach grades not greater than 5%.
 - .3 Have a crossing surface of suitable material extending at least 0.5 metres beyond the travelled width on both sides measured at right angles to the roadway.
 - .4 Be of an overall safe width suitable for the use intended.
- .4 Equipment capable of crossing in the time available, considering sight distances, may use the crossing without special protection, but must stop 3 metres short of the nearest rail and ensure that it is safe to cross before doing so. Crawler mounted equipment and all equipment (including lowbed type equipment) which is not capable of safely completing a move across the crossing, within the time determined by the sight lines and train speed, shall use the crossing only when flagging protection has been provided by Railway personnel.
- .5 To minimize fouling the ballast, install filter fabric over the entire ballast section under the crossing planks and approaches.
- .6 Construct, upgrade and maintain crossings to meet the aforementioned requirements.

14. BARRICADES

- .1 Observe all necessary precautions and provide, erect and maintain suitable signs, barricades and lights to protect all persons from injury and all vehicles from damage during the progress of the work, all to the approval of the Engineer or any authority having jurisdiction at this location.
- .2 Take precautions to prevent the unauthorized public from using access roads and crossings.
 - .1 Install gates and keep them locked.
- .3 Protect the work in conformity with the Contract.

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

15. CONFINED SPACE WORK

- .1 All work to be performed in tanks, underground vaults, tunnels, trenches and other confined spaces shall be done in strict compliance with the Occupational Safety & Health Regulations of the Canada Labour Code, and the specific job procedures developed for each confined space.
- .2 Provide written procedures for confined space work 10 days prior to the start of such work.
- .3 No one shall enter a confined space unless he/she is trained, qualified and authorized to do so. No one shall enter a confined space unless equipped with the prescribed personal protective equipment.

16. ROAD TRAFFIC PROTECTION

- .1 Observe all necessary precautions, erect and maintain suitable signs, barricades and lights to protect all persons from injury and all vehicles from damage while work is in progress.
- .2 Submit and obtain approval of your road traffic protection plan from the road authority having jurisdiction at the site 10 days before the start of work.
- .3 Submit evidence of approval to CN.
- .4 All employees assigned to installing and removing signs, as well as all those working in the vicinity of road traffic shall wear high-visibility vests.

17. LOCKOUT PROCEDURES

- .1 The Contractor shall submit to CN its lockout procedures 10 days prior to starting work on equipment, a machine or a device which must be removed from service for the protection of workers.

18. WORKING AT HEIGHTS

.1 Scaffolding

.1 Regulation

- .1 Scaffolding must comply with the provisions of Section 3 – “*Temporary Structures and Excavations*” of the Occupational Safety and Health Regulations, Part II, Canada Labour Code, as well as any more restrictive directive issued by CN or imposed by provincial law.

.2 Installation Restrictions

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- .1 Obtain authorization from CN before erecting scaffolds on a CN structure or near a CN track.
- .2 The scaffolding shall not interfere with safe operation of Railway traffic.
- .3 Scaffolds must be positioned so that minimum clearance for road or other traffic is always provided.
- .3 Design
 - .1 Design scaffolding in accordance with CSA Standard S269.2, *Access Scaffolding for Construction Purposes*.
 - .2 Retain the service of a registered Professional Engineer experienced in construction scaffolding to design the scaffolding.
 - .3 The Contractor shall, if requested, provide to the Engineer a preliminary general arrangement scheme with the following information:
 - .1 Location and spacing of support members.
 - .2 Detailed description of installation procedures including type of equipment and location of equipment used.
 - .3 Theoretical capacity of the scaffolding, i.e., permanent loads (dead loads), permitted additional loads (live loads, wind loads, snow loads, etc.) and permitted loads for cantilevered sections.
 - .4 Safety factors of different components (slings, shackles, etc.) used in the design.
 - .5 Written procedures for use, inspection and removal.
 - .6 Other details requested by the Engineer.
 - .4 The information submitted to CN shall be strictly for information purposes only and it shall solely constitute an opportunity for CN to make comments or suggestions regarding performance of the work. The design, construction, and maintenance shall remain the Contractor's responsibility to ensure that it meets all applicable laws and regulations for its intended use.
 - .5 All calculations, construction details, shop drawings and erection, assembly and construction methods must be established by or under the direction of the Professional Engineer engaged by the Contractor and must bear the Professional Engineer's seal and signature.
 - .6 Scaffolding must be fully equipped with railings and all openings must be protected. Railings must be designed so as to support the loads applied and prescribed by law.
 - .7 Control access to scaffolds at all times so as to prevent trespassing and vandalism.
- .4 Use
 - .1 Do not allow the scaffolding to sustain any impact, overloading or other event that could cause the load capacity specified in the plans to be exceeded. In the event such an impact or overload were to occur, the Contractor shall immediately restrict access to the scaffolding, conduct a complete inspection and note the results of the inspection in the register. The Contractor shall submit a certificate of conformity from a Professional Engineer before placing the scaffolding back into service.
 - .2 At all times maintain scaffolds free from accumulations of debris and materials; moreover, accumulations of snow and ice are to be removed from scaffolds.
 - .3 In accordance with the Canada Labour Code, Part II, Section 12.10, the

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

Contractor shall provide a fall protection system to: *“a person who works from a temporary structure that is more than 6 metres (20 feet) above a permanent safe level”*.

.2 Fall Protection System

.1 Regulation

- .1 Fall protection must comply with the provisions of Section 12.10 – *“Fall Protection Devices”*, of the Occupational Safety and Health Regulations, Part II, Canada Labour Code, as well as any more restrictive directives issued by CN or imposed by provincial law.
- .2 Protective devices such as guard rails, nets, anchorage for fall protection equipment, and vertical and horizontal lifelines shall conform with current regulations.
- .3 Install and use fall protection systems for any work to be performed from an unguarded structure more than 2.4 metres (8 feet) above the ground, or within the proximity of a potential danger resulting from the fall of an employee, or where use of fall-protection systems is needed according to the law.
- .4 Harness shall meet CSA standard Z259.10 with a lanyard of no more than 1.8 metres (6 feet) in length equipped with an energy absorber. Belts are not permitted.

.2 Installation Restrictions

- .1 Obtain authorization from CN before suspending, attaching or erecting fall protection devices on a CN structure or near a CN track.
- .2 Components attached to rail structures must be placed on neoprene pads to prevent damage to the structures.
- .3 Fall protection systems must be positioned so that minimum clearance for CN operations and road and other traffic is always provided.

.3 Design

- .1 Provide to the Engineer drawings and a written description of all fall protection systems with the following information:
 - .1 Written procedures for the safe installation and removal of the fall protection system.
 - .2 Written procedures for use and the inspection of the fall protection devices.
 - .3 The number of people who can use the system at one time.
 - .4 The personal equipment that must be used.
 - .5 Type of equipment and location of equipment used.
 - .6 The holding strength of anchors.
 - .7 The total fall distances and the recommended clearance.
 - .8 Other detail requested by the Engineer.
- .2 The information submitted to CN shall be strictly for information purposes only and it shall solely constitute an opportunity for CN to make comments or suggestions regarding performance of the work. The design, construction and maintenance shall remain the Contractor's responsibility to ensure that it meets all applicable laws and regulations for its intended use.
- .3 All calculations, construction details, shop drawings and erection,

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- assembly and construction methods must be established by or under the direction of the Professional Engineer engaged by the Contractor and must bear the Professional Engineer's seal and signature.
- .4 Submit this information at least 10 days prior to the installation of the fall protection system.
- .4 Use
- .1 Establish written rescue procedures for each fall protection system to be installed.
- .2 Employees shall receive adequate training on fall protection and the observance of safety procedures, before using the equipment in question or following procedures.
- .3 When a Hi-Rail vehicle or other machinery is used on a bridge deck, the Contractor shall use a fall protection system for all employees working on the vehicle platform. No employees shall move alongside the vehicle unless protected by a railing or other fall protection device.
- .4 Workers shall be authorized to move on the bridge deck without walkways and without fall protection equipment provided that there are no unprotected openings and that they remain between the running rails. However, it is forbidden to work without proper fall protection.
- .5 Working Above Other Employees or the Public
- .1 When the public or workers are exposed to the risk of falling objects, protective measures shall be planned and implemented, such as prohibiting access to the area or installing adequate overhead protection.
- .3 Cranes and Lifting Devices
- .1 General
- .1 The Contractor shall have certificates of conformity and inspection, signed and sealed by a Professional Engineer and issued within the previous year, for all lifting equipment.
- .2 Lift capacity shall be clearly indicated on all equipment. If requested, submit these certificates to the CN Representative 10 days before the equipment arrives on the site.
- .3 The Contractor shall provide a drawing, signed and sealed by a Professional Engineer, illustrating the use of cranes, winches and other lifting devices.
- .4 When cranes or lifting devices are used on CN structures, ensure that the capacity of the structure is sufficient to safely resist the various load configurations during all phases of construction, including assembly, use and dismantling. The drawing, signed and sealed by a Professional Engineer, shall include the following:
- .1 The value of forces transmitted to the structure.
- .2 Details of elements required to transmit those forces to the structure.
- .3 Work procedures to be followed.
- .4 The seal and signature of a Professional Engineer.
- .5 Indicate the position(s) of crane(s) and location of outriggers relative to the existing structures.
- .6 Obtain authorization from CN before suspending, attaching or erecting lifting devices on a CN structure or near track.

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1:
TRANSITWAY TUNNEL AT CN RIVERS SUBDIVISION MILEAGE 1.38 & ASSOCIATED WORKS

- .7 Ensure that the maximum loads the structures can support are not to be exceeded and ensure compliance with trackside clearance diagrams.
- .8 Determine the weights of loads to be lifted. Where weights are unknown or cannot be exactly determined by weighing loads, a Professional Engineer shall determine the weights through calculations.
- .9 Keep a record of inspections for all lifting devices used at the work site. If requested, the Contractor shall make this record accessible to the CN Representative within 24 hours of such request.
- .10 No loads are to be transported above workers.
- .11 It is forbidden to use a lifting device closer than 10 metres (approximately 30 feet) from the nearest rail of any track without CN authorization and with Railway traffic protection.