Part 1 General

1.1 WORK COVERED BY CONTRACT DOCUMENTS

.1 Title and Description of Work: Impacted Soil Removal, RCMP Detachment Garage and Former Marine Storage Facility in La Ronge, Saskatchewan. The site is located along Provincial Highway No. 2, approximately 240 km north of Prince Albert, Saskatchewan at the RCMP Detachment property in the Town of La Ronge, Saskatchewan at Latitude 55°06'15"N and Longitude 105°16'26"W. The work comprises all activities associated with the remedial excavation and disposal of an estimated 10 cubic metres (m^3) of lead-impacted soil located at the RCMP Detachment Garage; and an estimated 15 m^3 of lead-impacted soil located at the former RCMP Marine Storage Facility, including: the disposal of lead-impacted soils and site restoration to pre-excavation conditions or better. The lead-impacted soils have not been completely delineated; however, a best estimate of the volume of soil associated with the remedial excavation and disposal has been calculated (as provided above) for this contract.

.1 The RCMP Detachment Garage is described by legal land description consisting of Lots 6 and 7, Parcel A of Plan AQ777. The municipal address is 1603 Bay Avenue. Universal Transvers Mercator (UTM) coordinates for the Detachment are Zone 13N, Easting 482536 m, Northing 6106405 m.

.2 The RCMP former Marine Storage Facility is described by legal land description consisting of part of Parcel C of Plan CQ4184, along Lakeshore Avenue and having UTM coordinates 13N, Easting 482600 m, Northing 6106313 m.

.2 Mobilization and Demobilization consists of preparatory work and operations including but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to and from the project site. Mobilization and Demobilization further consists of all traffic control requirements as provided in Section 01 35 00.06 – Special Procedures for Traffic Control.

.3 Measurement Procedures.

.1 Measure excavation of soil with soil quality not meeting applicable CCME Environmental Quality Guidelines in metric tonnes. The estimated quantity is 30 tonnes.
It is estimated that 110 square meters will be excavated to a depth of 0.15 m.

.2 Measure supplying, placing and spreading topsoil in tonnes. The estimated quantity is 50 tonnes. It is estimated that 110 square meters will be placed at a depth of 0.25 m.

.3 Payment for seeding, fertilizing, and erosion control of the excavations adjacent to the RCMP Detachment Garage and to the former RCMP Marine Storage Facility will be made in square metres.

The estimated total area is: 110 square metres. A minimum of 5 kg of grass seed and 4 kg of fertilizer will be supplied.

.4 Work included:

.1 Permit Applications, including:

.1 Obtaining all municipal, provincial and federal permits, as required to complete the Work.

.2 Management of Site Safety, including:

.1 Responsibility for Site Safety.

.2 Development and submittal of Site Specific Safety Plan.

.3 Coordinating and Leading Pre-Job Safety Meeting and Daily On-Site Safety Meetings.

.3 Site Preparation Activities, including:

.1 Identify, maintain and protect all private and public aboveground and underground utilities that may be present within proposed work area, including access to work area.

.2 Erection of temporary perimeter security fencing.

.3 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

.4 Protect surrounding private and public property from damage during performance of Work.

.5 Become familiar with and abide by the requirements listed in the:

.1 February 2012 Department of Fisheries and Oceans letter to the RCMP.

.2 March 2012 Environment Canada letter to the RCMP

.1 Departmental Representative will be responsible for providing necessary bird expertise, as required.

.3 Response from Saskatchewan Water Security Agency following submittal of their Aquatic Habitat Protection Permit Application.

.6 Be responsible for any damage incurred to site property or site property contents during performance of Work and repair to pre-existing condition.

.7 Inspect existing conditions, including elements subject to damage or movement during excavation and backfilling, including underground utilities, if identified.

.8 After uncovering, inspect conditions affecting performance of Work.

.9 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.

.10 Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.

.4 Soil Excavation and Waste Soil Characterization, including:

.1 Previous analytical results for soil samples collected from the lead-impacted soil should be used by the Contractor to obtain interim waste soil acceptance from the proposed waste disposal facility licensed to

accept lead-impacted soils based upon the historic and anticipated soil impacts associated with the site.

.2 Laboratory results will be provided by the Departmental Representative (upon receipt) to the Contractor in order to facilitate final waste soil disposal acceptance with the proposed waste disposal facility.

.5 Site Restoration, including:

.1 Inspect and repair any damages to adjacent building wall and/or foundation following excavation activities.

.2 Backfilling of the excavation with approved, compacted fill.

.3 Applying required topsoil and vegetation seed to designated height above grade level.

.4 Loading, hauling and appropriate disposal of all excavated soils.

.5 Removal of temporary soil stockpile areas, if present.

.6 Removal of temporary perimeter fencing.

.7 General site clean-up and restoration.

.6 Work by others: Soil Sampling by Departmental Representative.

1.2 COORDINATION

.1 Perform coordination of progress schedules, submittals, use of site, temporary utilities, construction facilities, and construction Work, with progress of Work of other Contractors, and Work by Owner, under instructions of the Departmental Representative.

1.3 CONSTRUCTION ORGANIZATION AND START UP

.1 Within five (5) days after award of Contract, Departmental Representative will request a start-up meeting of Contract Representatives to discuss and resolve administrative procedures and responsibilities. Meeting shall be chaired by the Departmental Representative who will prepare the minutes of the meeting.

.2 Representatives of the Owner, Departmental Representative, Contractor, major Subcontractors, field inspectors and supervisors are to be in attendance.

.3 Comply with Departmental Representative's allocation of mobilization areas of site; for access, traffic, and parking facilities.

.4 During construction, coordinate use of site and facilities through Departmental Representative's procedures for intra project communications: Submittals, reports and records, schedules, coordination of Drawings, recommendations, and resolution of ambiguities and conflicts.

.5 Comply with instructions of the Departmental Representative for use of temporary utilities and construction facilities.

.6 Coordinate field engineering and layout work with the Departmental Representative.

1.4 SUBMITTALS

.1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit, prior to start of work, Environmental Protection Plan detailing management of wastes (waste streams and disposal locations), including alternate disposal locations

should waste characterization analytical results require disposal of some or all of the waste at a facility licensed to accept such waste.

.3 Site Layout: within 5 days after award of Contract and prior to mobilization to site, submit site layout drawings showing existing conditions and facilities, construction facilities and temporary controls provided by Contractor including following:

.1 Equipment and personnel decontamination areas.

.2 Means of ingress, egress and temporary traffic control facilities (as required).

.3 Equipment and material staging areas.

.4 Exclusion Zones, Contaminant Reduction Zones, and other zones specified in Contractor's site-specific Health and Safety Plan.

.4 Submit documentation verifying that employees have been trained, tested, and certified to safely and effectively carry out their assigned duties in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.5 CONTRACT METHOD

.1 Construct Work under combined lump sum and unit rate contract.

1.6 WORK SEQUENCE

.1 Construct Work in stages to accommodate Owner's continued use of premises during construction.

.2 Co-ordinate Progress Schedule and co-ordinate with Owner Occupancy during construction.

.3 Maintain fire access/control and regular work not interrupted.

1.7 CONTRACTOR USE OF PREMISES

.1 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.

.2 Comply with smoking restrictions. Smoking is not permitted within buildings or outside designated smoking areas at the work site.

.3 Design, construct and maintain temporary "access to" and "egress from" work areas in accordance with relevant municipal, provincial and other regulations.

.4 Keep within limits of work and avenues of ingress and egress.

.5 Limit use of premises for Work, for storage, and for access, to allow Owner occupancy and to allow uninterrupted regular work of Owner.

.6 Co-ordinate use of premises under direction of Departmental Representative.

.7 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.

.8 Where security is reduced by work provide temporary means to maintain security.

.9 Contractor to provide sanitary facilities for use by Contractor's personnel. Keep facilities clean.

.10 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.

.11 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.

.12 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

1.8 OWNER OCCUPANCY

.1 Owner will occupy premises during entire construction period for execution of normal operations.

.2 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

1.9 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

.1 Execute work with least possible interference or disturbance to building operations and occupants and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.10 EXISTING SERVICES

.1 Notify Departmental Representative and utility companies of intended interruption of services, where planned, and obtain required permission from Departmental Representative and respective utility companies prior to service interruption.

.2 Where Work involves breaking into or connecting to existing services, give Departmental Representative 48 hours notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to vehicular traffic and tenant operations.

.3 Provide alternative routes for personnel and vehicular traffic.

.4 Establish location and extent of utility service lines in area of work before starting Work. Notify Departmental Representative of findings.

.5 Submit schedule to Departmental Representative for review of any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide 48 hours notice to affected parties.

.6 Provide temporary services if necessary to maintain critical building and tenant systems.

.7 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing within 24 hours.

.8 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction and collect necessary record and photos of capped services.

.9 Record locations of maintained, re-routed and abandoned service lines and provide record to Departmental Representative.

.10 Maintain existing services to RCMP Garage building and provide for personnel and vehicle access.

1.11 TEMPORARY UTILITY SERVICES

.1 Utilities requiring disconnection, re-routing and re-connection would be completed by the Contractor as a change order.

.2 If needed, provide temporary utility services to adjacent buildings, according to requirements of authorities having jurisdiction.

.3 Inspect, repair, and maintain temporary utility services during construction until excavation has been successfully remediated and backfilled.

.4 Remove temporary utility services and restore and stabilize areas disturbed during removal.

1.12 WASTE DISPOSAL QUANTITIES

.1 Contractor to provide summary of all wastes disposed including quantities, disposal locations, and original weigh scale tickets, as applicable.

1.13 DOCUMENTS REQUIRED

.1 Maintain at job site, one copy each document as follows:

.1 Contract Drawings.
.2 Specifications.
.3 Addenda.
.4 Change Orders.
.5 Other Modifications to Contract.
.6 Traffic Management Plan.
.7 WHMIS.
.8 Environmental Protection Plan.
.9 Copy of Work Schedule and most recent updated schedule.
.10 Health and Safety Plan and Other Safety Related Documents.
.11 Notice of Project.
.12 Other documents as specified.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE

.1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Do not proceed with Work affected by submittal until review is complete.

.3 Hazardous Materials: provide description of Hazardous Materials and Notification of Filing with proper authorities prior to beginning of Work as required.

.4 Present drawings, product data, samples and mock-ups in SI Metric units.

.5 Where items or information is not produced in SI Metric units converted values are acceptable.

.6 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

.7 Notify Departmental Representative in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.8 Verify field measurements and affected adjacent Work are co-ordinated.

.9 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.

.10 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.

.11 Keep one reviewed copy of each submission on site.

.12 Certificates: submit original weigh scale tickets from authorized disposal sites and reuse and recycling facilities for material removed from site to Departmental Representative upon completion of project.

.1 Written authorization from Departmental Representative is required to deviate from disposal facilities listed in Environmental Protection Plan.

1.2 SAMPLES

.1 Arrange for collection of representative backfill samples and provide to Departmental Representative for review and laboratory analyses as requested in respective specification sections. Label samples with origin and intended use.

.2 Notify Departmental Representative in writing, at time of arranging collection of backfill samples if deviations in samples from requirements of Contract Documents.

.3 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.

.4 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.

.5 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.3 LIST OF SUBMITTALS

.1 Site Specific Health and Safety Plan

.2 MSDS and WHMIS

.3 Environmental Protection Plan (EPP)

.4 Traffic Management Plan

.5 Schedule

.6 Original Weigh Scale Tickets

.7 Record of maintained, re-routed and abandoned service utilities

.8 All required permits

.9 On-site safety meeting attendance

.10 Site layout

.11 Documentation for employee training, including:

- .1 Half mask respirator fit testing
- .2 WHMIS
- .3 TDG
- .4 First Aid/CPR

.12 Inspection record of equipment decontamination

.13 Record of satisfactory completion

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 MEASUREMENT PROCEDURES

.1 Cost of Traffic Control shall be considered within Lump Sum Price, and no additional payment will be made for the duration of the Contract.

1.2 REFERENCES

.1 The Contractor shall provide traffic control in accordance with current edition of:

.1 Saskatchewan Department of Highways Additional Safety Guidelines.

.2 Manual of Uniform Traffic Control Devices for Canada, (MUTCD) distributed by Transportation Association of Canada.

1.3 QUALITY CONTROL

.1 All Quality Control by the Contractor.

1.4 GENERAL

.1 The Contractor shall develop and implement a Traffic Management Plan in accordance with the requirements of the current edition of the Saskatchewan Department of Highways Additional Safety Guidelines, except where specified otherwise. The Traffic Management Plan will include plans specific to each detour and access point required for this project.

.2 The Contractor shall design, supply, erect, move and maintain all traffic control devices, signs, temporary pavement marking, other safety measures and provide staff to ensure safe passage of all traffic from commencement of site work to date of acceptance by the Departmental Representative.

.3 All traffic and warning signs shall be either bilingual or of a symbolic or pictorial type. If bilingual signs are used, the English and French message shall be of equal letter size and at same elevation, with English on left and French on right.

.4 The Prime Contractor shall coordinate traffic management procedures with all other Contractors working in the area.

1.5 INFORMATIONAL AND WARNING DEVICES

.1 Provide and maintain signs, flashing warning lights and/or other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response.

.2 Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in the Traffic Management Plan submitted by the Contractor and reviewed by the Departmental Representative.

.3 Place signs and other devices to standards and in locations recommended in Saskatchewan Department of Highways Additional Safety Guidelines.

.4 Signs shall be wind resistant.

.5 As situation on site changes, Contractor to update his Traffic Management Plan outlining signs and other devices required for the project and submit for the approval of the Departmental Representative.

.6 Continually inspect and maintain traffic control devices in use by:

.1 Checking signs daily for legibility, damage, suitability and location.

.2 Cleaning, repairing or replacing signs as required ensuring clarity and reflectance.

.3 Removing or covering signs which do not apply to conditions existing from day to day or time to time.

1.6 PROTECTION AND MAINTENANCE OF TRAFFIC

.1 Protect travelling public from damage to person and property.

.2 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.

.3 Maintain access and haul roads as necessary.

.4 Dust control: adequate to ensure safe operation at all times.

.5 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations if night work operations required.

.6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.

.7 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Departmental Representative.

.8 Provide competent flag persons, trained in accordance with, and properly dressed and equipped as specified in, Saskatchewan Department of Highways Additional Safety Guidelines for situations as follows:

.1 When vehicles are entering or exiting Worksite access points.

.2 When workmen or equipment are employed on travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.

.3 Where temporary protection is required while other traffic control devices are being erected or taken down.

.4 For emergency protection when other traffic control devices are not readily available.

.5 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.

.9 Delays to Owner’s traffic due to contractor's operators: 10 minutes maximum.

.10 During hours of darkness, Contractor shall determine requirements but as a minimum, flagpersons shall be additionally equipped with a red signal hand-light of sufficient brightness to be clearly visible to approaching traffic and flagging stations shall be illuminated by overhead lighting. Signs indicating hazardous conditions and signs requiring increased attention shall be marked with flashers.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.3 Province of Saskatchewan

.1 Occupational Health and Safety Act, 1993, S.S. 2009, or most current.

1.2 SUBMITTALS

.1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit site-specific Health and Safety Plan to Departmental Representative: Within 2 weeks prior to commencement of Work. Health and Safety Plan must include:

.1 Results of site specific safety hazard assessment.

.2 Results of safety and health risk or hazard analysis for site tasks and operations.

.3 Employee training certification

.4 Emergency Response Plan

.5 List of safety equipment and personal protection equipment

.3 Submit 1 electronic copy of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative and authority having jurisdiction (as required by permits) weekly.

.4 Submit copies of reports or directions issued by Federal, Provincial and Municipal health and safety inspectors within 24 hours.

.5 Submit copies of incident and accident reports within 24 hours.

.6 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 3 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 3 days after receipt of comments from Departmental Representative.

.7 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.

.8 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.

1.3 FILING OF NOTICE

.1 File Notice of Project with Provincial and Municipal authorities prior to beginning of Work.

1.4 SAFETY ASSESSMENT

.1 Perform site specific safety hazard assessment related to project.

1.5 MEETINGS

.1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

1.6 PROJECT/SITE CONDITIONS

.1 Work at site will involve contact with:

.1 Lead-based paint (chips and flakes);

.2 Lead-impacted soil.

1.7 GENERAL REQUIREMENTS

.1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.

.2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.8 RESPONSIBILITY

.1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

.2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.9 COMPLIANCE REQUIREMENTS

.1 Comply with Saskatchewan Ministry of Advanced Education, Employment and Labour *The Occupational Health and Safety Regulations* (1996, including amendments up to 2012).

.2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.10 UNFORSEEN HAZARDS

.1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally immediately and in writing within 24 hours.

1.11 HEALTH AND SAFETY CO-ORDINATOR

.1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:

.1 Have site-related working experience specific to activities associated with excavation of metal-impacted soils.

.2 Have working knowledge of occupational safety and health regulations.

.3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.

.4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

.5 Be on site during execution of Work and report directly to and be under direction of site supervisor.

.6 Health and Safety Co-ordinator role can be fulfilled by Site Supervisor.

1.12 POSTING OF DOCUMENTS

.1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Departmental Representative.

1.13 CORRECTION OF NON-COMPLIANCE

.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.

.2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified within 48 hours.

.3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.14 BLASTING

.1 Blasting or other use of explosives is not permitted.

1.15 WORK STOPPAGE

.1 Give precedence to safety and health of public, Owner occupants, site personnel and protection of environment over cost and schedule considerations for Work.

1.16 PERSONNEL HEALTH, SAFETY, AND HYGIENE

.1 Emergency and First-Aid Equipment:

.1 Locate and maintain emergency and first-aid equipment in appropriate location on site including first-aid kit to accommodate number of site personnel; portable emergency eye wash; two 9 kg ABC type dry chemical fire extinguishers.

.2 As minimum, provide 1 certified first-aid technician on site at all times when work activities are in progress.

.2 Levels of Protection: establish levels of protection for each Work area based on planned activity and location of activity. Minimum PPE required for each level of protection as follows:

.1 Respiratory: minimum half mask respirator

.2 Head, Eye, Ear Protection: CSA approved hard hat, safety glasses with sideshields and ear plugs.

.3 Hand Protection: leather gloves and nitrile gloves (when handling soils).

.4 Foot Protection: CSA approved steel toed safety boots with minimum 6 inch boot.

.5 Clothing: disposable overalls

.3 Personal Protective Equipment:

.1 Furnish site personnel with appropriate PPE as specified above. Ensure that safety equipment and protective clothing is kept clean and maintained

.2 Ensure site personnel have passed respirator fit test prior to entering potentially contaminated work areas.

.4 Site Communications:

.1 Post emergency numbers near site telephones.

.2 Provide employee alarm system to notify employees of site emergency situations or to stop Work activities if necessary.

.3 Safety Meetings: conduct mandatory daily safety meetings for personnel, and additionally as required by special or work-related conditions; include refresher training for existing equipment and protocols, review ongoing safety issues and protocols, and examine new site conditions as encountered. Hold additional safety meetings on as-needed basis.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Definitions:

.1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.

.2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

.2 Department of Justice Canada (Jus).

.1 Canadian Environmental Assessment Act (CEAA), 1995, c. 37.

.2 Canadian Environmental Protection Act, 1999 (CEPA), c. 33.

.3 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

.1 Material Safety Data Sheets (MSDS).

.4 Transport Canada (TC).

.1 Transportation of Dangerous Goods Act, 1999 (TDGA), c. 34.

.5 Canadian Council of Ministers of the Environment (CCME) documentation.

.6 Department of Fisheries and Oceans (DFO) letter to RCMP, dated February 26, 2012.

.7 Environment Canada letter to RCMP, dated March 1, 2012.

.8 Saskatchewan Water Security Agency

.9 Saskatchewan Ministry of Environment

1.2 REGULATORY REQUIREMENTS

.1 Perform Work in accordance with Acts, Regulations, Laws, guidelines, codes of practice, directives and policies of government authorities pertaining to: environment and health and safety, including:

.1 Workplace Hazardous Materials Information System (WHMIS)

.2 Canadian Environmental Assessment Act.

.3 Canadian Environmental Protection Act (New Substance Notification Regulations).

.4 Fisheries Act

.5 Migratory Birds Convention Act

.6 Migratory Birds Regulations

.7 Department of Fisheries and Oceans, Species at Risk Act

.8 Transportation of Dangerous Goods Act.

.9 National Building Code of Canada.

.10 National Fire Code of Canada.

.11 Saskatchewan Occupational Health and Safety Regulations

.12 Saskatchewan Environmental Management Protection Act

.13 Saskatchewan Water Security Agency, including but not limited to any requirements of an Aquatic Habitat Protection Permit that will be submitted by the Departmental Representative prior to the onset of the Work.

.2 Provide effective erosion and sediment control in accordance with regulations of authorities having jurisdiction, until soil replacement, re-vegetation and until vegetation is re-established.

.3 Comply with federal, provincial, and local anti-pollution laws, ordinances, codes, and regulations when disposing of waste materials, debris, and rubbish.

.4 Work to meet or exceed minimum requirements established by federal, provincial, and local laws and regulations which are applicable.

.1 Contractor: responsible for complying with amendments as they become effective.

.5 In event that compliance exceeds scope of work or conflicts with specific requirements of contract notify Departmental Representative immediately.

.6 Conduct soil remediation before April 15 or after July 31, unless Departmental Representative advises otherwise.

1.3 HAZARDOUS MATERIAL DISCOVERY

.1 Work will involve the excavation of soil impacted with lead, which may contain paint chips/flakes.

.2 Contractor to notify Departmental Representative if potentially hazardous wastes are identified, verbally immediately and in writing within 24 hours.

.3 If wastes are deemed to be potentially hazardous, or of a nature not desired to be kept on-site, they are to be placed in a separate stockpile that is not in direct contact with ground and is covered to prevent potential wind erosion and/or precipitation runoff.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Within 2 weeks prior to commencing construction activities or delivery of materials to site, provide Environmental Protection Plan for review by Departmental Representative.

.3 Ensure Environmental Protection Plan includes comprehensive overview of known or potential environmental issues to be addressed during construction.

.4 Address topics at level of detail commensurate with environmental issue and required construction task.

.5 Include in Environmental Protection Plan:

.1 Name[s] of person[s] responsible for ensuring adherence to Environmental Protection Plan.

.2 Name[s] and qualifications of person[s] responsible for manifesting waste to be removed from site.

.3 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.

.4 Solid waste disposal plan identifying methods and locations for solid waste disposal including excavated soil (with metal greater than the applicable environmental quality guidelines).

.5 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.

.6 Isolation plan during remedial excavation, to prevent lead-impacted soils and debris from entering Lac La Ronge near former Marine Storage Facility.

.7 Sediment and erosion control plan, during and following remedial excavation and backfilling at former Marine Storage Facility, as prescribed by Fisheries and Oceans Canada.

.8 Regulatory Requirements: Work plan to ensure Work is performed in compliance with all regulatory requirements, including CEPA, CEAA, Saskatchewan Ministry of Environment (SKMofE), Fisheries and Oceans Canada, Environment Canada, Saskatchewan Water Security Agency any other applicable Provincial/Territorial/Municipal regulations and/or requirements . Refer to Appendix A for specific requirements related to Fisheries and Oceans Canada, Environment Canada and Saskatchewan Water Security Agency.

1.5 QUALITY ASSURANCE

.1 Health and Safety.

.1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.6 FIRES

.1 Fires and burning of rubbish on site not permitted.

1.7 DRAINAGE

.1 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.8 SITE CLEARING AND PLANT PROTECTION

.1 Protect trees and plants on site and adjacent properties from harm.

1.9 DUST AND PARTICULATE CONTROL

.1 Execute Work by methods to minimize raising dust from construction operations. Provide means of dust control in writing for review by Departmental Representative.

.2 Implement and maintain dust and particulate control measures as determined necessary by Departmental Representative during construction and in accordance with Provincial and Municipal regulations.

.3 Provide positive means to prevent airborne dust from dispersing into atmosphere. Use tarps or potable water for water misting system for dust and particulate control.

.4 Provide positive means to prevent surface runoff during water misting for dust and particulate control.

.5 As minimum, use appropriate covers on trucks hauling fine or dusty material. Use watertight vehicles to haul wet materials.

.6 Prevent dust from spreading to adjacent property sites.

.7 Departmental Representative will stop work at any time when Contractor's control of dusts and particulates seems inadequate for conditions present at site.

.8 If Contractor's dust and particulate control is not sufficient for controlling dusts and particulates into atmosphere, stop work. Contractor must discuss procedures with Departmental Representative that Contractor proposes to resolve problem. Make necessary changes to operations prior to resuming excavation, handling, processing, or other work that may cause release of dusts or particulates.

1.10 POLLUTION CONTROL

.1 Maintain temporary erosion and pollution control features installed under this Contract.

.2 Control emissions from equipment and plant to local authorities' emission requirements.

.3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control as required.

.4 Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious toxic substances and pollutants produced by construction operations.

.5 Be prepared to intercept, clean up, and dispose of spills or releases that may occur whether on land or water. Maintain materials and equipment required for cleanup of spills or releases readily accessible on site.

.6 Promptly report spills and releases potentially causing damage to environment to:

.1 Authority having jurisdiction or interest in spill or release including conservation authority, water supply authorities, drainage authority, road authority, and fire department.

.2 Owner of pollutant, if known.

.3 Person having control over pollutant, if known.

.4 Departmental Representative.

.7 Contact manufacturer of pollutant if known and ascertain hazards involved, precautions required, and measures used in cleanup or mitigating action.

.8 Take immediate action using available resources to contain and mitigate effects on environment and persons from spill or release.

.9 Provide spill response materials including: silt fences, socks, containers, adsorbent, shovels, and personal protective equipment. Make spill response materials available at all times in which hazardous materials or wastes are being handled or transported. Spill response materials: compatible with type of material being handled.

1.11 EQUIPMENT DECONTAMINATION

.1 Perform equipment decontamination at designated area within Work site.

.2 At minimum, perform following steps during equipment decontamination: mechanically remove packed dirt, grit, and debris by scraping and brushing without using steam or high-pressure water. Perform assessment as directed by Departmental Representative to determine effectiveness of decontamination.

.3 Maintain inspection record on site which includes: equipment descriptions with identification numbers or license plates; time and date exiting Work site; and name of inspector with comment stating that decontamination was either not necessary or performed and completed.

.4 Collect photos of equipment and decontamination area following decontamination.

.5 Each piece of equipment may be inspected by Departmental Representative after decontamination and prior to removal from site and/or travel on clean areas. Departmental Rereviewpresentative will have right to require additional decontamination to be completed if deemed necessary.

.6 Collect decontamination sediments which accumulate on equipment decontamination area and dispose of with other impacted soil removed from site, at approved waste disposal facility.

.7 Furnish and equip personnel engaged in equipment decontamination with appropriate personal protective equipment, as listed in 1.16 of Section 01 35 29.06 Health and Safety Requirements.

1.12 WATER CONTROL

.1 Maintain excavations free of water.

.2 Protect site from puddling or running water.

.3 Prevent surface water runoff from leaving work areas.

.4 Do not discharge contaminated or decontaminated water, or surface water runoff, or groundwater which may have come in contact with potentially contaminated material, off site or to municipal sewers.

.5 Direct surface waters that have not contacted potentially contaminated materials to existing surface drainage systems.

.6 Control surface drainage including ensuring that gutters are kept open, water is not directed across or over pavements or sidewalks except through approved pipes or properly constructed troughs, and runoff from unstabilized areas is intercepted and diverted to suitable outlet.

.7 Dispose of water in manner not injurious to public health or safety, to property, or to any part of Work completed or under construction.

.8 Provide, operate, and maintain necessary equipment appropriately sized to keep excavations, staging pads, and other work areas free from water.

1.13 NOTIFICATION

.1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and/or other elements of Contractor's Environmental Protection Plan.

.2 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for review by Departmental Representative.

.1 Do not take action until after review by Departmental Representative.

.3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.

.4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 CLEANING

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Contractors.

.2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.

.3 Clear snow and ice from access to work area, where present, and remove from site, as required.

.4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.5 Provide on-site containers for collection of waste materials and debris.

.6 Provide and use marked separate bins for recycling as necessary.

.7 Dispose of waste materials and debris off site.

.8 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

3.2 FINAL CLEANING

.1 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

.2 Prior to final review remove surplus products, tools, construction machinery and equipment.

.3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.4 Wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.

.5 Remove dirt and other disfiguration from exterior surfaces.

.6 Wash clean paved areas.

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE REQUIREMENTS

.1 Acceptance of Work Procedures:

.1 Contractor's Inspection:

.1 Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.2 Notify Departmental Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.

.3 Request Departmental Representative inspection.

.2 Departmental Representative Inspection:

.1 Departmental Representative and Contractor to inspect Work and identify defects and deficiencies.

.2 Contractor to correct Work as directed.

.3 Completion Tasks: submit written certificates that tasks have been performed as follows:

.1 Work: completed and inspected for compliance with Contract Documents.

.2 Defects: corrected and deficiencies completed.

.3 Equipment and systems: tested and fully operational.

.4 Certificates required by authorities having jurisdiction: submitted.

.5 Work: complete and ready for final inspection.

.4 Final Inspection:

.1 When completion tasks are done, request final inspection of Work by Departmental Representative and Contractor.

.2 When Work incomplete according to Owner and Departmental Representative, complete outstanding items and request re-inspection.

1.2 FINAL CLEANING

.1 Clean in accordance with Section 01 35 43 – Environmental Procedures.

.1 Remove surplus materials, excess materials (not designated to remain at the site), rubbish, tools and equipment.

1.3 CLOSEOUT PROCEDURES

.1 Notify Departmental Representative when Work is considered ready for Substantial Performance.

.2 Accompany Departmental Representative on preliminary inspection to determine items listed for completion or correction.

.3 Comply with Departmental Representative’s instructions for correction of items of Work listed in executed certificate of Substantial Performance.

.4 Notify Departmental Representative of instructions for completion of items of Work determined in Departmental Representative's final inspection.

.5 Schedule project meetings at the call of Departmental Representative.

.6 Provide physical space and make arrangements for meetings.

.7 Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

.8 Note that the Departmental Representative will be responsible for preparing agenda for meetings, notification of meeting dates and recording meeting minutes.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SUMMARY

.1 Work Includes:

.1 Provision and installation of materials and equipment necessary to remediate site.

.2 Implementation of safety work zones, site Health and Safety Plans and Environmental Protection Plan.

.3 Management of contaminated soil generated during soil remediation work, including storing, loading, hauling and removal, as necessary.

.4 Backfilling of excavations with layer of topsoil and seeding in accordance with Sections 32 91 19.13 - Topsoil Placement and Grading and 32 92 19.13 - Mechanical Seeding.

.5 Obtaining required permits and approvals for waste disposal.

1.2 REFERENCES

.1 Applicable environmental and health and safety laws and regulations for Province of Saskatchewan and Municipal by-laws.

.2 CCME (Canadian Council of Ministers of the Environment) and applicable publications.

.3 Department of Fisheries and Oceans letter to RCMP, dated February 26, 2012.

.4 Environment Canada letter to RCMP, dated March 1, 2012.

.5 Saskatchewan Water Shed Authority.

.6 National Fire Code 2010.

.7 Natioinal Building Code 2010.

1.3 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Closeout Submittals:

.1 Provide Closeout Submittals in accordance with Section 01 77 00 - Closeout Procedures as follows:

.1 Provide original weigh scale tickets that contaminated soil has been sent to appropriately licensed waste disposal facility.

1.4 QUALITY ASSURANCE

.1 Qualifications:

.1 Identify key members of project team including project manager and site supervisor. Define experience and qualifications of each key team members.

.2 Field Samples:

.1 Field samples of waste soil will be collected for laboratory analyses by the Departmental Representative.

.3 Kick-off meeting:

.1 Attend project kick-off meeting via teleconference.

1.5 DELIVERY, STORAGE, AND HANDLING

.1 Contaminated Soil:

.1 The Departmental Representative will be responsible for the collection of a representative soil sample(s) from the excavation for a standard Saskatchewan Landfill Analytical Requirements analyses and any parameters as required by the approved waste disposal facility.

.2 Laboratory results will be provided by the Departmental Representative (upon receipt) to the Contractor in order to facilitate final waste soil disposal acceptance with the proposed waste disposal facility.

.3 Store, load, transport and dispose of contaminated soil according to current provincial and federal regulations.

Part 2 Products

2.1 EQUIPMENT

.1 Leave equipment and machinery running only while in use, except where extreme temperatures prohibit shutting down.

Part 3 Execution

3.1 APPLICATION

.1 Soil Management:

.1 Do not dilute contaminated soil with less contaminated soil.

.2 Groundwater Management:

.1 It is not anticipated that groundwater management will be an issue while completing the Work.

.3 Water Control

.1 Water control in accordance with Section 01 35 43 – Environmental Procedures.

END OF SECTION

Part 1 General

1.1 MEASUREMENT PROCEDURES

.1 Excavated materials will be measured in tonnes based on a depth of 0.15m. The estimated total quantity is 30 tonnes.

.2 Measurement for payment includes placement of soil in temporary storage facilities, if required, which may involve handling on more than one occasion.

.3 Shoring, bracing, or sloping of excavation will not be measured separately for payment.

.4 Placing and spreading of topsoil will be measured in tonnes based on a depth of 0.25m. The estimated total quantity is 50 tonnes.

1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

- .1 ASTM C117-04, Standard Test Method for Material Finer than 0.075 mm (No.200) Sieve in Mineral Aggregates by Washing.
- .2 ASTM C136-05, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- .3 ASTM D422-63 2002, Standard Test Method for Particle-Size Analysis of Soils.
- .4 ASTM D4318-05, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

.2 Canadian General Standards Board (CGSB)

- .1 CAN/CGSB-8.1-[88], Sieves, Testing, Woven Wire, Inch Series.
- .2 CAN/CGSB-8.2-[M88], Sieves, Testing, Woven Wire, Metric.

1.3 DEFINITIONS

.1 Topsoil:

- .1 Material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping and seeding.
- .2 Material free from subsoil, clay lumps, brush, objectionable weeds, and other litter, and free from cobbles, stumps, roots, and other objectionable material larger than 25 millimeters in any dimension.

.2 Waste material: excavated material unsuitable for use in Work or surplus to requirements.

.3 Borrow material: material obtained from locations outside area to be graded, and required for construction of fill areas or for other portions of Work.

.4 Unsuitable materials:

- .1 Weak, chemically unstable, and compressible materials.
- .2 Frost susceptible materials:

.1 Fine grained soils with plasticity index less than 10 when tested to ASTM D4318, and gradation within limits specified when tested to ASTM D422 and ASTM C136: Sieve sizes to CAN/CGSB-8.1.

.2 Table:

Sieve Designation	% Passing
2.00 mm	[100]
0.10 mm	[45 - 100]
0.02 mm	[10 - 80]
0.005 mm	[0 - 45]

.3 Coarse grained soils containing more than 20 % by mass passing 0.075 mm sieve.

.5 Unshrinkable fill: very weak mixture of cement, concrete aggregates and water that resists settlement when placed in utility trenches, and capable of being readily excavated.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Samples:

.1 Inform Departmental Representative at least two weeks prior to beginning Work, of proposed source of fill materials and provide appropriate samples to Departmental for submission of laboratory analyses.

.2 Backfill sample(s) to consist of a minimum 2 kg of soil in a sealed bag.

1.5 QUALITY ASSURANCE

.1 Do not use soil material until written report of soil test results are reviewed by Departmental Representative.

.2 Health and Safety Requirements:

.1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.6 WASTE MANAGEMENT AND DISPOSAL

.1 Waste Management and Disposal in accordance with Section 01 11 00 Summary of Work, Section 01 35 43 Environmental Procedures and Section 02 61 00.01 Soil Remediation.

1.7 EXISTING CONDITIONS

.1 Buried services:

.1 Before commencing work establish location of buried services on and adjacent to site as part of lump sum.

.2 Arrange with appropriate authority for appropriate exposure and ‘daylighting’ of buried services that interfere with execution of work.

.3 Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.

.4 Prior to beginning excavation Work, notify applicable Departmental Representative and establish location and state of use of buried utilities and structures as part of lump sum.

.5 Confirm locations of buried utilities in work area by careful industry-accepted 'daylighting' methods, where required. Costs for 'daylighting' of buried utilities to be paid by Contractor as part of lump sum.

.6 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered as part of lump sum.

.2 Existing buildings and surface features:

.1 Conduct, with Departmental Representative, condition survey of existing buildings, trees and other plants, lawns, fencing, service poles, wires, pavement, and other features which may be affected by Work.

.2 Protect existing buildings and surface features from damage while Work is in progress. In event of damage, immediately make repair as directed by Departmental Representative.

.3 Where required for excavation, cut roots or branches as directed by Departmental Representative.

Part 2 Products

2.1 MATERIALS

.1 Topsoil: as described in Section 32 91 19.13 – Topsoil Placement and Grading.

Part 3 Execution

3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 SITE PREPARATION

.1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.

3.3 PREPARATION/PROTECTION

.1 Protect existing features.

.2 Keep excavations clean, free of standing water, and loose soil.

.3 Where soil is subject to significant volume change due to change in moisture content, cover and protect as per Departmental Representative.

.4 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees having diameter greater than 50 mm from damage.

.5 No trees below 50 mm diameter will need to be replaced.

.6 Protect buried services that are required to remain undisturbed.

3.4 STOCKPILING

.1 Stockpile top soil on liner in areas designated by Departmental Representative. Use cover to prevent wind erosion and/or surface runoff.

.2 Protect topsoil from contamination.

.3 Implement effective sufficient erosion and sediment control measures to prevent sediment release off construction boundaries.

3.5 DEWATERING AND HEAVE PREVENTION

.1 Keep excavations free of water while Work is in progress.

.2 Protect open excavations against flooding and damage due to surface run-off.

.3 If required, dispose of water in accordance with Section 01 35 43 - Environmental Procedures to approved collection and in manner not detrimental to public and private property, or portion of Work completed or under construction.

3.6 EXCAVATION

.1 Excavate to lines, grades, elevations and dimensions as directed by Departmental Representative.

.2 Excavation must not interfere with bearing capacity of adjacent Garage foundation.

.3 Do not disturb soil within diameter of branch spread of trees or shrubs that are to remain.

.1 If excavating through roots outside branch spread of trees, excavate by hand and cut roots with sharp axe or hand saw. Do not rip roots using heavy equipment, hand dig, or expose and attempt to save.

.4 Keep excavated and stockpiled materials a minimum 1 m distance away from edge of trench as directed by Departmental Representative.

.5 Restrict vehicle operations directly adjacent to open trenches.

.6 Dispose of surplus and unsuitable excavated material off-site at approved facility.

.7 Do not obstruct flow of surface drainage or natural watercourses. Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.

.8 Notify Departmental Representative when bottom of excavation is reached.

.9 Obtain Departmental Representative approval of completed excavation.

.10 Remove unsuitable material from trench bottom including those that extend below required elevations to extent and depth as directed by Departmental Representative.

.11 The Contractor is to recognize within the contract that soil sampling will be undertaken by the Departmental Representative throughout the duration of the project, sometimes with the assistance of the Contractor. The Contractor is required to assist the Departmental Representative in obtaining samples by use of their equipment where the Departmental Representative deems it unsafe to enter the excavation. The Contractor is to further recognize that excavation and backfilling work will be slowed down due to environmental sampling requirements.

.12 The Contractor is to recognize the inherent delays involved in projects of this nature and to facilitate the receipt of laboratory analytical results. A minimum turnaround time of 3 working days are to be provided to the Departmental Representative for receipt of laboratory analytical results.

3.7 FILL TYPES AND COMPACTION

.1 Use types of fill as indicated or specified below. Due to the limited depth and size of the anticipated excavation the topsoil will be compacted in place using available onsite heavy equipment – no compaction testing will be undertaken.

.1 Within footprint of excavation: use Topsoil to grade level as directed in Section 32 91 19.13 - Topsoil Placement and Grading.

.2 Add 100 mm: use Topsoil fill above grade level to allow for future settlement as directed in Section 32 91 19.13 - Topsoil Placement and Grading.

3.8 BACKFILLING

.1 Do not proceed with backfilling operations until completion of following:

.1 Departmental Representative has inspected and reviewed installations, has completed environmental sampling, and has received laboratory analytical results.

.2 Inspection, testing, approval, and recording location of underground utilities.

.3 Removal of shoring and bracing (as required); backfilling of voids with satisfactory soil material.

.2 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.

.3 Do not use backfill material which is frozen or contains ice, snow or debris.

.4 Place backfill material in uniform layers not exceeding 150 mm compacted thickness up to grades indicated. Compact each layer using on-site equipment, as reviewed by Departmental Representative, before placing succeeding layer.

.5 Backfilling around installations:

.1 Place bedding and surround material as specified by Departmental Representative.

3.9 GRADING

.1 Grade so that areas of work match surrounding grade. Finished grade, including topsoil and seeded surface to be approximately 100 mm above adjacent grade to allow for limited settlement of area of work.

3.10 RESTORATION

.1 Replace topsoil and plant grass in work area is as directed by accordance to Section 32 91 19.13 - Topsoil Placement and Grading and Section 32 92 19.13 - Mechanical Seeding.

.2 Clean and reinstate areas affected by Work as directed by Departmental Representative.

.3 Protect newly graded areas from traffic and erosion and maintain free of trash or debris.

END OF SECTION

Part 1 General

1.1 Material Supplied By Contractor

.1 Contractor will supply a minimum 250 mm thickness of topsoil to job site, to cover an estimated area of 110 square metres.

1.2 MEASUREMENT PROCEDURES

.1 Measure supplying, placing and spreading topsoil in tonnes.

1.3 References

.1 Agriculture and Agri-Food Canada

.1 The Canadian System of Soil Classification, Third Edition, 1998.

1.4 Submittals

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

Part 2 Products

2.1 TOPSOIL

.1 Topsoil for seeded areas: mixture of particulates, micro-organisms and organic matter which provides suitable medium for supporting intended plant growth.

.1 A locally sourced topsoil with soil texture of clay or silty clay and colour of gray based on The Canadian System of Soil Classification.

.2 Topsoil is not to contain petroleum hydrocarbons (BTEX, PHC Fractions F1 to F4) at concentrations in excess of the Canadian Council of Ministers of the Environment (CCME) *Canadian Environmental Quality Guidelines* (2007), Tier I guidelines for Residential land use, fine-grained soils.

.3 Topsoil is not to contain metals (including mercury) at concentrations in excess of the CCME EQG, Tier 1 guidelines for Commercial land use, fine-grained soils.

.4 Finished surface free from:

.1 Debris and stones over 50 mm diameter.

.2 Course vegetative material, 10 mm diameter and 100 mm length, occupying more than 2% of soil volume.

.5 Consistence: friable when moist.

2.2 Source Quality Control

.1 Advise Departmental Representative of sources of topsoil and manufactured topsoil to be utilized within a minimum 1 week prior to backfilling, for testing.

.2 Contractor to provide Departmental Representative with topsoil sample to be used for backfilling, a minimum 1 week prior to backfilling, to allow appropriate laboratory analyses to be completed.

.3 Contractor is responsible for amendments to supply topsoil as specified.

.4 Testing of topsoil will be carried out by testing laboratory designated by Departmental Representative.

.1 Soil sampling, testing and analysis to be in accordance with Provincial standards.

Part 3 Execution

3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL

.1 Provide temporary erosion and sedimentation control measures as outlined in Section 31 23 33.01 – Excavating, Trenching and Backfilling.

3.2 Preparation Of Sub-Grades

.1 Verify that grades are correct.

.1 If discrepancies occur, notify Departmental Representative and do not commence work until instructed by Departmental Representative.

.2 Grade soil, eliminating uneven areas and low spots, ensuring positive drainage.

.3 Remove debris, roots, branches, stones in excess of 50 mm diameter and other deleterious materials.

3.3 Placing And Spreading Of Topsoil/planting Soil

.1 Place topsoil after Departmental Representative has accepted subgrade.

.2 Spread topsoil in uniform layers not exceeding 150 mm using on-site equipment for compaction, as directed by Departmental Representative.

.3 Spread topsoil to 150 mm (i.e. to grade) with an additional 100 mm to allow for settling for seeded areas (i.e. 250 mm total depth of topsoil covering estimated area of 110 square metres).

3.4 Finish Grading

.1 Grade to eliminate rough spots and low areas and ensure positive drainage.

.1 Prepare loose friable bed by means of cultivation and subsequent raking.

.2 Leave surfaces smooth, uniform and firm against deep footprinting.

3.5 ACCEPTANCE

.1 Departmental Representative will inspect and test topsoil in place and determine acceptance of material, depth of topsoil and finish grading.

3.6 Surplus Material

.1 Surplus topsoil will be stockpiled at the site as directed by Departmental Representative.

3.7 Cleaning

.1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION

Part 1 General

1.1 Measurement And Payment

.1 Payment for seeding, fertilizing, and erosion control of the excavations adjacent to the RCMP Detachment Garage and to the former RCMP Marine Storage Facility will be measured in square metres.

.1 A minimum of 5 kg of grass seed and 4 kg of fertilizer will be supplied.

1.2 Administrative Requirements

.1 Scheduling:

.1 Schedule seeding and planting to coincide with preparation of soil surface.

.2 Schedule seeding and planting preferably in late summer, fall, or spring, but prior to September 15, 2014, after which soil temperatures may be too low for proper establishment prior to winter.

1.3 Action And Informational Submittals

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for seed, fertilizer, and erosion control.

.2 Submit one copy of WHMIS MSDS for fertilizer in accordance with Section 01 35 29.06 - Health and Safety Requirements.

.3 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

.4 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.

1.4 Delivery, Storage And Handling

.1 Delivery and Acceptance Requirements:

.1 Labelled bags of fertilizer identifying mass in kg, mix components and percentages, date of bagging, supplier's name and lot number.

.2 Fertilizer must be dry.

.2 Storage and Handling Requirements:

.1 Store fertilizer off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry and well-ventilated area.

.2 Replace defective or damaged materials with new.

Part 2 Products

2.1 Grass Seed

.1 For grass seed at the RCMP Detachment Garage and former Marine Storage Facility, use Canada "Certified" seed, "Canada No. 1 Lawn Grass Mixture" in accordance with Government of Canada "Seeds Act" and "Seeds Regulations". Departmental Representative to review and approve grass seed mixture before seeding.

.1 Grass seed mixture.

.1 Mixture composition:

.1 40% Creeping Red Fescue

.2 20% Chewing Red Fescue

.3 20% Perennial Ryegrass.

.4 10% Kentucky Bluegrass.

.2 A minimum of 3 kg of mixed seed will be required.

.2 Free of impurities that would inhibit germination and growth.

.3 Supplied by Contractor at designated source.

2.2 Fertilizer

.1 To Canada "Fertilizers Act" and Regulations.

.2 Complete synthetic fertilizer with guaranteed minimum analysis as specified.

2.3 Erosion Control Blanket

.1 Composed of a single sided 100% weed free straw matrix with all natural biodegradable netting.

Part 3 Execution

3.1 Examination

.1 Verification of Conditions: verify conditions of substrate previously installed under Section 32 91 19.13 - Topsoil Placement and Grading.

.1 Visually inspect substrate in presence of Departmental Representative.

.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after approval to proceed from Departmental Representative.

3.2 Seed Bed Preparation

.1 Do not perform work under adverse field conditions as determined by Departmental Representative.

.2 Remove and dispose of weeds; debris; stones 50 mm in diameter and larger; and other deleterious materials; in location as directed by Departmental Representative in accordance with Section 01 35 43 - Environmental Procedures.

.3 Verify that grades are correct. If discrepancies occur, notify Departmental Representative and commence work when instructed by Departmental Representative.

3.3 Fertilizing Program

.1 Fertilize during establishment with a turf grass starter fertilizer. A formulated blend of approximately 24-25-4 (NPK ratio) should be evenly broadcast and mixed/raked into the topsoil seed bed prior to grass seeding at a rate as per the manufacturer's directions. A minimum of 4 kg of mixed fertilizer should be supplied at the RCMP Detachment Garage and Former Marine Storage Facility.

3.4 Seed Placement

.1 Use manually operated drop seeder (Cyclone type or equivalent).

.2 Sow seed uniformly at rate of 250 kg/hectare (0.025 kg/m^2) grass mixture as specified.

.3 Blend applications 150 mm into adjacent grass areas to form uniform surfaces.

.4 Sow half of required amount of seed in one direction and remainder at right angles.

.5 Incorporate seed by light raking in cross directions.

.6 Consolidate seeded areas with manually operated, water ballast, landscaping type, smooth steel drum roller.

3.5 Protection

.1 Cover seeded area with an erosion control blanket as per manufacturer's directions.

.2 Erosion control blanket will function to mitigate soil and seed erosion as well as a mulching layer to aid grass establishment.

3.6 Cleaning

.1 Progress Cleaning: clean in accordance with Section 01 35 43 – Environmental Procedures.

3.7 Surplus Material

.1 Surplus seed and fertilizer will remain at the site as directed by Departmental Representative.

3.8 Final Acceptance

.1 Seeded areas will be accepted by Departmental Representative provided that:

.1 Area is uniformly seeded

.2 Area is properly covered with erosion control.

END OF SECTION

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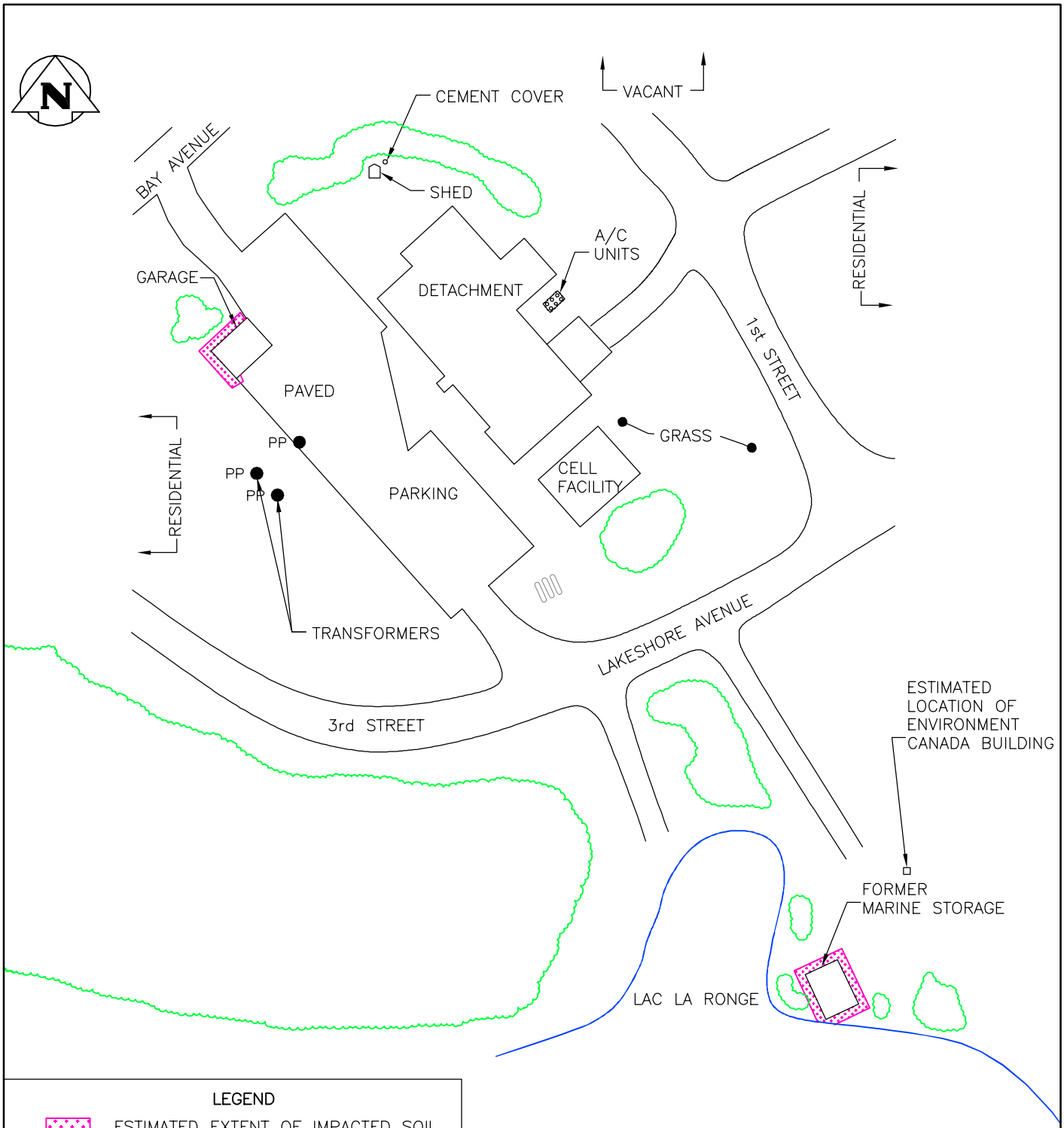

LEGEND

- ESTIMATED EXTENT OF IMPACTED SOIL
- PROPANE AST
- TREE LINE
- PP ● POWER POLE

REFERENCE DRAWINGS: EGE ENGINEERING LTD. PWGSC PHASE III ESA RCMP DETACHMENT GARAGE AND FORMER MARINE STORAGE FACILITY LA RONGE, SK MARCH 2013

TETRA TECH

NO.	DATE	DESCRIPTION	ISSUED BY

REVISIONS/ISSUE

AUTHORIZED BY: CV
DATE: 14.02.07
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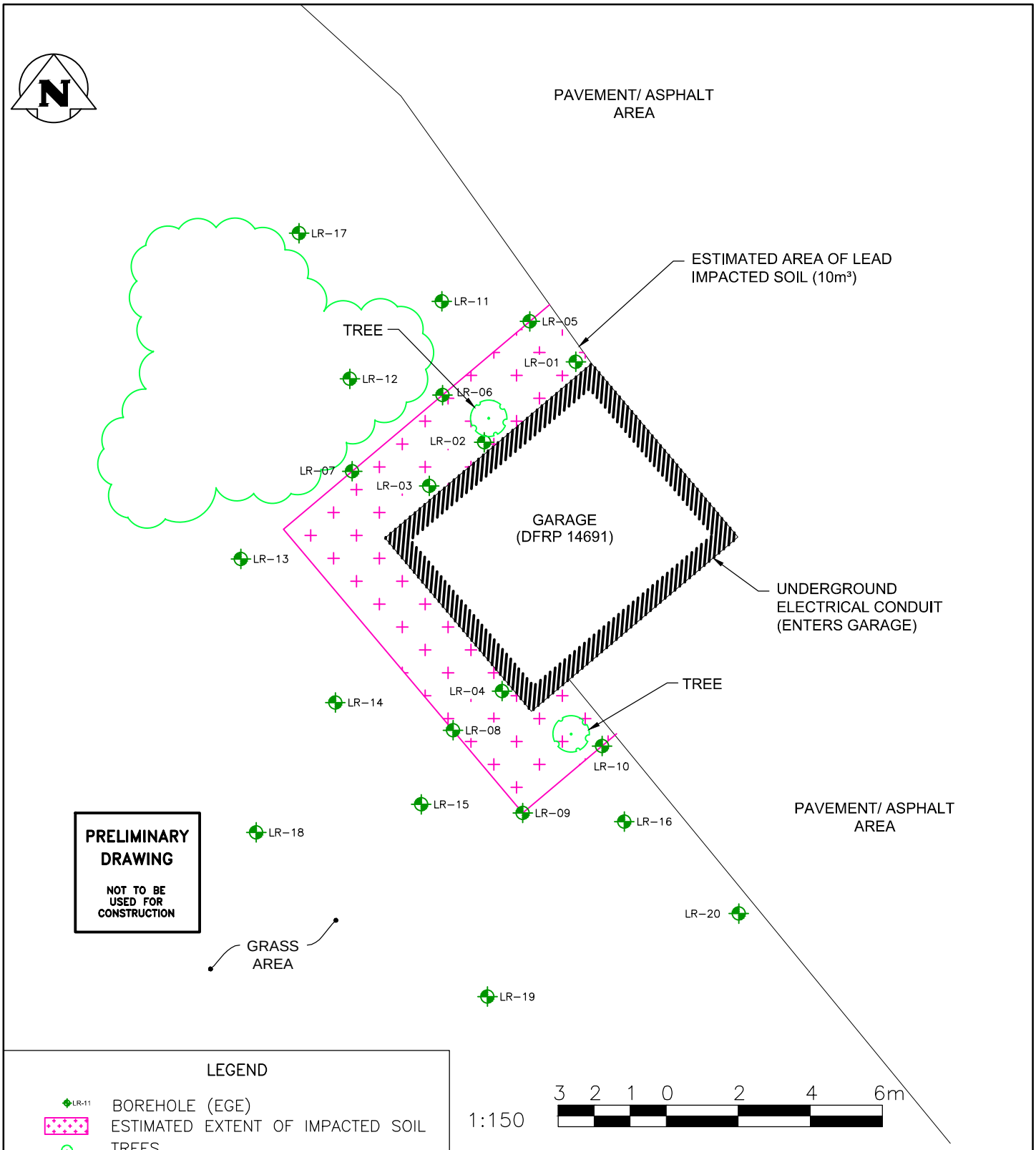
CLIENT: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

DRAWING DESCRIPTION

FIGURE 1: GENERAL SITE PLAN RCMP DETACHMENT SITE LA RONGE, SASKATCHEWAN

DESIGNED BY:	KL	DRAWN BY:	SP	DRAWING NO.	REV.
REVIEWED BY:	KL	SCALE:	1:1000	1318901600-SKT-V0001	00

A (8.5" x 11")



LEGEND

- LR-11 BOREHOLE (EGE)
- ESTIMATED EXTENT OF IMPACTED SOIL
- TREES
- TREE LINE

REFERENCE DRAWINGS:

NO.	DATE	DESCRIPTION	ISSUED BY
		EGE TEST HOLE LOCATIONS DWG	

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AUTHORIZED BY: CV
DATE: 14.03.12
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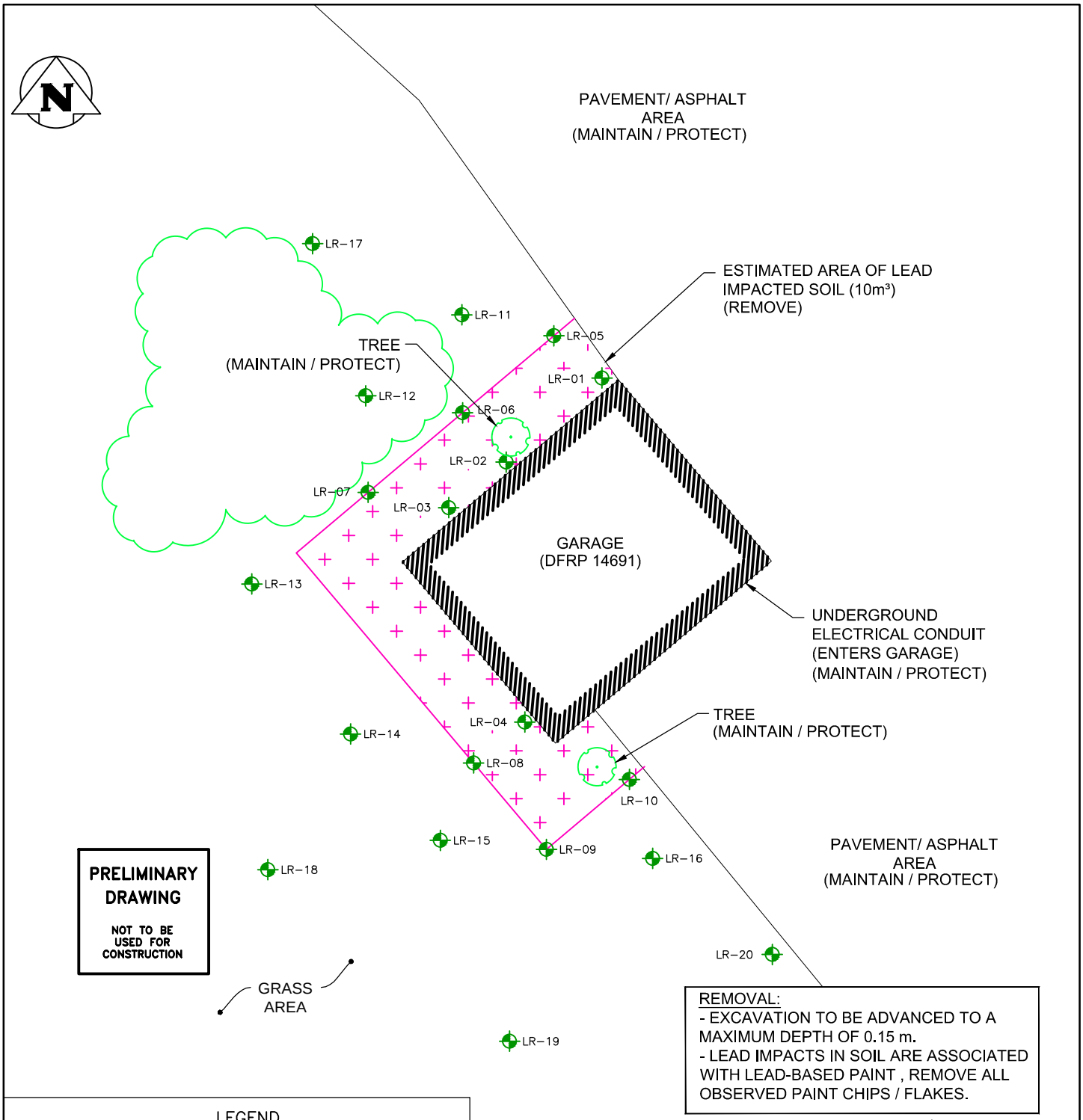
DRAWING DESCRIPTION
FIGURE 2: GENERAL LAYOUT (EXISTING)
RCMP DETACHMENT GARAGE
LA RONGE, SASKATCHEWAN

DESIGNED BY:	KL	DRAWN BY:	SP	DRAWING NO.	REV.
REVIEWED BY:	KL	SCALE:	1:150	1318901600-SKT-V0002	00

A (8.5" x 11")



LEGEND

- LR-11 BOREHOLE (EGE)
- ESTIMATED EXTENT OF IMPACTED SOIL
- TREES
- TREE LINE

REFERENCE DRAWINGS:

NO.	DATE	DESCRIPTION	ISSUED BY
		EGE TEST HOLE LOCATIONS DWG	

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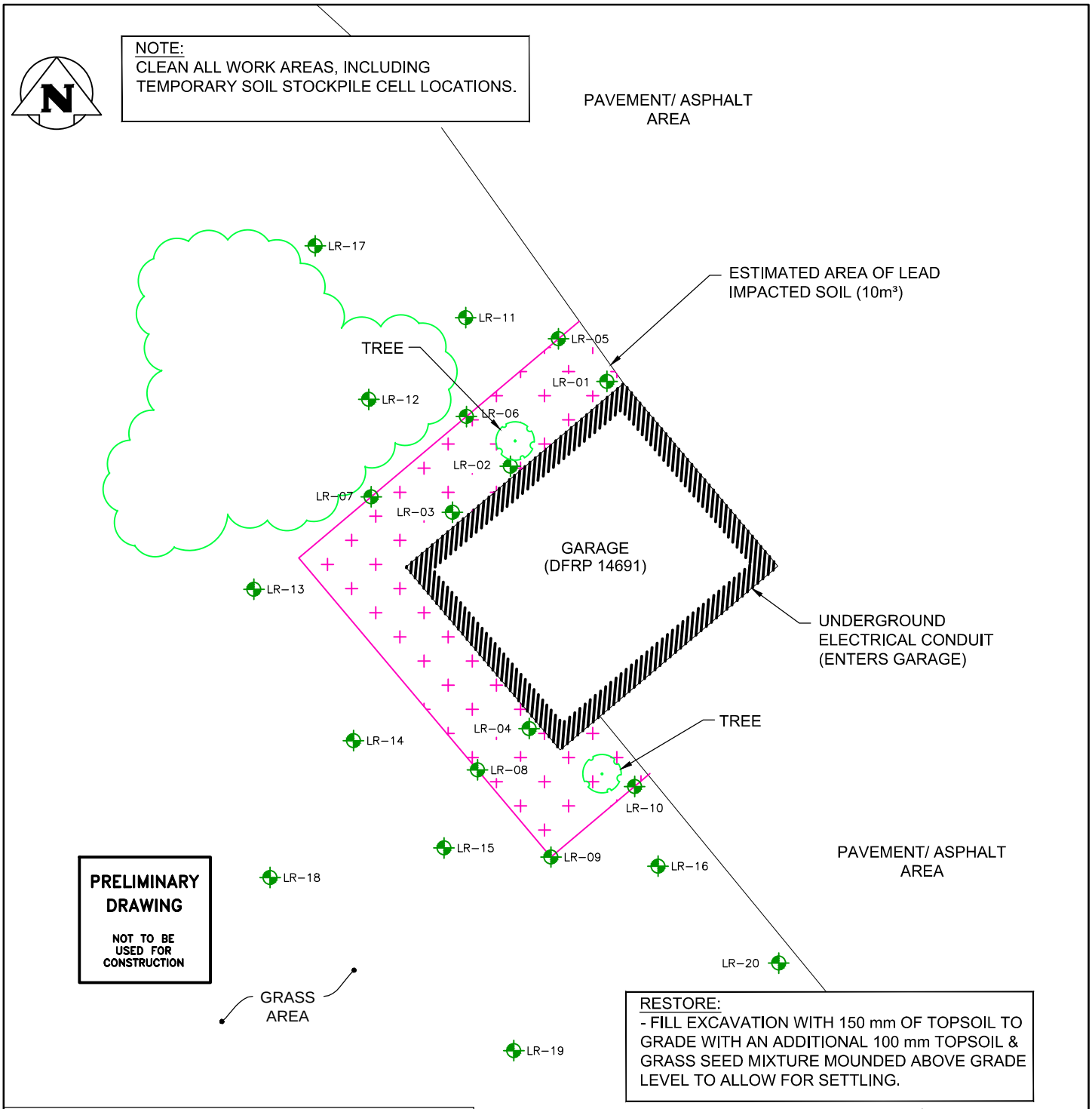
DRAWING DESCRIPTION
FIGURE 3: GENERAL LAYOUT (REMOVAL)
RCMP DETACHMENT GARAGE
LA RONGE, SASKATCHEWAN

DESIGNED BY: KL	DRAWN BY: SP	DRAWING NO.	REV.
REVIEWED BY: KL	SCALE: 1:150	1318901600-SKT-V0003	00

A (8.5" x 11")



LEGEND

- LR-11 BOREHOLE (EGE)
- ESTIMATED EXTENT OF IMPACTED SOIL
- TREES
- TREE LINE

REFERENCE DRAWINGS:

NO.	DATE	DESCRIPTION	ISSUED BY
		EGE TEST HOLE LOCATIONS DWG	

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DATE: 14.03.12
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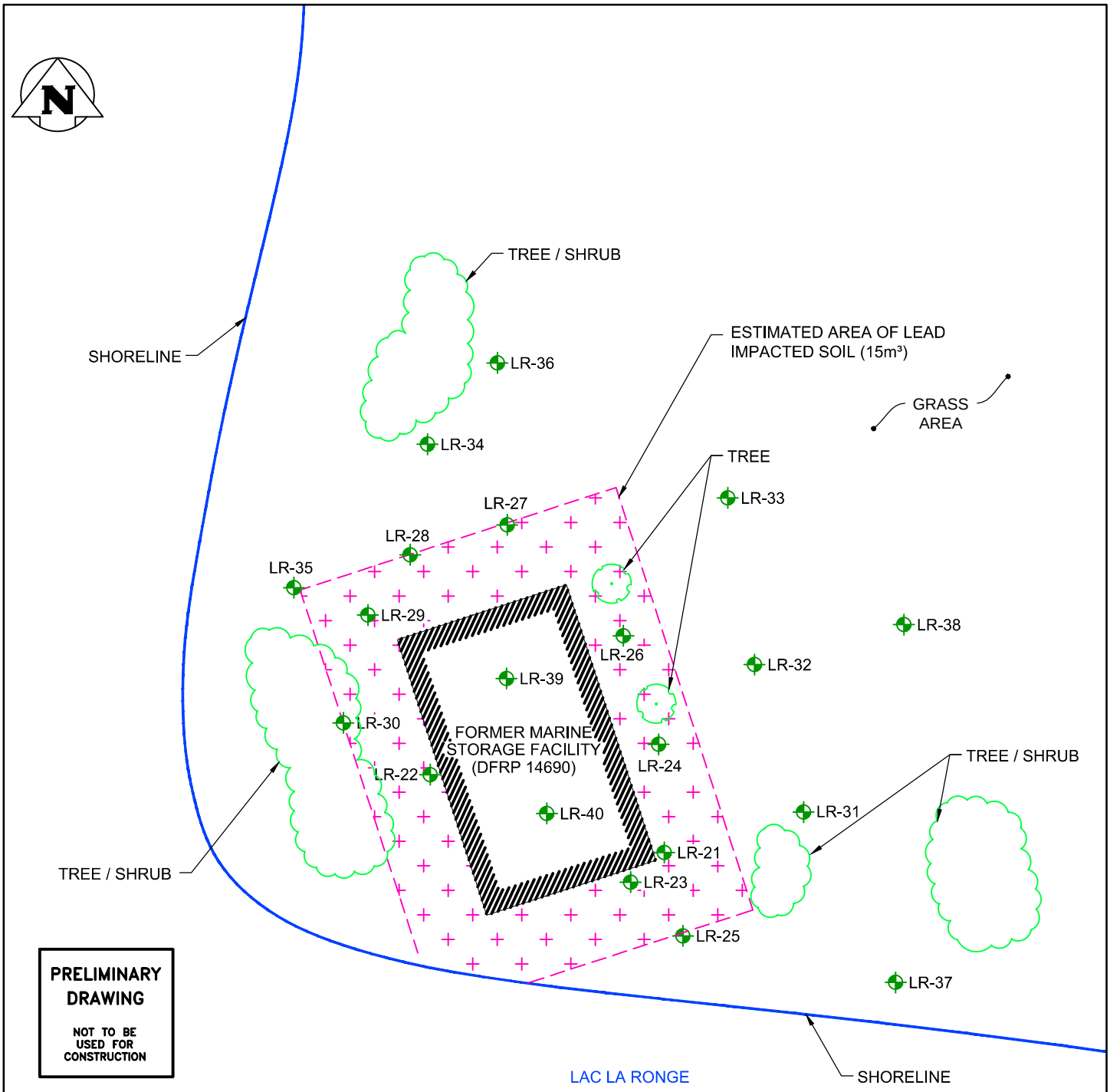
DRAWING DESCRIPTION
FIG 4: GENERAL LAYOUT (RESTORATION)
RCMP DETACHMENT GARAGE
LA RONGE, SASKATCHEWAN

DESIGNED BY:	KL	DRAWN BY:	SP	DRAWING NO.	REV.
REVIEWED BY:	KL	SCALE:	1:150	1318901600-SKT-V0004	00

A (8.5" x 11")



LEGEND

- LR-11 BOREHOLE (EGE)
- ESTIMATED EXTENT OF IMPACTED SOIL
- TREES
- TREE LINE
- SHORELINE

1:150

3 2 1 0 2 4 6m

REFERENCE DRAWINGS:

NO.	DATE	DESCRIPTION	ISSUED BY
		EGE TEST HOLE LOCATIONS DWG	

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TETRA TECH

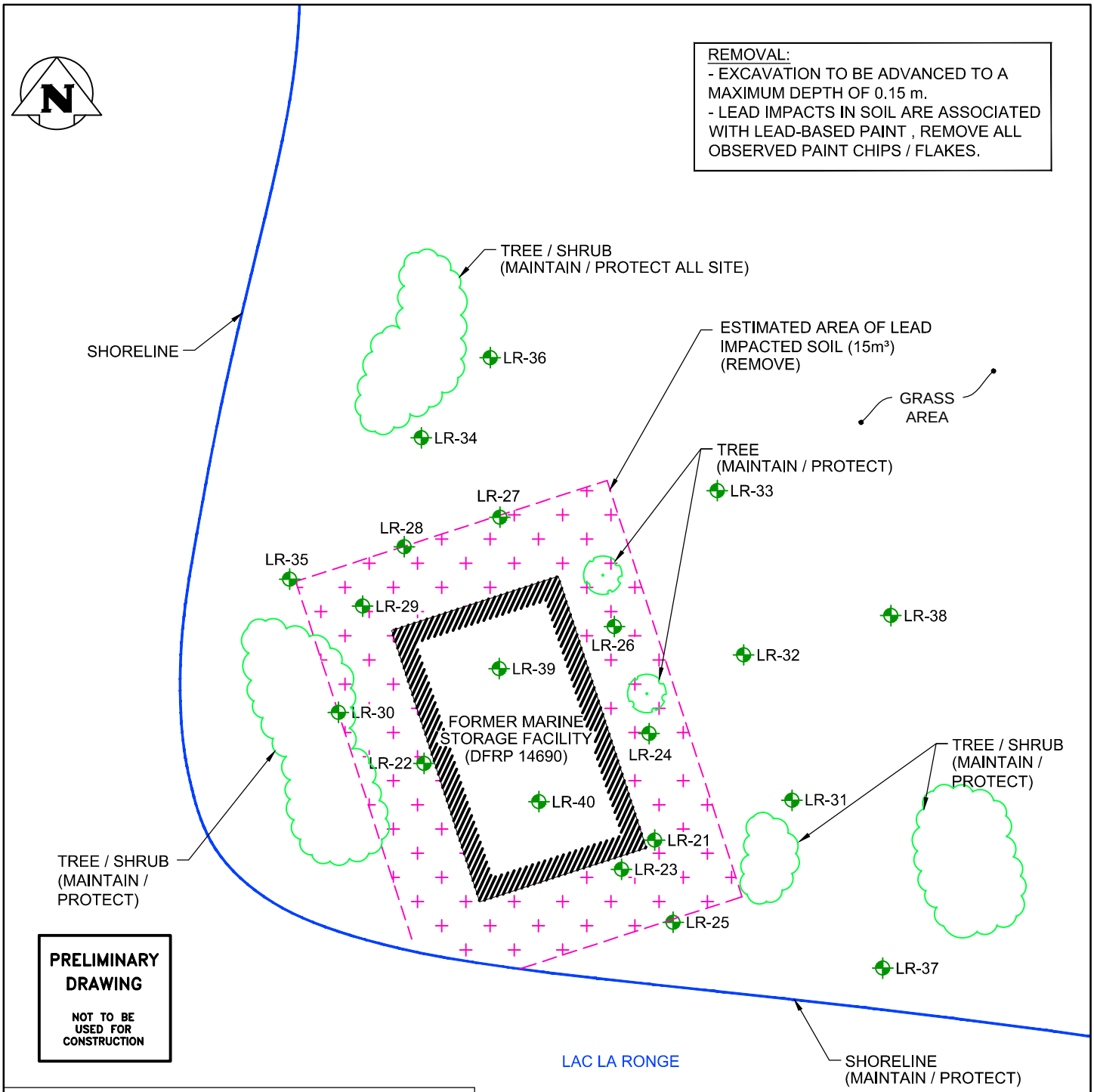
AUTHORIZED BY: CV
DATE: 14.03.12
CLIENT DRAWING NO.

CLIENT
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

DRAWING DESCRIPTION
FIG 5: GENERAL LAYOUT (EXISTING) RCMP DETACHMENT FORMER MARINE FACILITY LA RONGE, SASKATCHEWAN

DESIGNED BY:	KL	DRAWN BY:	SP	DRAWING NO.	REV.
REVIEWED BY:	KL	SCALE:	1:150	1318901600-SKT-V0005	00

A (8.5" x 11")



LEGEND

- LR-11 BOREHOLE (EGE)
- ESTIMATED EXTENT OF IMPACTED SOIL
- TREES
- TREE LINE
- SHORELINE

1:150 3 2 1 0 2 4 6m

REFERENCE DRAWINGS:

NO.	DATE	DESCRIPTION	ISSUED BY
		EGE TEST HOLE LOCATIONS DWG	

REVISIONS/ISSUE

TETRA TECH

AUTHORIZED BY: CV
DATE: 14.03.12
CLIENT DRAWING NO.

CLIENT
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

DRAWING DESCRIPTION
FIG 6: GENERAL LAYOUT (REMOVAL) RCMP DETACHMENT FORMER MARINE FACILITY LA RONGE, SASKATCHEWAN

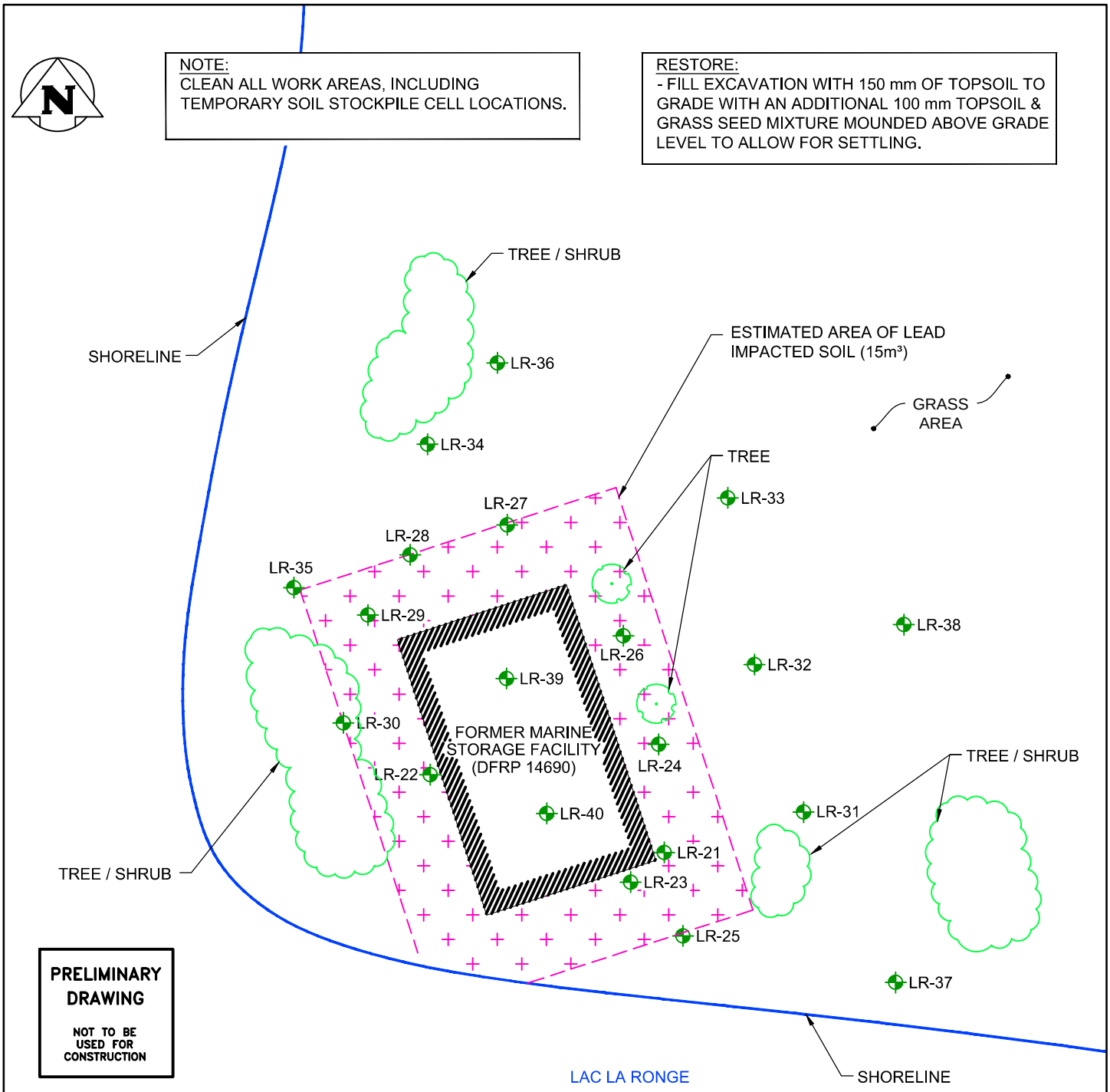
DESIGNED BY:	KL	DRAWN BY:	SP	DRAWING NO.	REV.
REVIEWED BY:	KL	SCALE:	1:150	1318901600-SKT-V0006	00

A (8.5" x 11")

\\WEIS500FS1.TT.LOCAL\PROJ2\N-S\PUBLIC WORKS & GOVERNMENT SERVICES - 1890\13189016.00 - RCMP LA RONGE-REMED ACTION PLANS & SPECS\CAD\ENV\1318901600-SKT-V0002-00.DWG ---- ANTONIO, HAROLD

NOTE:
CLEAN ALL WORK AREAS, INCLUDING TEMPORARY SOIL STOCKPILE CELL LOCATIONS.

RESTORE:
- FILL EXCAVATION WITH 150 mm OF TOPSOIL TO GRADE WITH AN ADDITIONAL 100 mm TOPSOIL & GRASS SEED MIXTURE MOUNDED ABOVE GRADE LEVEL TO ALLOW FOR SETTLING.



PRELIMINARY DRAWING

NOT TO BE USED FOR CONSTRUCTION

LEGEND

- LR-11 BOREHOLE (EGE)
- ESTIMATED EXTENT OF IMPACTED SOIL
- TREES
- TREE LINE
- SHORELINE

1:150

3 2 1 0 2 4 6m

REFERENCE DRAWINGS:

NO.	DATE	DESCRIPTION	ISSUED BY
		EGE TEST HOLE LOCATIONS DWG	

REVISIONS/ISSUE

TETRA TECH

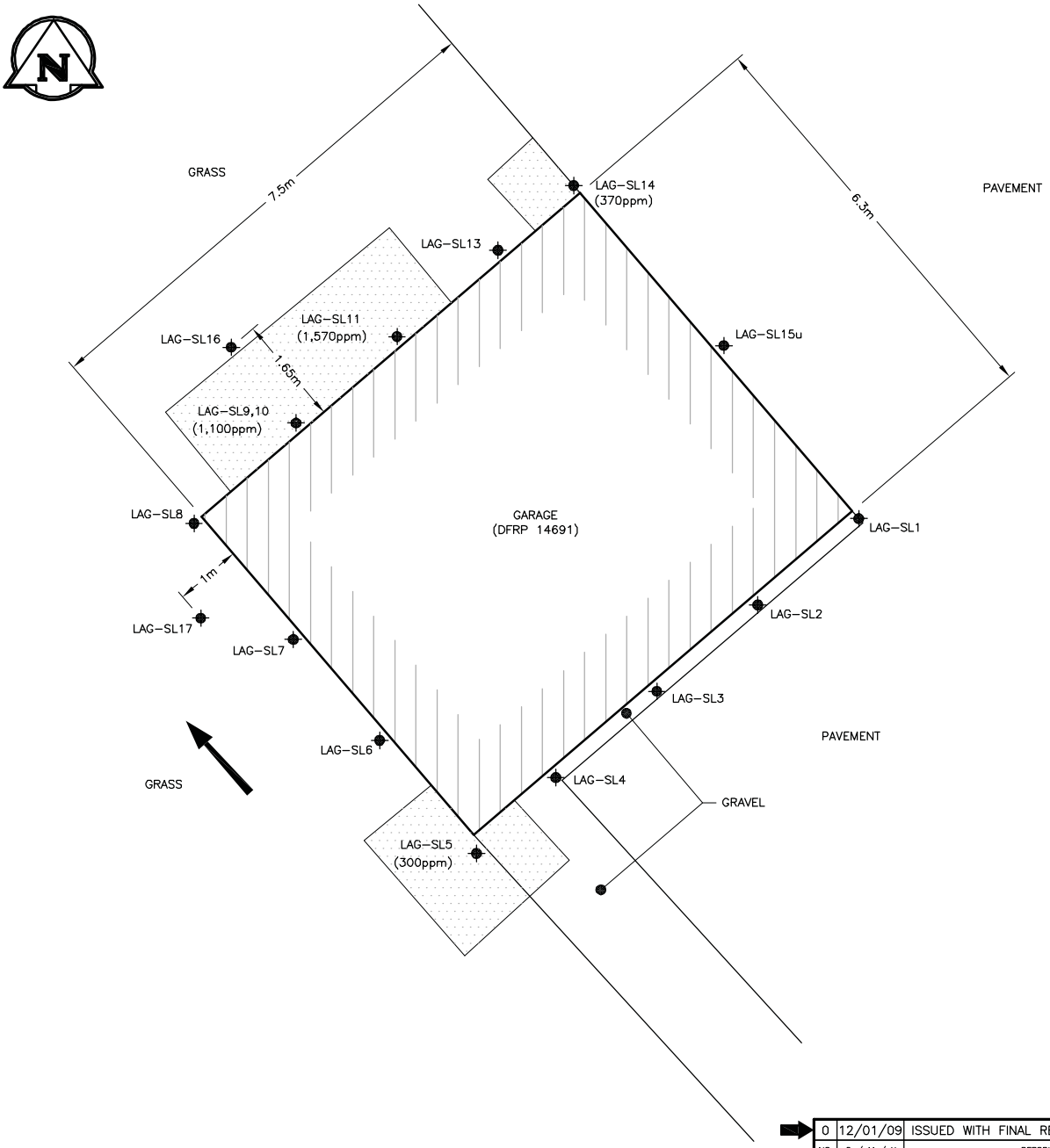
AUTHORIZED BY: CV
DATE: 14.03.12
CLIENT DRAWING NO.

CLIENT
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

DRAWING DESCRIPTION
FIG 7: GENERAL LAYOUT (RESTORE) RCMP DETACHMENT FORMER MARINE FACILITY LA RONGE, SASKATCHEWAN

DESIGNED BY:	KL	DRAWN BY:	SP	DRAWING NO.	REV.
REVIEWED BY:	KL	SCALE:	1:150	1318901600-SKT-V0007	00

A (8.5" x 11")



LEGEND:

- STREET
- EXISTING BUILDING
- LEAD IMPACTED AREA
- LAG-SL6 — TESTHOLE
- (300ppm) — LEAD CONCENTRATIONS EXCEEDING APPLICABLE CCME GUIDELINE
- SURFACE DRAINAGE DIRECTION

NOTES:

1. LAG-SL15 WAS COLLECTED FROM THE ENTIRE SIDE OF THE BUILDING.
2. ALL SAMPLE LOCATIONS ARE LOCATED 0.15m FROM THE BUILDING WALLS EXCEPT WHERE NOTED.

0 2.5 5.0 7.5m

SCALE: 1:100 METRIC

NO.	D / M / Y	DESCRIPTION	BY
0	12/01/09	ISSUED WITH FINAL REPORT	

REVISIONS / ISSUE

KGS GROUP
CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG (204) 896-1209
REGINA (306) 545-1777
THUNDER BAY (807) 345-2233

CLIENT:
Public Works and Government Services Canada
Travaux publics et Services gouvernmentaux Canada

PROJECT:
2008 PHASE II ESA
RCMP PROPERTIES–LA RONGE, SK.

DWG. DESCRIPTION:
LOCATION OF TEST PITS AND LEAD IMPACTED AREAS AT RCMP GARAGE

ENG. STAMP

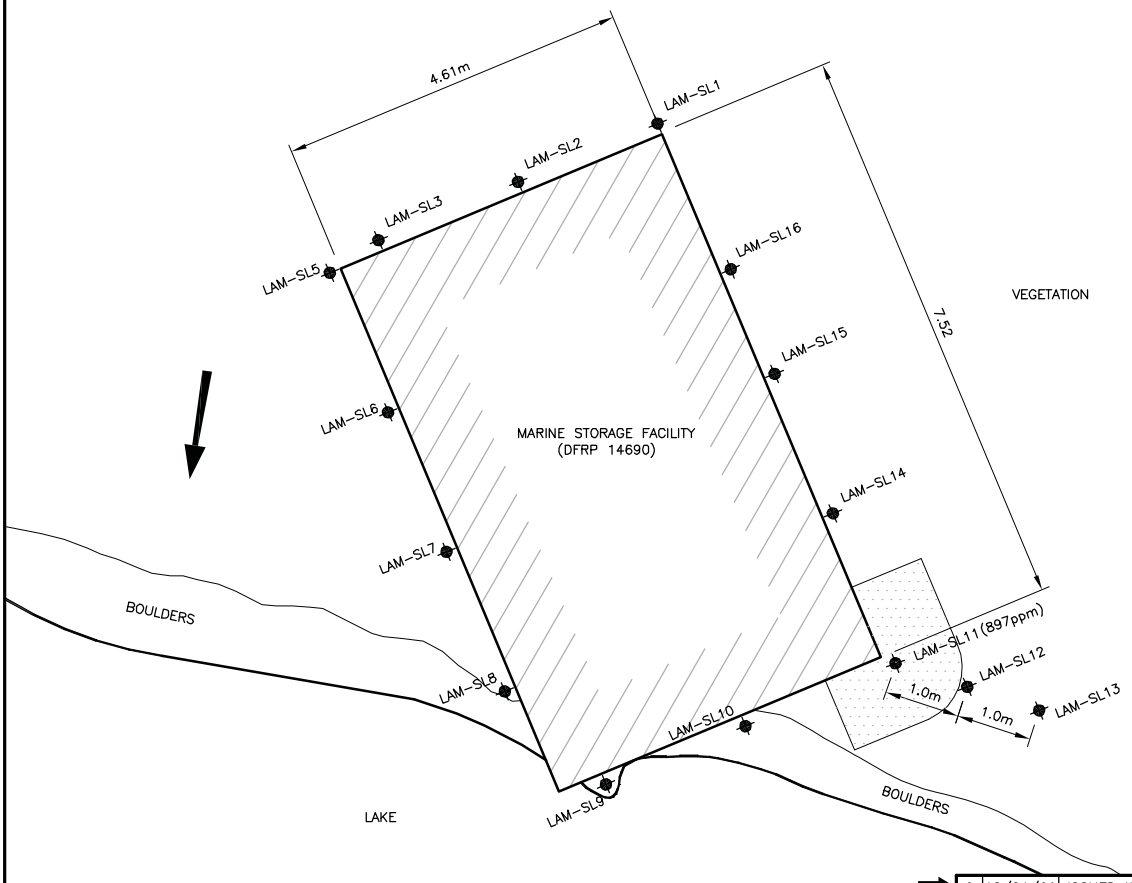
DESIGNED: BY: LH CHECKED: LP
DRAWN: BY: STK CHECKED:
APPROVED:
SCALE: AS NOTED
DATE: NOVEMBER 2008
KGS DWG. NO. 08-0006-32 03

FIGURE 3

KGS DWG. NO.

REV: 0

KGS FILE NO.:P:\Projects\2008\08-0006-32\Dwg\Env\Rev 0\08-0006-32-03rev0.dwg – Tab: Layout1 – Jan 12, 2009 – 2:48pm : UserName: SKowalchuk
8 1/2"x11"/PLOT SCALE:1



LEGEND:

- EXISTING BUILDING
- LEAD IMPACTED AREA
- LAM-SL5 — TESTHOLE
- (897ppm) — LEAD CONCENTRATIONS EXCEEDING APPLICABLE CCME GUIDELINE
- SURFACE DRAINAGE DIRECTION

NOTES:

1. ALL SAMPLE LOCATIONS ARE LOCATED 0.15m FROM THE BUILDING WALLS EXCEPT WHERE NOTED.

0 2.5 5.0 7.5m

SCALE: 1:100 METRIC

NO.	D / M / Y	DESCRIPTION	BY
0	12/01/09	ISSUED WITH FINAL REPORT	

REVISIONS / ISSUE

KGS GROUP
CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG (204) 896-1209
REGINA (306) 545-1777
THUNDER BAY (807) 345-2233

CLIENT: Public Works and Government Services Canada / Travaux publics et Services gouvernmentaux Canada

PROJECT: 2008 PHASE II ESA
RCMP PROPERTIES–LA RONGE, SK.

DWG. DESCRIPTION: LOCATION OF TEST PITS AND LEAD IMPACTED AREAS AT RCMP MARINE STORAGE FACILITY

ENG. STAMP

DESIGNED: BY: LH CHECKED: LP
DRAWN: BY: STK CHECKED:
APPROVED:
SCALE: AS NOTED
DATE: NOVEMBER 2008
KGS DWG. NO. 08–0006–32 04

FIGURE 4

KGS DWG. NO.

REV: 0

KGS FILE NO.:P:\Projects\2008\08-0006-32\Dwg\Env\Rev 0\08-0006-32-04rev0.dwg – Tab: Layout1 – Jan 12, 2009 – 2:49pm : UserName: SKowalchuk
8 1/2"x11"/PLOT SCALE:1

TABLE 1
LEAD (Pb) IN SOIL
RCMP Detachment Garage - La Ronge, SK

Sample ID[1]	Depth (m)	Lead (mg/kg)
LAG-SL1	0.00 - 0.15	38
LAG-SL2	0.00 - 0.15	86
LAG-SL3	0.00 - 0.15	55
LAG-SL4	0.00 - 0.15	27
LAG-SL5	0.00 - 0.15	**300**
LAG-SL6	0.00 - 0.15	33
LAG-SL7	0.00 - 0.15	75
LAG-SL8	0.00 - 0.15	6
LAG-SL9	0.00 - 0.05	**1,100**
LAG-SL10	0.05 - 0.15	42
LAG-SL11	0.00 - 0.15	**1,570**
LAG-SL12 (duplicate of LAG-SL11)		**842**
Relative Percent Difference		60%
LAG-SL13	0.00 - 0.15	66
LAG-SL14	0.00 - 0.15	**370**
LAG-SL15	0.00 - 0.05	<5
LAG-SL16	0.00 - 0.15	<5
LAG-SL17	0.00 - 0.15	16
Reported Detection Limit		5
CCME - Canadian Soil Quality Guidelines [2]		
Residential/Parkland		140
Commercial		260

Notes:

1. Soil samples obtained on September 5, 2008.
2. CCME - Canadian Council of Ministers of the Environment - Canadian Environmental Quality Guidelines. 1999, Updated 2006.

Bold	Exceeds Residential/Parkland Guideline
	Exceeds Commercial Guideline

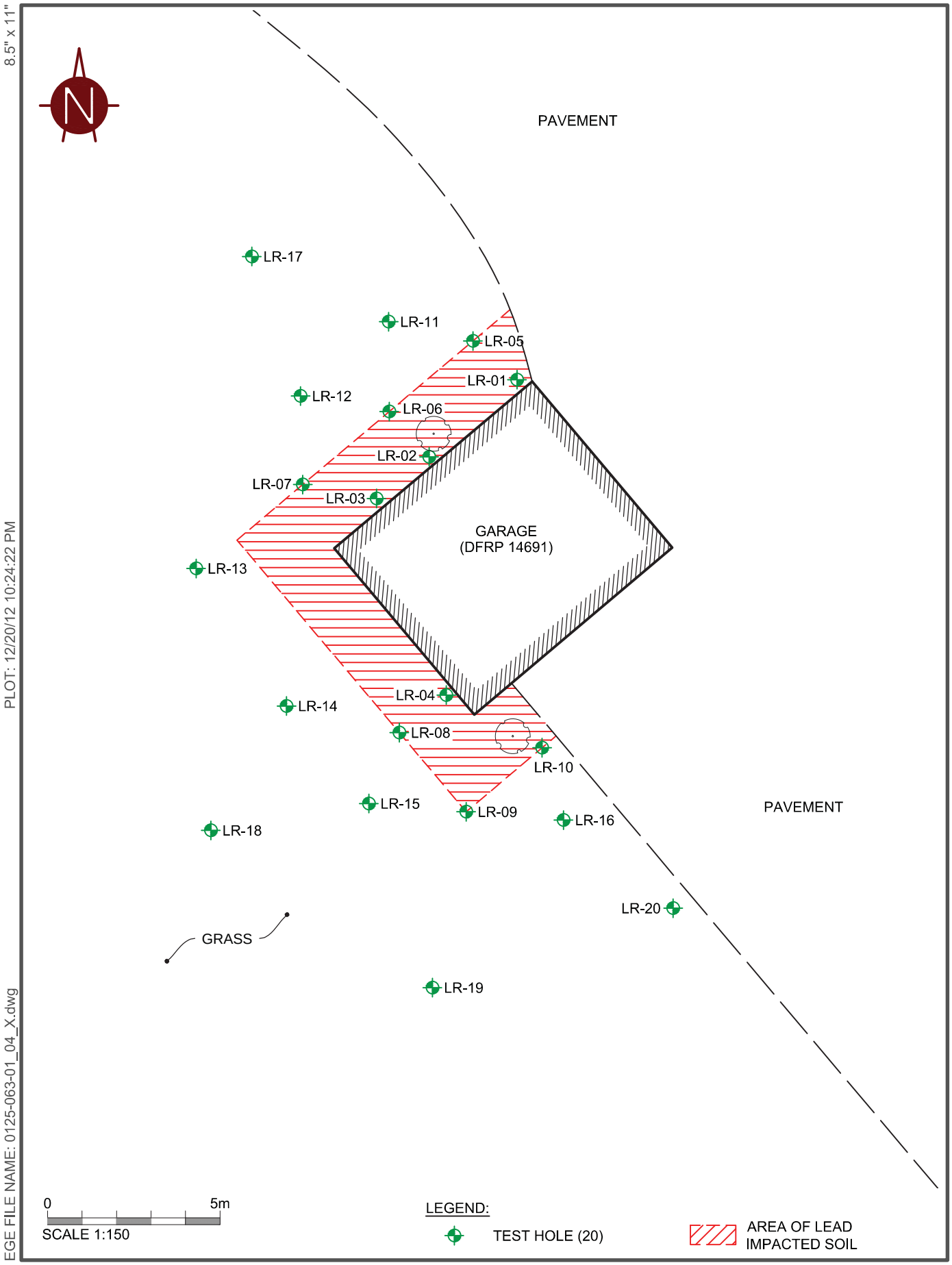
TABLE 2
LEAD (Pb) IN SOIL
RCMP Detachment Marine Storage Facility - La Ronge, SK

Sample ID[1]	Depth (m)	Lead (mg/kg)
LAM-SL1	0.00 - 0.15	95
LAM-SL2	0.00 - 0.15	78
LAM-SL3	0.00 - 0.15	23
LAM-SL4 (duplicate of LAM-SL3)		22
Relative Percent Difference		4%
LAM-SL5	0.00 - 0.15	12
LAM-SL6	0.00 - 0.15	23
LAM-SL7	0.00 - 0.15	130
LAM-SL8	0.00 - 0.06	38
LAM-SL9	0.00 - 0.06	64
LAM-SL10	0.00 - 0.15	11
LAM-SL11	0.00 - 0.15	**897**
LAM-SL12	0.00 - 0.15	9
LAM-SL13	0.00 - 0.15	<5
LAM-SL14	0.00 - 0.15	85
LAM-SL15	0.00 - 0.15	49
LAM-SL16	0.00 - 0.15	25
Reported Detection Limit		5
CCME - Canadian Soil Quality Guidelines [2]		
Residential/Parkland		140
Commercial		260

Notes:

1. Soil samples obtained on September 5, 2008.
2. CCME - Canadian Council of Ministers of the Environment - Canadian Environmental Quality Guidelines. 1999, Updated 2006.

Bold	Exceeds Residential/Parkland Guideline
	Exceeds Commercial Guideline



8.5" x 11"

PLOT: 12/20/12 10:24:22 PM

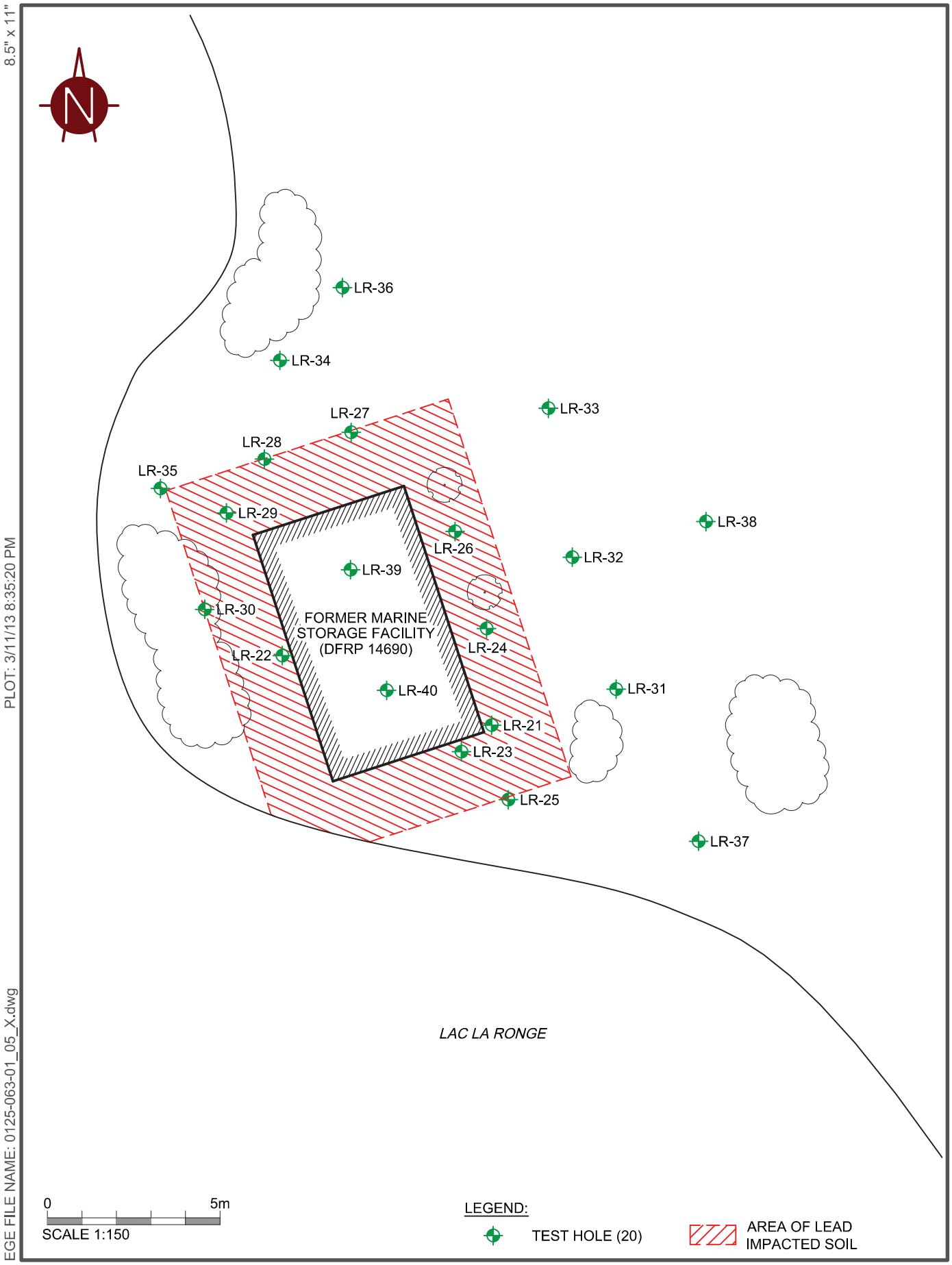
EGE FILE NAME: 0125-063-01_04_X.dwg

EGE

Public Works & Government Services Canada

RCMP Detachment Garage and
Former Marine Storage Facility - La Ronge, SK
Phase III Environmental Site Assessment

Test Hole Locations
Detached Garage
Figure 04



8.5" x 11"

PLOT: 3/11/13 8:35:20 PM

EGE FILE NAME: 0125-063-01_05_X.dwg

EGE

Public Works & Government Services Canada

RCMP Detachment Garage and
Former Marine Storage Facility - La Ronge, SK
Phase III Environmental Site Assessment

Test Hole Locations Former MSF

Figure 05

Table 1 - Summary of Lead Results in Soil - Detached Garage (DFRP 14691)
2012 Phase III Environmental Site Assessment - RCMP Detachment - La Ronge, Saskatchewan

Sample Location	Date (yy/mm/dd)	Sample Depth (m)	Parameter
			Lead
Commercial Land Use			
CCME CEQG (2)			**260**
LR-01-1	12/10/24	0.15	**450**
LR-01-2	12/10/24	0.30	8.4
LR-01-3	12/10/24	0.60	12
LR-02-1	12/10/24	0.15	15
LR-02-2	12/10/24	0.30	15
LR-03-1	12/10/24	0.15	6.7
LR-03-2	12/10/24	0.30	1.5
LR-04-1	12/10/24	0.15	67
LR-05-1	12/10/24	0.15	200
LR-05-2	12/10/24	0.30	15
LR-06-1	12/10/24	0.15	3.8
LR-06-2	12/10/24	0.30	3.7
LR-07-1	12/10/24	0.15	1.5
LR-07-2	12/10/24	0.30	1.5
LR-08-1	12/10/24	0.15	6.4

Sample Location	Date (yy/mm/dd)	Sample Depth (m)	Parameter
			Lead
Commercial Land Use			
CCME CEQG (2)			**260**
LR-08-2	12/10/24	0.30	4.1
LR-09-1	12/10/24	0.15	15
LR-09-2	12/10/24	0.30	6.2
LR-10-1	12/10/24	0.15	21
LR-10-2	12/10/24	0.30	31
LR-11-1	12/10/24	0.15	3.6
LR-12-1	12/10/24	0.15	4.1
LR-13-1	12/10/24	0.15	3.5
LR-14-1	12/10/24	0.15	3.0
LR-15-1	12/10/24	0.15	9.6
LR-16-1	12/10/24	0.15	13
LR-17-1	12/10/24	0.15	2.4
LR-18-1	12/10/24	0.15	5.2
LR-19-1	12/10/24	0.15	11
LR-20-1	12/10/24	0.15	9.1

Notes:
1. All concentrations expressed in milligrams per kilogram (mg/kg).
2. CCME CEQG = Canadian Environmental Quality Guidelines. Guidelines obtained December 2012 from web page: http://ceqg-rcqe.ccme.ca.
3. Shaded cell with bold and white text indicates an exceedance of the selected criteria.

Table 2 - Summary of Lead Results in Soil - Former Marine Storage Facility (DFRP 14690)
2012 Phase III Environmental Site Assessment - RCMP Detachment - La Ronge, Saskatchewan

Sample Location	Date (yy/mm/dd)	Sample Depth (m)	Parameter
			Lead
Commercial Land Use			
CCME CEQG (2)			**260**
LR-21-1	12/10/25	0.15	11
LR-21-2	12/10/25	0.30	2.8
LR-21-3	12/10/25	0.45	2.2
LR-22-1	12/10/25	0.15	5.4
LR-22-2	12/10/25	0.30	1.9
LR-22-3	12/10/25	0.45	2.4
LR-23-1	12/10/25	0.15	6.7
LR-23-2	12/10/25	0.30	3.9
LR-24-1	12/10/25	0.15	8.7
LR-24-2	12/10/25	0.30	2.8
LR-25-1	12/10/25	0.15	2.9
LR-25-2	12/10/25	0.30	3.9
LR-26-1	12/10/25	0.15	3.4
LR-26-2	12/10/25	0.30	1.8
LR-27-1	12/10/25	0.15	4.2
LR-27-2	12/10/25	0.30	3.2

Sample Location	Date (yy/mm/dd)	Sample Depth (m)	Parameter
			Lead
Commercial Land Use			
CCME CEQG (2)			**260**
LR-28-1	12/10/25	0.15	2.9
LR-28-2	12/10/25	0.30	2.5
LR-29-1	12/10/25	0.15	4.1
LR-29-2	12/10/25	0.30	2.8
LR-30-1	12/10/25	0.15	10
LR-30-2	12/10/25	0.30	2.8
LR-31-1	12/10/25	0.15	10
LR-32-1	12/10/25	0.15	3.7
LR-33-1	12/10/25	0.15	4.2
LR-34-1	12/10/25	0.15	2.1
LR-35-1	12/10/25	0.15	3.9
LR-36-1	12/10/25	0.15	2.2
LR-37-1	12/10/25	0.15	19
LR-38-1	12/10/25	0.15	3.0
LR-39-1	12/10/25	0.15	2.0
LR-40-1	12/10/25	0.15	3.2

Notes:
1. All concentrations expressed in milligrams per kilogram (mg/kg).
2. CCME CEQG = Canadian Environmental Quality Guidelines. Guidelines obtained December 2012 from web page: http://ceqg-rcqe.ccme.ca.

Environment Canada Environnement Canada

ENVIRONMENTAL PROTECTION
PRAIRIE & NORTHERN REGION
Room 200, 4999-98 Ave. NW
Edmonton, Alberta
T6B 2X3

Our file #: 4194-10-5/7518
Your file #:

March 01, 2012

Joel Brimacombe
Manager, Environmental Services
RCMP North West Region
Bag Service 2500, 6101 Dewdney Avenue
Regina, Saskatchewan
S4P 3K7

Dear Mr. Brimacombe:

RE: PROPOSED BUILDING DEMOLITION AND SOIL REMEDIATION AT LA RONGE, SK

Environment Canada (EC) has reviewed the Phase II Environmental Site Assessment (the ESA) by KGS Group (January 2009) for the above proposed project. EC is not a Responsible Authority (RA) under the *Canadian Environmental Assessment Act (CEAA)* because:

a) EC is not a proponent of the project and is not conducting any act or thing that commits the department to carrying out the project in whole or in part;
b) EC is not making or authorizing any form of payment or other financial assistance to the proponent for the purpose of enabling the project to be carried out in whole or in part;
c) EC does not administer any lands involved in enabling the project to be carried out in whole or in part; and
d) EC does not issue a permit, license, grant an approval or take any action for the purpose of enabling the project to be carried out in whole or in part.

EC possesses specialist advice or expert information or knowledge on the proposal as per subsection 12 (3) of the CEAA with a focus on federal statuettes, regulations, policy, and associated program concerns as defined by EC's mandate.

At this time, EC has comments pertaining to two areas of concern:

Delineation of Contamination
EC does not consider the potential lead contamination of the soil and water in the project area to have been properly delineated**.** Therefore, **EC requests that the proponent conduct the additional site investigations described below prior to remediation:**

Section 1.2, *Scope of Work,* page **2** of the ESA states: "[t]wo additional samples at each site were collected from 1 m or more beyond the exterior walls to delineate the width of suspected contamination at each building." However, **Section 6.0, *Discussion,*** page **12** of the ESA states "[p]aint chips may have…been carried away by surface runoff and snow melt at either location." As such, **EC requests that additional soil testing be conducted to determine the range of the contamination plume surrounding the building. EC requests that the results of the soil tests be provided to EC for review prior to remediation.**

Section 2.8, *Potential Pathways for Contaminant Migration,* page **6** of the ESA states "…it is not anticipated that lead will be present at depths greater than those measured in the Phase II ESA investigations [15 cm]." However, **EC requests that further testing be conducted to confirm if**

lead contamination extends past the upper 15 cm of the soil profile prior to remediation, or during excavation (if this is the chosen remedial option)**.**

As stated in **Section 2.6, *Site Hydrogeology,*** page **5** of the ESA, "…the marine storage facility is on the edge of Lac La Ronge. At the time of the Phase II ESA site investigations, the lake level was approximately 0.3 m below the base of the facility." Furthermore, **Section 6.0, *Discussion,*** page **12** of the ESA states that "[a]ny paint flaking off the wood siding and trim of the sides of the marine storage facility that are exposed to the lake could easily be washed away from the building." As such, **EC requests that the proponent conduct sediment and water sampling along the shoreline adjacent to the marine storage facility, and that the results be sent to EC for review before any remediation occurs.**

If any further contamination is discovered, the remedial options currently proposed by the proponent may not be sufficient. As such, **EC requests to be informed if any further contamination is discovered on the site.**

Migratory Birds

As it is the proponent's intention to demolish the marine storage facility located on the shore of Lac La Ronge, EC would like to remind the proponent of EC's mandate which includes the protection of migratory birds and their habitat. Regulations pursuant to the *Migratory Birds Convention Act* (MBCA) provide for the conservation of migratory birds and the protection of their nests and eggs. **EC would like to remind the proponent that the clearing of any vegetation in areas where migratory birds may be nesting should take place at minimum before April 15 or after July 31.** If clearing must take place within this timeframe, the proponent should ensure that a person with qualified bird expertise confirm that there are no active nests in the area within seven days of clearing commencing. **EC also requests that the proponent be mindful of any nests that may be found in or along the outside of the structure(s) to be demolished.** If a nest is found, it must be protected until the young have fledged. The proponent should also be reminded that the deposit of oil, oil wastes, or any other substances that are harmful to migratory birds in any area frequented by migratory birds is prohibited.

EC looks forward to continued dialogue and co-operation with respect to this Project. If you have any questions, please contact me at (780) 951 8897.

(*original signed by)*

Christi Horne
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Fisheries and Oceans Canada
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Your file *Votre référence*

February 26, 2012

Our file *Notre référence*
PA-12-0079

Joel Brimacombe, Manager
Environmental Services
RCMP North West Region
Bag Service 2500
6101 Dewdney Avenue
Regina, Saskatchewan S4P 3K7

Dear Mr. Brimacombe:

Subject: FCR Response to Building Demolition and Soil Remediation at RCMP Detachment Garage and Marine Storage Facility in La Ronge, Saskatchewan.

Fisheries and Oceans Canada - Fish Habitat Management Program (DFO) received your Federal Coordination Regulation (FCR) review request for the proposed work on February 2, 2012.

DFO has a mandate review and determine whether the project is likely to result in negative impacts to fish and fish habitat, which are prohibited by the habitat protection provisions of the *Fisheries Act* or those prohibitions of the *Species at Risk Act* that apply to aquatic species.*

We understand that your demolition and remediation proposal involves a garage and marine storage facility that had been painted with lead based paint. The paint has been flaking off the buildings and has been deposited on the soil and substrate surrounding these buildings. The SW corner of the marine storage facility overhangs the shoreline of Lac La Ronge. Through Phase 1 and 2 Environmental Site Assessment Audits, and a review of the available options, DFO understands that the following Remediation / Risk Management Options:

- Sealing the lead based paint on the garage.
- Demolishing and disposing of the marine storage facility at a licensed landfill.
- Excavating approximately 7 m^3 of the lead impacted soil and disposing of it at a licensed facility.

Your proposal has been reviewed to determine whether DFO, in accordance with the CEAA Federal Co-ordination Regulations,

- has a section 5 trigger under CEAA (**NO**)
- is able to provide expert advice as per section 12, (**YES – please see below**)

*Those sections most relevant to the review of development proposals include 20, 22, 32 and 35 of the *Fisheries Act* and sections 32, 33 and 58 of the *Species at Risk Act*. For more information please visit www.dfo-mpo.gc.ca.

Canada

- has an interest in this project. (**NO**)

DFO's specialist advice is as follows:
To reduce potential negative impacts to fish and fish habitat we are recommending the following mitigation measures be included in your plans:

1. Every effort will be made to minimize the introduction of building materials/ debris into Lac La Ronge during shoreline work activities.

2. Any fill/reclamation materials such as rock/cobble will be obtained from off-site and not from below the average high water level of any watercourse or waterbody.

3. The SW corner of the marine storage building will be isolated from the shoreline under it using appropriate measures/materials (i.e. an impenetrable tarp, sediment curtain or similar) to prevent lead based paint and debris from entering Lac La Ronge.

4. During demolition, soil replacement and re-vegetation, and until vegetation is re-established, effective sediment and erosion control measures will be used on disturbed areas to prevent soil laden runoff from entering fish habitat.

5. All debris from building demolition will be removed from the lake shore site upon completion of the project.

6. Areas used for stockpiling demolished materials or other equipment storage will be back from any waterbody and if possible, in areas which have already been disturbed or are devoid of vegetation.

7. Appropriate precautions must be taken to ensure that deleterious substances, (including lead-based paint) do not enter fish habitat:

   7.1. Equipment operating near any fish bearing waters should be properly maintained, in sound mechanical condition and free of any fuel, oil, hydraulic fluid or coolant leaks. Cleaning, fueling and servicing of equipment should be conducted in an area from which spills or wash water will not enter fish habitat.

   7.2. Any spilled materials should be cleaned up as soon as possible and disposed of in an environmentally safe manner. Spilled material should not be left where it may enter any fish habitat.

   7.3. Any soils that are exposed and/or have significant potential for sediment delivery to the watercourse should be stabilized (*i.e.,* re-seeded and/or re-vegetated) immediately following activities at the site to minimize potential erosion.

   7.4. During construction and until re-vegetation is sufficient to control sediment erosion on exposed areas, the Proponent should ensure that effective sediment and erosion control measures are in place and that they are functioning properly and are maintained and/or upgraded as required to prevent sediment from entering fish habitat.

If you have any questions, please contact me by phone at (306) 953-8771, by fax at (306) 953-8792 or by email at Anne.Basso@dfo-mpo.gc.ca .

Yours sincerely,

Anne C. Basso
Fish Habitat Biologist

c.c.: D. Lightle, V. Harper DFO, Prince Albert