

LAWN BOWLING GREEN REMEDIATION

PRINCE ALBERT NATIONAL PARK WASKESIU, SASKATCHEWAN

SPECIFICATIONS – ISSUED FOR REVIEW

FOR PARKS CANADA AGENCY

Rev	Date	Revision	Prepared By	Checked By	Approved By
A	10-10-19	Issued for 75% Review	PC	ML	TA
B	03-27-20	Issued for Tender	PC	ML	TA
C	26-08-20	Revised; Re-issued for Tender	PC/TA	ML	TA

Parks Canada Agency	SPECIFICATION	Section 00 00 00
Region Project	TITLE SHEET	Page 1
Number:		2020-08-21

PROJECT TITLE LAWN BOWLING GREEN REMEDIATION
PRINCE ALBERT NATIONAL PARK
WASKESIU, SASKATCHEWAN

PROJECT NUMBER _____

PROJECT DATE 2020-08-21

END

<u>Section</u>	<u>Title</u>	<u># of Pages</u>
<u>Division 00 - Procurement and Contracting Requirements</u>		
00 00 00	SPECIFICATION TITLE SHEET	1
00 01 11	LIST OF CONTENTS	1
<u>Division 01 - General Requirements</u>		
01 10 00	SUMMARY OF WORK	2
01 11 06	GENERAL INSTRUCTIONS	11
01 32 16	CONSTRUCTION PROGRESS SCHEDULE - BAR(GANTT)CHART	4
01 33 00	SUBMITTAL PROCEDURES	6
01 35 29	HEALTH AND SAFETY	6
01 35 43	ENVIRONMENTAL PROCEDURES	9
01 56 00	TEMPORARY BARRIERS AND ENCLOSURES	3
01 78 00	CLOSEOUT SUBMITTALS	7
<u>Division 31 - Earthworks</u>		
31 23 11	EARTHWORKS FOR SOIL CAPPING PROJECT	6
32 92 19.16	HYDRAULIC MULCH SEEDING	8

List of Drawings

C-00	COVER SHEET
C-01	EXISTING SITE CONDITIONS
C-02	DELINEATION OF SOIL IMPACTS
C-03	REMEDIATION ACTIVITIES
C-04	CONSTRUCTION DETAILS
C-05	CROSS-SECTIONS
C-06	PROPOSED ACCESS ROUTE

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- .1 Description of work included under this contract.

1.2 PRECEDENCE

- .1 Division 01 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract comprises the implementation of risk management measures by means of importing and placing a granular material cap within the work area located within the village of Waskesiu Lake in Prince Albert National Park, Saskatchewan. The site is located south of Lakeview Drive and Waskesiu Drive and is accessible from Montreal Drive as identified on Drawing **C-06**.
 - .2 Work, as outlined in these specifications includes, but may not be limited to:
 - .1 Mobilization and demobilization of equipment and personnel to and from the site.
 - .2 Preparation of a Site-Specific Health and Safety Plan.
 - .3 Preparation and implementation of an Environmental Protection Plan (including erosion and sedimentation control plan).
 - .4 Preparation and implementation of a Traffic Control Plan.
 - .5 Conduct public and private utility locates as required by provincial regulations and submit for the approval of the Departmental Representative.
 - .6 Obtain all necessary permits to conduct the work.
 - .7 Regrading and compacting existing soil beneath entire work area.
 - .8 Construct a surface drainage swale to improve surface water flow towards the unnamed creek located northwest of the work area.
 - .9 Supply, import, place and compact granular fill material on top of the work area to be covered with granular material.
-

- .10 Supply, import and place clean topsoil material in the surface swale area.
- .11 Re-vegetate the surface swale area and reinstate any areas disturbed by work at the site using hydro-seeding.
- .12 Clean-up, re-grade and reinstate to original conditions any areas impacted by vehicle traffic and construction activities.

1.4 COMBINED PRICE CONTRACT

- .1 Refer to "Combined Price Form" - Lump Sum and Unit Price Table.

1.5 COST BREAKDOWN

- .1 Within 48 hours of Notice of Award, furnish a cost breakdown by Section, including a breakdown of the lump sum portion of the price. The cost breakdown must include the following items at a minimum:
 - .1 Health and Safety, including site-specific Health and Safety Plan.
 - .2 Plan development, including all plans necessary to be submitted prior to any aspect of the Work proceeding.
 - .3 Erosion and Sediment Control.
 - .4 Traffic Control.
 - .5 Closeout Reporting and Submittals.
- .2 Within 48 hours of acceptance of bid provide a list of subcontractors.

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 PROCEDURE

- .1 Work included in this section will not be measured for payment and shall be included as part of the lump sum price.

1.2 MINIMUM STANDARDS

- .1 Execute work to meet or exceed:
 - .1 Rules and regulations of authorities having jurisdiction.
 - .2 Federal, provincial and municipal Occupational Health and Safety Regulations.
 - .3 CCME (Canadian Council of Ministers of the Environment) Contaminated Sites, Contaminated Soil and Groundwater, and Remediation of Contaminated Sites - most current publications.
 - .4 Impact Assessment Act.
 - .5 Transportation of Dangerous Goods Act.
 - .6 Fisheries Act.
 - .7 Migratory Birds Convention Act.
 - .8 Migratory Birds Regulations.

1.3 AUTHORITIES HAVING JURISDICTION

- .1 Parks Canada Agency is the Authority Having Jurisdiction within the Contractor Work Area at the site.

1.4 ROAD LOAD RESTRICTIONS

- .1 Comply with posted load restrictions. Acquire and submit to Departmental Representative copies of all necessary permits.

1.5 TAXES

- .1 Pay applicable Federal, Provincial and Municipal taxes.

1.6 FEES, PERMITS, CERTIFICATES AND LETTERS

- .1 Provide authorities having jurisdiction with information requested.
 - .2 Pay fees and obtain certificates, permits and letters required.
-

- .3 Furnish certificates, permits and letters when requested.

1.7 EXAMINATION

- .1 Attend an on-site kick off meeting with Departmental Representative.
- .2 Examine existing conditions and determine conditions affecting Work.
- .3 Notify Departmental Representatives in writing of any discrepancies between contract documents and site conditions within 48 hours and prior to doing any work on the affected work item.

1.8 DOCUMENTS

- .1 Keep on site one copy of each of the following:
 - .1 Contract drawings.
 - .2 Specifications.
 - .3 Environmental Mitigation Measures.
 - .4 Amendments and addenda.
 - .5 Change orders.
 - .6 Utility locates.
 - .7 Reviewed shop drawings, product data, and samples.
 - .8 Other modifications to Contract.
 - .9 Copy of approved Work schedule.
 - .10 Field test records.
 - .11 Inspection certificates.
 - .12 Safety Data Sheets (SDSs).
 - .13 Health and Safety Plan and other safety related documents.
 - .14 Labour and Material Bonds.
 - .15 All applicable permits.
 - .2 Specifications shall govern over drawings.
 - .3 Maintain documents in clean, dry, legible condition.
 - .4 Make documents available at all times for inspection by Departmental Representative.
-

1.9 ELECTRONIC SUBMITTALS

- .1 Submit number of hard copies specified for each type and format of submittal and also submit in electronic format as pdf files. Forward pdf, MS Word, MS Excel, MS Project and AutoCAD dwg files on USB compatible with PSPC encryption requirements or through email or alternate electronic file sharing service such as ftp, as directed by Departmental Representative.
- .2 Comply with Section 01 33 00.

1.10 CONTRACTOR'S AS-BUILT DRAWINGS, SPECIFICATIONS AND AERIAL PHOTOGRAPHS

- .1 As work progresses, neatly record significant deviations from the Contract drawings and specifications using fine, red marker on full size white prints and specifications. Make the same changes on the electronic files.
 - .2 Neatly print lettering and numbers in size to match original. Lines may be drawn free-hand but shall be neat and accurate. Add at each title block note: "AS BUILT". Also circle on List of Drawings/Photographs each title and number of drawing/photographs marked with "AS-BUILT" information. Circle on Table of Contents each specification section number and title of specification sections marked with "AS-BUILT" information.
 - .3 Departmental Representative will provide one electronic set of drawings, schedules, and specifications for as-built drawing and specification purposes.
 - .1 Drawings are in AutoCAD.
 - .2 Specifications are in MS Word.
 - .3 Amendments and addenda are in MS Word.
 - .4 Record following significant deviations:
 - .1 Depths for various elements (including depth of soil cover material and fence post footings).
 - .2 Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface fixed point.
 - .3 Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.
 - .4 Field changes of dimension.
-

- .5 Other significant deviations which are concealed in construction and cannot be identified by visual inspection.
 - .6 Alternative materials and systems installed replacing original materials and systems specified by trade name.
 - .7 Full topographic survey of subgrade, top of fill and top of topsoil on minimum 10 m spacing with supplemental survey points required along base and top of swale and adjacent to base of clean soil cap.
-
- .5 Turn one set, paper copy and electronic copy, of "AS-BUILT" drawings and specifications over to Departmental Representative on completion of work.
 - .6 If project is completed without significant deviations from Contract drawings and specifications submit to Departmental Representative one set of drawings and specifications marked "AS-BUILT".

1.11 PROOF OF CLEAN QUALITY OF THE IMPORTED MATERIAL

- .1 Only Clean Fill Material (gravel and topsoil) meeting the Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (SQG) for Residential/Parkland land use, will be used as surface cover material.
 - .2 Submit name, location and contact details of the source of the Clean Fill Material to be imported to Site in accordance with Section 01 33 00 and 31 23 11.
 - .1 The Clean Fill must meet CCME SQG for Residential/Parkland land use, in order to be considered as inert fill.
 - .2 Departmental Representative will complete soil quality testing for borrow sources. Samples collected will be submitted on rush turnaround time.
 - .3 The Contractor must aid the Departmental Representative in the collection of all soil and backfill samples and provide access for the Departmental Representative to collect samples.
 - .3 Parameter testing will include, but may not be limited to, inorganic parameters, metals, petroleum hydrocarbons, volatile organic compounds, pesticides and herbicides.
-

- .4 No fill material shall be brought to the site prior to approval from the Departmental Representative.
- .5 Additional Quality Assurance/Quality Control testing of all fill imported to site will be completed by the Departmental Representative.
- .6 Any fill not conforming to the project specifications will be removed and replaced at the Contractor's cost.

1.12 ADDITIONAL DRAWING/PHOTOGRAPHS

- .1 Departmental Representative may furnish additional drawings/photographs to clarify work.
- .2 Such drawings/photographs become part of Contract Documents.

1.13 PROTECTION

- .1 Protect existing utilities and infrastructure from damage, including monitoring wells intended for future use.
- .2 Replace damaged existing work with material and finish to match original at Contractor's expense.
- .3 Protect existing trees and plants at the Site and on adjacent properties as directed by the Departmental Representative.
- .4 Protect existing structures as part of the work.
- .5 At completion of operations, restore the site, work area and access roads to equal or better than that which existed before new work started.

1.14 EXISTING UTILITIES

- .1 Establish location, protect and maintain existing utility lines.
 - .2 Repair to original condition any utilities damaged as a result of site activities at no additional cost to Contract.
-

- .3 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .4 Where Work involves breaking into or connecting to existing or temporary services, give Departmental Representative 48 hours' notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions.
- .5 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.
- .6 Record locations of maintained, re-routed and abandoned service lines.

1.15 OVERLOADING

- .1 No part of Work shall be loaded with a load which will endanger its safety or will cause permanent deformation.
- .2 Repair to original condition any part of Work damaged due to overloading at no additional cost to Contract.

1.16 TEMPORARY FACILITIES AND SERVICES

- .1 Provide and maintain temporary facilities and services required to carry out work.
- .2 Remove temporary facilities and services on completion of work.
- .3 Departmental Representative will have access to temporary facilities as required (e.g. washroom).

1.17 COORDINATION AND COOPERATION

- .1 Site will not be occupied during execution of work.
 - .2 Work areas will not be occupied during execution of work.
-

1.18 TEMPORARY SIGNS

- .1 No signs or advertisements, other than warning signs and signs prescribed in this Contract, are permitted on site.

1.19 METRIC SIZED MATERIALS

- .1 SI metric units of measurement are used exclusively on the drawings and in the specifications for this project.
- .2 Claims for additional costs due to provision of specified modular metric sized products will not be considered.

1.20 MATERIAL AND EQUIPMENT

- .1 Use new products unless otherwise specified.
- .2 Deliver and store material and equipment to manufacturer's instructions with manufacturer's labels and seals intact.

1.21 INSPECTION AND TESTING

- .1 When initial tests and inspections reveal work not to contract requirements, pay for tests and inspections required by Departmental Representative on corrected work.
- .2 Complete a topographic survey of the site prior to the remediation program and as required throughout the program to confirm the quantities of materials being managed on site and to confirm the final grades as required.

1.22 SCHEDULING

- .1 On Award of Contract submit bar chart (GANTT) construction schedule for work in accordance with Section 01 32 16.
 - .2 Carry out noise generating work Monday to Friday from 7 am to 7 pm. Weekend work can only be done with the approval of the Departmental Representative and must comply with local noise by-laws.
-

1.23 CLEANING

- .1 Maintain site and haul roads free of accumulated waste and rubbish. Comply with federal, provincial, local fire and safety laws, ordinances, codes and regulations.
- .2 Coordinate cleaning operations with disposal operations to prevent accumulation of dust, dirt, debris, rubbish and waste materials.
- .3 Progress cleaning:
 - .1 Leave area clean at end of each day.
- .4 Final cleaning:
 - .1 Remove temporary protection.
 - .2 Remove dust, dirt and foreign matter from hard surfaces.
 - .3 Contractor is to remove from site and appropriately dispose of all waste materials generated as part of project.

1.24 WASTE DISPOSAL

- .1 Off-site disposal of excess soil material will not be required. Any soil excavated to construct the swale should be placed under the gravel cap instead of being shipped off site.
- .2 Should any off-site disposal be required, submit proof that the waste material is being disposed of at a licensed disposal site or waste transfer facility. A copy of the disposal/waste transfer site's license and a letter verifying that said disposal site will accept the waste must be supplied to Departmental Representative prior to removal of waste from the site.
 - .1 Submit copies of manifests, scale tickets and bills of lading weekly 24 hours prior to progress meetings and as directed by the Departmental Representative.

1.25 SPECIAL PROTECTION AND PRECAUTIONS

- .1 Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and the provision of safety data sheets.
-

1.26 PROJECT MEETINGS

- .1 Administrative:
 - .1 Schedule and administer project meetings throughout the progress of the work at the call of Departmental Representative.
 - .2 Prepare agenda for meetings.
 - .3 Distribute written notice of each meeting 4 working days in advance of meeting date to Departmental Representative.
 - .4 Provide physical space and make arrangements for meetings.
 - .5 Preside at meetings.
 - .6 Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.
 - .7 Reproduce and distribute copies of minutes within three working days after meetings and transmit to meeting participants and affected parties not in attendance.
 - .8 Representatives of Contractor, Subcontractor and suppliers attending the meetings will be qualified and authorized to act on behalf of each party they represent.

 - .2 Preconstruction meeting:
 - .1 Within 5 working days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
 - .2 Departmental Representative, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
 - .3 Establish time and location of meeting and notify parties concerned minimum 3 working days before meeting.
 - .4 Agenda to include:
 - .1 Appointment of official representative of participants in the Work.
 - .2 Schedule of Work: in accordance with Section 01 32 16.
 - .3 Schedule of submission of shop drawings, submittals and samples.
-

- .4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities and fences.
 - .5 Site security.
 - .6 Environmental procedures.
 - .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
 - .8 Owner provided products.
 - .9 Record drawings, specifications and aerial photographs.
 - .10 Maintenance manuals.
 - .11 Take-over procedures, acceptance, warranties.
 - .12 Monthly progress claims, administrative procedures, photographs, hold backs.
 - .13 Appointment of inspection and testing agencies or firms.
 - .14 Insurances, transcript of policies.
- .3 Progress meetings:
- .1 During course of Work, schedule progress meetings every week after preconstruction meeting.
 - .2 Departmental Representative, Contractor, major Subcontractors, field inspectors and supervisors are to be in attendance.
 - .3 Establish time and location of meeting and notify all parties minimum 5 working days before meeting.
 - .4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 5 business days after meeting.
 - .5 Agenda to include:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Problems which impede construction schedule.
 - .5 Corrective measures and procedures to regain projected schedule.
 - .6 Revision to construction schedule.
 - .7 Progress schedule, during succeeding work period.
 - .8 Review submittal schedules: expedite as required.
 - .9 Maintenance of quality standards.
-

- .10 Review proposed changes for effect on construction schedule and on completion date.
- .11 Scope Changes.
- .12 Health and Safety and Site Security.
- .13 Other business.
- .6 Progress meeting submittals to be made in accordance with Section 01 33 00.

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 PROCEDURE

- .1 Work included in this section will not be measured for payment and will be included as part of the lump sum price.

1.2 DEFINITIONS

- .1 Activity: element of Work performed during course of Project. Activity normally has expected duration, expected cost, and expected resource requirements. Activities can be subdivided into tasks.
 - .2 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally, Bar Chart should be derived from commercially available computerized project management system.
 - .3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.
 - .4 Construction Work Week: Monday to Friday, inclusive, will provide five-day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.
 - .5 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.
 - .6 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.
 - .7 Project Planning, Monitoring and Control System: overall system operated by Departmental Representative to enable
-

monitoring of project work in relation to established milestones.

1.3 REQUIREMENTS

- .1 Ensure Project Schedule is practical and remains within specified Contract duration.
- .2 Plan to complete Work in accordance with prescribed time frame.

1.4 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 11 06 and Section 01 33 00.
- .2 Submit to Departmental Representative within 5 working days of Award of Contract Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of project progress.
- .3 Submit Project Schedule to Departmental Representative within 5 working days of receipt of acceptance of Master Plan.
- .4 Submit new project schedule after every change order which impacts schedule to establish new baseline.

1.5 PROJECT MILESTONES

- .1 Project milestones form interim targets for Project Schedule.
 - .1 Mobilization within 15 working days of Award of Contract date.
 - .2 Swale Construction within 20 working days of Award of Contract date.
 - .3 Granular Material Cover Installation within 25 working days of Award of Contract date.
 - .4 Certificate of Substantial Performance within 30 working days of Award of Contract date.

1.6 MASTER PLAN

- .1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
-

- .2 Departmental Representative will review and return reviewed schedules within 5 working days.
- .3 Revise impractical schedule and resubmit within 2 working days.
- .4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

1.7 PROJECT SCHEDULE

- .1 Develop detailed Project Schedule derived from Master Plan.
- .2 Ensure detailed Project Schedule includes as a minimum milestone and activity types as follows:
 - .1 Award.
 - .2 Submittals.
 - .3 Permits.
 - .4 Mobilization.
 - .5 Swale Construction.
 - .6 Granular Material Cover Installation.
 - .7 Clean-up.
 - .8 De-mobilization.

1.8 PROJECT SCHEDULE REPORTING

- .1 Update Project Schedule on daily basis reflecting activity changes and completions, as well as activities in progress.
- .2 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.
- .3 Update project schedule with every change order. Revised schedule must clearly show how the change affects critical path schedule and if additional time is required.

1.9 PROJECT MEETINGS

- .1 Discuss Project Schedule at regular site meetings identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind
-

schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.

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 Work included in this section will not be measured for payment and will be included as part of the lump sum price.

1.2 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 Present shop drawings, product data and samples in SI Metric units.
 - .4 Where items or information is not produced in SI Metric units converted values are acceptable.
 - .5 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 coordinated 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.
 - .6 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
 - .7 Verify field measurements and affected adjacent Work are coordinated.
 - .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
-

- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10 Keep one reviewed copy of each submission on site.
- .11 Submit number of hard copies specified for each type and format of submittal and also submit in electronic format as pdf files. Forward pdf, MS Word, MS Excel, MS Project and Autocad dwg files on CD or USB compatible with PSPC encryption requirements or through email or alternate electronic file sharing service such as ftp, as directed by Departmental Representative.

1.3 SHOP DRAWINGS AND PRODUCT DOCUMENTATION

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data (including Product Data) which are to be provided by Contractor to illustrate details of a portion of Work.
 - .2 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Saskatchewan, Canada.
 - .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
 - .4 Allow 5 working days for Departmental Representative's review of each submission.
 - .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Amount. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
-

- .6 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.
 - .7 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
 - .8 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.
 - .9 After Departmental Representative's review, distribute copies.
-

- .10 Submit one electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
 - .11 Submit one electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
 - .12 Submit one electronic copy of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing must have been within 3 years of date of contract award for project if not otherwise specified.
 - .13 Submit one electronic copy of certificates for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
 - .14 Submit one electronic copy of manufacturer's instructions for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
 - .15 Submit one electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
-

- .16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .17 Delete information not applicable to project.
- .18 Supplement standard information to provide details applicable to project.
- .19 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned, and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.4 SAMPLES

- .1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
 - .2 Deliver samples prepaid to Departmental Representative's business address.
 - .3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
 - .4 Adjustments made on samples by Departmental Representative are not intended to change Contract Amount. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
 - .5 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.
 - .6 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.
-

1.5 PHOTOGRAPHIC DOCUMENTATION

- .1 Submit electronic copy of colour digital photography in jpg format, standard resolution as directed by Departmental Representative.
- .2 Project identification: name and number of project and date of exposure indicated.
- .3 Number of viewpoints and location of viewpoints shall be determined by Departmental Representative.
- .4 Frequency: 1) before the site works commences, 2) at completion of subgrade grading work, 3) at completion of installation of gravel cap layer, 4) at completion of installation of topsoil layer, 5) at completion of hydroseeding, 6) at completion of all works, and 7) as directed by Departmental Representative.

1.6 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workplace Safety and Insurance Board Experience Report.
- .2 Submit transcription of insurance immediately after Award of Contract.

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 Work included in this section will not be measured for payment and will be included as part of the lump sum price.

1.2 REFERENCES

- .1 Province of Saskatchewan:
 - .1 The Saskatchewan Employment Act, Part III - Occupational Health and Safety, as amended.
 - .2 Workplace Safety and Insurance Act, 1997.
 - .3 Municipal statutes and authorities.
- .2 Canada Labour Code - Canada Occupational Health and Safety Regulations SOR/86-304, as amended.
- .3 National Building Code 2015 (NBC):
 - .1 NBC 2015, Division B, Part 8 - Safety Measures at Construction and Demolition Sites.
- .4 National Fire Code 2015 (NFC):
 - .1 NFC 2015, Division B, Part 5 Hazardous Processes and Operations, subsection 5.6.1.3 Fire Safety Plan.
- .5 Treasury Board of Canada Secretariat (TBS):
 - .1 Treasury Board, Fire Protection Standard April 1, 2010 www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=17316§ion=text.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 11 06 and Section 01 33 00.
 - .2 Submit Site-Specific Health and Safety Plan: Within 5 working days after date of Notice to Proceed and 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 operation found in work plan.
 - .3 Measures and controls to be implemented to address identified safety hazards and risks.
-

- .4 Provide a Fire Safety Plan, specific to the work location.
 - .5 Contractor's and Sub-contractor's Safety Communication Plan.
 - .6 Contingency and Emergency Response Plan addressing standard operating procedures specific to the project site to be implemented during emergency situations.
 - .7 Coordinate plan with existing Facility Emergency Response requirements and procedures provided by Departmental Representative after contract award.
-
- .3 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 2 working days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 2 working days after receipt of comments from Departmental Representative.
 - .4 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.
 - .5 Submit names of personnel and alternates responsible for site safety and health.
 - .6 Submit records of Contractor's Health and Safety meetings when requested.
 - .7 Submit two copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative daily.
 - .8 Submit copies of orders, directions or reports issued by health and safety inspectors of the authorities having jurisdiction within 48 hours of issue.
 - .9 Submit copies of incident and accident reports within 48 hours of event.
 - .10 Submit Safety Data Sheets (SDS) within 5 working days after date of Notice to Proceed and prior to commencement of Work.
-

- .11 Submit Workplace Safety and Insurance Board (WSIB)- Experience Rating Report within 5 working days after date of Notice to Proceed and prior to commencement of Work.

1.4 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to commencement of Work.

1.5 SAFETY ASSESSMENT

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

1.6 MEETINGS

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

1.7 REGULATORY REQUIREMENTS

- .1 Comply with the Acts and Regulations of the Province of Saskatchewan.
- .2 Comply with specified standards and regulations to ensure safe operations at site.

1.8 PROJECT/SITE CONDITIONS

- .1 Work at site may involve contact with:
 - .1 Mercury and pesticides associated with impacted soil within the work area.

1.9 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 Relief from or substitution for any portion or provision of minimum Health and Safety standards specified herein
-

or reviewed site-specific Health and Safety Plan shall be submitted to Departmental Representative in writing.

- .3 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns either accepting or requesting improvements.

1.10 COMPLIANCE REQUIREMENTS

- .1 Comply with Saskatchewan Occupational Health and Safety Act, as amended.

1.11 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, and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.
- .3 Contractor shall be designated "Constructor", as defined by Occupational Health and Safety Act and Regulations for Construction Projects for the Province of Saskatchewan.

1.12 UNFORSEEN HAZARDS

- .1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, immediately stop work and advise Departmental Representative verbally and in writing.
- .2 Follow procedures in place for Employees Right to Refuse Work as specified in the Occupational Health and Safety Act for the Province of Saskatchewan.

1.13 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 of Saskatchewan, and in
-

consultation with Departmental Representative.

- .1 Contractor's Safety Policy.
- .2 Constructor's Name.
- .3 Notice of Project.
- .4 Name, trade, and employer of Health and Safety Representative or Joint Health and Safety Committee members (if applicable).
- .5 Ministry of Labour Orders and reports.
- .6 Occupational Health and Safety Act and Regulations for Construction Projects for Province of Saskatchewan.
- .7 Address and phone number of nearest Ministry of Labour office.
- .8 Material Safety Data Sheets.
- .9 Written Emergency Response Plan.
- .10 Site Specific Safety Plan.
- .11 Valid certificate of first aider on duty.
- .12 WSIB "In Case of Injury At Work" poster.
- .13 Location of toilet and cleanup facilities.

1.14 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.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.15 BLASTING

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

1.16 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.
 - .2 Assign responsibility and obligation to Competent
-

Supervisor to stop or start Work when, at Competent Supervisor's discretion, it is necessary or advisable for reasons of health or safety. Departmental Representative may also stop Work for health and safety considerations.

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 Work included in this section will not be measured for payment and will be included as part of the lump sum price.

1.2 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 humans; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.

1.3 SUBMITTALS

- .1 Submit in accordance with Section 01 11 06 and Section 01 33 00.
 - .2 Before commencing construction activities or delivery of materials to site and within 5 working days of contract award, submit Environmental Protection Plan for review and approval by Departmental Representative.
 - .3 Environmental Protection Plan must include 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 tasks.
 - .5 Include in Environmental Protection Plan:
 - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
 - .3 Names and qualifications of persons responsible for training site personnel.
 - .4 Descriptions of environmental protection personnel
-

- training program.
- .5 Erosion and sediment control plan identifying type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations and EPA 832/R-92-005, Chapter 3.
 - .6 Drawings indicating locations of proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess materials including methods to control runoff and to contain materials on site.
 - .7 Traffic Control Plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather.
 - .1 Plans to include measures to minimize amount of material transported onto paved public roads by vehicles or runoff.
 - .8 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.
 - .1 Plan to include measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
 - .9 Emergency Spill Response Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
 - .10 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal.
 - .11 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
 - .12 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
 - .13 Impacted Water Management Plan identifying methods and procedures for management and disposal of impacted waters which are directly derived from construction activities such as clean-up water.
 - .14 Historical, archaeological, cultural resources biological resources and wetlands plan that defines
-

procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands.

1.4 FIRES

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

1.5 WASTE DISPOSAL

- .1 Off-site disposal of excess soil material will not be required. Any soil excavated to construct the swale should be placed under the gravel cap instead of being shipped off site.
- .2 Should any off-site disposal be required, submit proof that the waste material is being disposed of at a licensed disposal site or waste transfer facility. A copy of the disposal/waste transfer site's license and a letter verifying that said disposal site will accept the waste must be supplied to Departmental Representative prior to removal of waste from the site.
 - .1 Submit copies of manifests, scale tickets and bills of lading weekly 24 hours prior to progress meetings and as directed by the Departmental Representative.

1.6 VEHICULAR ACCESS AND PARKING

- .1 Vehicle access to the work area shall be from the corner of Montreal Drive and Waskesiu Drive on the west side of the tennis court only as shown in Drawing **C-06**.
 - .2 Maintenance and Use:
 - .1 Prevent contamination of access roads. Immediately scrape up debris or material on access roads which is suspected to be contaminated as determined by Departmental Representative; transport and place into designated area approved by Departmental Representative. Clean access roads at least once per shift.
 - .2 Departmental Representative may collect soil samples for chemical analyses from travelling surfaces of constructed and existing access routes prior to, during, and upon completion of Work. Excavate and dispose of clean soil contaminated by Contractor's
-

activities at no additional cost to Departmental Representative.

- .3 Vehicles/equipment shall be in good working order and not be leaking any fuel or fluids.
- .4 Vehicles or equipment refueling to be conducted off-site whenever possible and spill prevention measures are to be implemented when on-site refueling is required.
- .5 Traffic management measures (such as 'flag man') shall be implemented if required at site access points to direct traffic.

1.7 EQUIPMENT DECONTAMINATION

- .1 All equipment must arrive at the site in a clean, dirt and soil free manner, so as not to introduce invasive plants onto the site. Departmental representative will inspect all equipment for cleanliness prior to it being allowed onto the site.
 - .2 Decontaminate equipment after working in potentially contaminated work areas and prior to subsequent work or travel on clean areas.
 - .3 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. Pay particular attention to tire treads, equipment tracks, springs, joints, sprockets, and undercarriages. Scrub surfaces with long handle scrub brushes. Perform assessment as directed by Departmental Representative to determine effectiveness of decontamination.
 - .4 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 Representative will have right to require additional decontamination to be completed if deemed necessary.
 - .5 Transfer soils collected from decontamination procedures to area designated by the Departmental Representative.
-

- .6 Furnish and equip personnel engaged in equipment decontamination with protective equipment including suitable disposable clothing, respiratory protection, and face shields.
- .7 Decontamination of equipment shall be completed a minimum of 10 m away from any water body.

1.8 DRAINAGE

- .1 Develop and submit Erosion and Sediment Control Plan (ESC) identifying type and location of erosion and sediment controls provided. Plan to include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.

1.9 SURFACE WATER AND GROUNDWATER QUALITY

- .1 Materials and equipment shall be operated and stored in a manner that prevents deleterious substances (e.g. petroleum products, silt, etc.) as defined by the Fisheries Act from entering surface water.
 - .2 Protect site from puddling or running water. Grade site to drain.
 - .3 Groundwater management is not anticipated.
 - .4 Do not discharge contaminated water, or surface water runoff, or groundwater which may have come in contact with potentially contaminated material, off site or to municipal sewers.
 - .5 Prevent precipitation from infiltrating or from directly running off stockpiled or waste materials (if present). Cover stockpiled or waste materials with an impermeable liner during periods of work stoppage including at end of each working day and as directed by Departmental Representative.
 - .6 Dispose of water in manner not injurious to public health or safety, to property, or to any part of Work completed or under construction.
-

- .7 Provide, operate, and maintain necessary equipment appropriately sized to manage any potentially impacted water within the work area.
- .8 Have on hand sufficient pumping equipment, machinery, and storage tanks in good working condition for ordinary emergencies, including power outage, and competent workers for operation of pumping equipment.
- .9 Contain and collect impacted waters and transfer such collected waters to an off-site disposal facility approved for use by the Departmental Representative.
- .10 Assist the Departmental Representative, as required, in the testing and classification of the impacted waters prior to discharge.

1.10 SITE CLEARING AND PLANT PROTECTION

- .1 Protect existing trees and shrubs adjacent to work areas.

1.11 VEGETATION

- .1 Operate construction machinery in a manner that minimizes damage to adjacent vegetation.

1.12 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Implement dust abatement measures as required to control dust.
- .3 Cover or wet down material stockpiles to prevent blowing dust. Provide dust control as required.
- .4 Control emissions from equipment in accordance with local authorities' emission requirements.

1.13 SPILLS OR RELEASE OF DELETERIOUS SUBSTANCES

- .1 Immediately contain, limit spread and clean up in accordance with provincial regulatory requirements.
-

- .2 All workers shall be fully aware of the spill prevention and response procedures including notification of Departmental Representative.
- .3 The Saskatchewan Spill Control Centre by law must be notified immediately at 1-800-667-7525.
- .4 The Departmental Representative shall be immediately informed of all spills that occur on site.
- .5 Spill kits will be kept on-site during all project phases.
- .6 Contractor shall take due care to ensure no deleterious materials including sediment-laden runoff leave the worksite, or enter any: surface water, storm water, or sanitary sewers at or near the worksite.
- .7 Equipment fueling or lubricating shall occur in an area designated by the Departmental Representative with proper controls to prevent the release of deleterious substances and shall be conducted away from any surface water drains or collection points.
- .8 Any equipment remaining on site overnight shall have appropriately placed drip pans.
- .9 Protect the roadways from tracking of mud, soil, and debris throughout the work.
- .10 Prevent discharges of waste materials from reaching storm drains. This includes, but is not limited to:
 - .1 Cleaning equipment on site.
 - .2 Protection of drainage structures with filter fences if required.

1.14 NOISE

- .1 All construction equipment shall be operated with exhaust systems in good repair to minimize noise.
 - .2 Construction activities that could create excessive noise shall be restricted to daylight hours and adhere to the municipal noise by-law.
-

- .3 Ensure that noise control devices (i.e. mufflers, silencers) on construction equipment are properly maintained.

1.15 HISTORICAL/ARCHAEOLOGICAL CONTROL

- .1 Provide historical, archaeological, cultural resources, biological resources, and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on project site and identifies procedures to be followed if historical, archaeological, cultural resources, biological resources and wetlands not previously known to be on site or in area are discovered during construction.
- .2 Plan: include methods to assure protection of known or discovered resources and identify lines of communication between Contractor personnel and Departmental Representative.
- .3 If archaeological deposits are discovered during the project work shall stop immediately and the Departmental Representative shall be notified immediately.
- .4 Archaeologically significant material, if found on the property, remains the property of the Crown and shall not be removed from the site.
- .5 Management of the archaeological materials will be coordinated through the Departmental Representative.

1.16 NOTIFICATION

- .1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection Plan.
 - .2 Contractor, after receipt of such notice, shall inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
 - .3 Departmental Representative will issue stop order of work
-

until satisfactory corrective action has been taken.

.1 Take action only after receipt of written approval by Departmental Representative.

.4 No time extensions shall be granted, or equitable adjustments allowed to Contractor for such stop work suspensions.

1.17 SPECIES AT RISK

.1 Should a Species at Risk or its critical habitat be encountered, the Contractor shall stop work and contact the Departmental Representative for direction.

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 Work included in this section will not be measured for payment and will be included as part of the lump sum price.

1.2 SECTION INCLUDES

- .1 Barriers.
- .2 Environmental Controls.
- .3 Traffic Controls.
- .4 Fire Routes.

1.3 REFERENCES

- .1 Canadian Standards Association (CSA):
 - .1 CSA O121-17, Douglas Fir Plywood.

1.4 INSTALLATION AND REMOVAL

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

1.5 HOARDING

- .1 Erect temporary enclosures using modular freestanding fencing: galvanized, minimum 1.8 m high, chain link or welded steel mesh, pipe rail. Provide one lockable truck entrance gate and at least one pedestrian door as directed and conforming to applicable traffic restrictions on adjacent streets. Equip gates with locks and keys. Maintain fence in good repair.
- .2 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

1.6 GUARD RAILS AND BARRICADES

- .1 Provide as required by governing authorities.
-

1.7 ACCESS TO SITE

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.8 PUBLIC TRAFFIC FLOW

- .1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect the public.
- .2 Enclose Work Area with fencing to prevent public traffic through the work zone.

1.9 FIRE ROUTES

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.10 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.11 PROTECTION OF FINISHES

- .1 Provide protection for finished and partially finished sections of the soil cover and swale during performance of work.
 - .2 Provide necessary screens, covers, and hoardings.
 - .3 Confirm with Departmental Representative locations and installation schedule three working days prior to installation.
 - .4 Be responsible for damage incurred due to lack of or improper protection.
-

1.12 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse/recycling and off-site disposal in accordance with Section 01 35 43.

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 Work included in this section will not be measured for payment and will be included as part of the lump sum price.

1.2 SECTION INCLUDES

- .1 As-built, samples, and specifications.
- .2 Warranties and bonds.
- .3 Final site survey.

1.3 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00.
- .2 Prepare instructions and data using personnel experienced in maintenance and operation of described products.
- .3 Copy will be returned after final inspection, with Departmental Representative's comments.
- .4 Revise content of documents as required prior to final submittal.
- .5 If requested, furnish evidence as to type, source and quality of products provided.

1.4 FORMAT

- .1 Organize data in the form of an instructional manual.
 - .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
 - .3 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.
 - .4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
 - .5 Arrange content by work type under Section numbers and
-

sequence of Table of Contents.

- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7 Text: Manufacturer's printed data, or typewritten data.
- .8 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- .9 Provide 1:1 scaled CAD files in .dwg format. Forward pdf, MS Word, MS Excel, MS Project and AutoCAD dwg files on USB compatible with PSPC encryption requirements or through email or alternate electronic file sharing service such as ftp, as directed by Departmental Representative.

1.5 CONTENTS - EACH VOLUME

- .1 Table of Contents for Each Volume: provide title of project;
 - .1 Date of submission; names,
 - .2 Addresses, and telephone numbers of Contractor with name of responsible parties;
 - .3 Schedule of products and systems, indexed to content of volume.
 - .2 For each product or system:
 - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
 - .3 Product Data: mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.
 - .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
 - .5 Typewritten Text: as required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00.
-

1.6 AS-BUILT DOCUMENTS AND SAMPLES

- .1 In addition to requirements in General Conditions, maintain at the site for Departmental Representative one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Amendments and addenda.
 - .4 Change Orders and other modifications to the Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test records.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departmental Representative.
- .6 Turn one set, paper copy and electronic copy, of AS-BUILT drawings and specifications over to Departmental Representative on completion of work. Submit unlocked source data/electronic files on USB compatible with PWGSC encryption requirements or through email or alternate electronic file sharing service such as ftp, as directed by Departmental Representative.
- .7 If project is completed without significant deviations from Contract drawings and specifications submit to Departmental Representative one set of drawings and specifications marked "AS-BUILT".

1.7 RECORDING ACTUAL SITE CONDITIONS

- .1 Record information on set of black line opaque drawings,
-

and in copy of Project Manual, provided by Departmental Representative.

- .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:
 - .1 Field changes of dimension and detail.
 - .2 Changes made by change orders.
 - .3 Details not on original Contract Drawings.
 - .4 References to related shop drawings and modifications.
- .5 Specifications: legibly mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product installed, particularly optional items and substitute items.
 - .2 Changes made by Amendments and change orders.
- .6 Other Documents: maintain manufacturer's certifications and field test records, required by individual specifications sections.
- .7 Provide digital photos, if requested, for site records.

1.8 FINAL SURVEY

- .1 Submit final site survey certificate certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.
 - .2 Survey to be completed by a registered Saskatchewan Land Surveyor.
 - .3 The Final Survey must include the following:
 - .1 Elevation of as-built gravel cap layer.
 - .2 Elevation of swale centre line and top edges.
 - .3 Elevation shots to be taken no more than 10 m apart.
 - .4 Minimum Survey Accuracy:
 - .1 Horizontal: 8 mm
 - .2 Vertical: 15 mm
-

1.9 WARRANTIES AND BONDS

- .1 Develop warranty management plan to contain information relevant to Warranties.
 - .2 Submit warranty management plan, 30 days before planned pre-warranty conference, to Departmental Representative approval.
 - .3 Warranty management plan to include required actions and documents to assure that Departmental Representative receives warranties to which it is entitled.
 - .4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.
 - .5 Submit, warranty information made available during construction phase, to Departmental Representative for approval prior to each monthly pay estimate.
 - .6 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
 - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
 - .4 Verify that documents are in proper form, contain full information, and are notarized.
 - .5 Co-execute submittals when required.
 - .6 Retain warranties and bonds until time specified for submittal.
 - .7 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
 - .8 Conduct joint 4 month and 9 month warranty inspection, measured from time of acceptance, by Departmental Representative.
 - .9 Include information contained in warranty management plan as follows:
-

- .1 Roles and responsibilities of personnel associated with warranty process, including points of contact and telephone numbers within the organizations of Contractors, subcontractors, manufacturers or suppliers involved.
 - .2 Listing and status of delivery of Certificates of Warranty for extended warranty items, to include new fences and hydroseeding.
 - .3 Provide list for each warranted item or feature of construction indicating:
 - .1 Name of item.
 - .2 Model and serial numbers.
 - .3 Location where installed.
 - .4 Name and phone numbers of manufacturers or suppliers.
 - .5 Names, addresses and telephone numbers of sources of spare parts.
 - .6 Warranties and terms of warranty: include one-year overall warranty of construction. Indicate items that have extended warranties and show separate warranty expiration dates.
 - .7 Cross-reference to warranty certificates as applicable.
 - .8 Starting point and duration of warranty period.
 - .9 Summary of maintenance procedures required to continue warranty in force.
 - .10 Cross-Reference to specific pertinent Operation and Maintenance manuals.
 - .11 Organization, names and phone numbers of persons to call for warranty service.
 - .12 Typical response time and repair time expected for various warranted equipment.
 - .4 Contractor's plans for attendance at 4 and 9 month post-construction warranty inspections.
 - .10 Respond in timely manner to oral or written notification of required construction warranty repair work.
 - .11 Written verification to follow oral instructions.
 - .1 Failure to respond will be cause for the Departmental Representative to proceed with action against Contractor.
-

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 RELATED SECTIONS

- .1 Section 32 92 19.16 - Hydraulic Mulch Seeding

1.2 MEASUREMENT PROCEDURES

- .1 Work associated with the general grading of the existing ground surface in the work area shall include all labour, materials and equipment necessary to complete the work. This work will not be measured separately and shall be included in the lump sum cost for the project. Compaction is considered incidental to the work and will not be measured separately for payment.
- .2 Surface drainage swale to be constructed as shown on Contract Drawings will be measured in linear metres of swale constructed and shall include all labour, materials and equipment necessary to complete the work.
- .3 Clean Granular gravel material imported for use as soil cap fill will be measured in tonnes of materials placed and accepted in the work and shall include all labour, materials and equipment necessary to complete the work. Weight scale receipts will be obtained from the supply quarry source. Compaction is considered incidental to the work and will not be measured separately for payment.
- .4 Topsoil imported for use inside the drainage swale will be measured in tonnes of material placed and accepted in the work and shall include all labour, materials and equipment necessary to complete the work. Weight scale receipts will be obtained from the supply quarry source.
- .5 Material placed beyond the limits indicated will not be measured.
- .6 Management of ponded water onsite is deemed incidental to the work.
- .7 All remaining Work is to be included as part of the lump sum price and shall include, but is not limited to the following tasks:
- .1 Mobilization to and demobilization from the Site.
-

- .2 Locating and protecting buried and aboveground utilities, structures and features.

1.3 REFERENCE STANDARDS

- .1 ASTM International
 - .1 ASTM D698-12e2, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³) (600kN-m/m³).
- .2 Saskatchewan Highways and Infrastructure (MHI)
 - .1 Specifications for sub-base, base and traffic gravel
- .3 SARM- RM Aggregate Resources Manual (final,v1)
- .4 Ontario Provincial Standard Specifications (OPSS)
 - .1 OPSS.PROV 1004, November 2012, Material Specification for Aggregates-Miscellaneous.
 - .2 OPSS.MUNI 1010, April 2013, Special Provision Material Specification for Aggregates - Base, Subbase, Select Subgrade, and Backfill Material.

1.4 UTILITY LINES

- .1 Before commencing work, establish location, depth and extent of underground utility lines in area of excavation. Notify Departmental Representative of findings.
- .2 Arrange with appropriate authority for relocation of buried services that interfere with execution of work: pay costs of relocating services.
- .3 Record locations of maintained, re-routed and abandoned underground utility lines.
- .4 Make good of damage to existing utility lines resulting from work.
- .5 Protect existing culverts at the site.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Waste management in accordance with Section 01 35 43.
-

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Granular sub-base Gravel: Material meeting the requirements under SK MHI Type 33 Granular base specifications (herein termed Granular B layer).
- .2 Topsoil: Material comprising fertile loamy soil that is free from roots, unwanted seeds, vegetation or other debris of such size and quantity that prevents proper placement of the topsoil and free of stones and clods over 25 mm in greatest dimension. Imported borrow material must meet CCME SQG Guidelines for Residential/Parkland Land Use.
- .3 Provide to Departmental Representative the name of each borrow source within five days of contract award.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 For initial review of Clean Fill quality, quality testing will be completed for borrow sources by the Departmental Representative. No Fill material shall be brought to the site prior to approval from the Departmental Representative. Parameter testing will include, but may not be limited to, inorganic parameters (metals - including mercury), pesticides and petroleum hydrocarbons. Soil quality testing will be conducted on maximum rush turn-around time and the results will be communicated to the Contractor upon receipt of results (usually within three working days of sample collection event).
 - .2 Contractor is responsible to provide Departmental Representative access to the borrow sources for sampling and to assist Departmental Representative with sample collection as needed.
 - .3 Under no circumstances shall the Contractor ship granular materials to the Site until approval of the material with respect to its suitability has been received from the Departmental Representative.
-

3.2 STOCKPILING

- .1 Stockpiling of all new materials will not be permitted on-site unless authorized by Departmental Representative. Truck and transport materials as required for soil cap and swale construction.

3.3 PREPARATION/PROTECTION

- .1 Remove obstructions, including ice and snow, from surfaces on which the soil cap is to be constructed within limits indicated.
- .2 Protect existing structures and outfalls from damage during Work. Make good all damages at no extra costs to Contract.

3.4 SURFACE DRAINAGE SWALE CONSTRUCTION

- .1 A surface drainage swale shall be constructed along the gravel cap area, as shown on Contract Drawings.
 - .2 The drainage Swale 1 will be approximately 132.5 m in length and built with consistent cross-section geometry across its entire length. The bottom of the channel shall be 0.5 m wide and shall have side slopes no steeper than 3H:1V. Depth of the channel should be 0.3 m but may be modified as needed to ensure positive drainage within the swale.
 - .3 The channel shall be formed by excavating and filling as required to provide positive drainage. Soil excavated during construction of swale is to be placed, spread and covered by the gravel cap. No off-site disposal is anticipated.
 - .4 Ensure positive drainage within the swale is maintained, with a drainage slope of no less than 0.5%.
 - .5 Supply and place a 100 mm thick layer of clean topsoil over constructed swale areas prior to hydraulic seeding.
 - .6 Apply hydraulic seeding in accordance with Section 32 92 19.16.
-

3.5 COMPACTING AND REGRADING OF EXISTING GRADE

- .1 Excavation and removal of existing grass cover within the work area will not be required. Gravel cap is to be installed directly on top of existing grass.
- .2 Proof-roll with vibratory compactor entire base of the gravel cap area and make good any areas identified as being soft. Site derived materials (such as soil excavated to construct swale) are to be used to stabilize areas of soft soil.

3.6 GRAVEL CAP PLACEMENT

- .1 Do not commence placement of gravel cap material until work areas have been inspected and approved by Departmental Representative.
 - .2 Work areas are to be free from debris, snow, ice, water or frozen ground.
 - .3 Place and compact imported gravel in continuous horizontal layers not exceeding 150 mm in thickness to a total compacted depth of 200 mm for Granular B materials. Use methods to prevent disturbing or damaging any part of the work. Make good any damage.
 - .4 Maintain optimum moisture content to enable compaction to attain specified density.
 - .5 Compact each layer of the Granular B gravel to 95% Standard Proctor Density using a ride-on vibratory soil compactor. Where working space is limited, employ approved mechanical hand operated tamping devices.
 - .6 Conduct compaction testing on each layer of compacted material placed at the frequency of one test per 100 square meters of compacted material.
 - .7 Ensure the top of gravel cap area is flat across its entire surface.
-

3.7 CLEANING

- .1 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

END OF SECTION

- micronutrients.
- .2 Submit copies of SDS for all products used.
- .3 Submit in writing 5 working days prior to commencing work:
 - .1 Volume capacity of hydraulic seeder in litres.
 - .2 Amount of material to be used per tank based on volume.
 - .3 Number of tank loads required per hectare to apply specified slurry mixture per hectare.

1.6 QUALITY ASSURANCE

- .1 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .2 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.

1.7 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
 - .2 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 Inoculant containers to be tagged with expiry date.
 - .3 Fertilizer must be dry.
 - .3 Storage and Handling Requirements:
 - .1 Store fertilizer off ground, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Replace defective or damaged materials with new at no additional cost to the Owner.
 - .4 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding and packaging materials. Non-reusable inert material must be disposed of off-site at the cost of the contractor in accordance with provincial, municipal and federal regulations.
-

- .3 Tackifier: water dilutable, liquid dispersion.
- .4 Water: free of impurities that would inhibit germination and growth.
- .5 Fertilizer:
 - .1 To Canada "Fertilizers Act" and "Fertilizer Regulations".
 - .2 Complete synthetic fertilizer, slow release with 35% nitrogen content in water-insoluble form.
- .6 Inoculants: inoculant containers to be tagged with expiry date.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrate previously installed under other Sections or Contracts are acceptable for mechanical seeding installation in accordance with manufacturer's written instructions.
 - .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 receipt of written approval to proceed from Departmental Representative.

3.2 INSTALLERS

- .1 Use a competent installer in Good Standing with Canadian Nursery Landscape Association.

3.3 PROTECTION OF EXISTING CONDITIONS

- .1 Protect structures, signs, guide rails, fences, plant material, utilities and other surfaces not intended for spray.
 - .2 Immediately remove any material sprayed where not intended as directed by Departmental Representative.
-

3.4 SEED BED PREPARATION

- .1 Do not perform work under adverse field conditions as determined by Departmental Representative.
- .2 Remove and dispose off-site of weeds; debris; stones 25 mm in diameter and larger; soil contaminated by oil, gasoline and other deleterious materials.
- .3 Verify that grades are correct. If discrepancies occur, notify Departmental Representative and commence work when instructed by Departmental Representative.
- .4 Fine grade surface free of humps and hollows to smooth, even grade, to contours and elevations indicated to tolerance of plus or minus 15 mm, surface draining naturally.
- .5 Cultivate fine graded surface approved by Departmental Representative to 25 mm depth immediately prior to seeding.
- .6 Ensure areas to be seeded are moist to a depth of 150 mm before seeding.

3.5 PREPARATION OF SLURRY

- .1 Measure quantities of materials by weight or weight-calibrated volume measurement satisfactory to Departmental Representative. Supply equipment required for this work.
- .2 Charge required water into seeder. Add material into hydraulic seeder under agitation. Pulverize mulch and charge slowly into seeder.
- .3 After materials are in seeder and well mixed, charge tackifier into seeder and mix thoroughly to complete slurry.

3.6 SLURRY APPLICATION

- .1 Ensure seed is placed under supervision of certified Landscape Planting Supervisor.
-

3.8 PROTECTION

- .1 Protect seeded areas from trespass until plants are established.
- .2 Remove protection devices as directed by Departmental Representative.

3.9 FERTILIZING PROGRAM

- .1 On cultivated surfaces, apply fertilizer at rate of:
 - .1 350 kg/hectare, ratio 8-32-16.

3.10 MAINTENANCE DURING ESTABLISHMENT PERIOD

- .1 Ensure maintenance is carried out under supervision of competent supervisor.
- .2 Perform following operations from time of seed application until acceptance by Departmental Representative:
 - .1 Water seeded area to maintain optimum soil moisture level for germination and continued growth of grass. Control watering to prevent washouts.
 - .2 Repair and reseed dead or bare spots to allow establishment of seed prior to acceptance.
 - .3 Cut grass to 50 mm whenever it reaches height of 70 mm. Remove clippings which will smother grass as directed by Departmental Representative.
 - .4 Fertilize seeded areas after 10 weeks after germination provided grasses matured in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles and water in well.

3.11 FINAL ACCEPTANCE

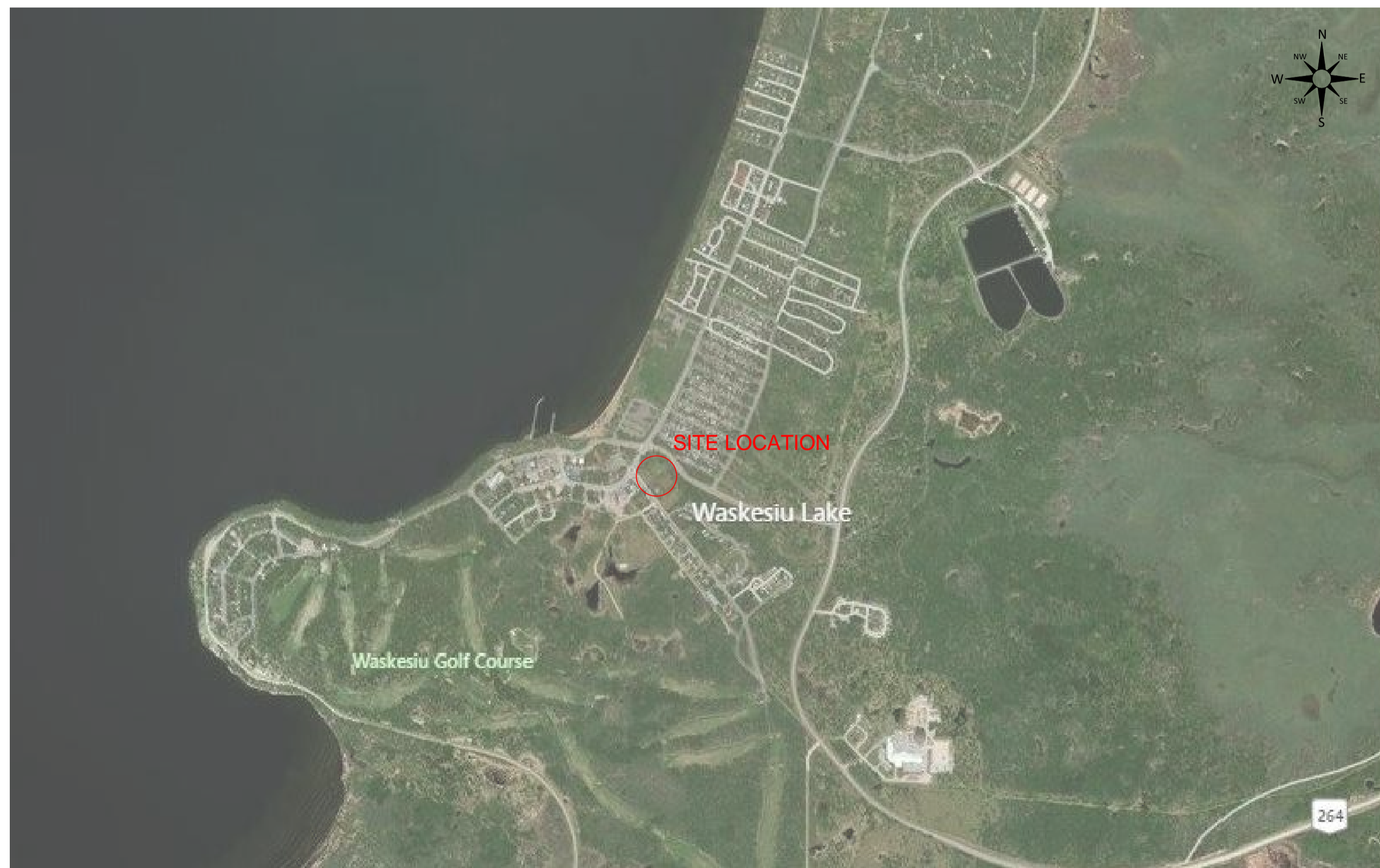
- .1 Seeded areas will be accepted by Departmental Representative provided that:
 - .1 Seeded areas are uniformly established free of rutted, eroded, bare or dead spots and extent of weeds apparent in grass is acceptable.
 - .2 Areas have been mown at least twice.
 - .3 Areas have been fertilized.
-



Parks Canada
Parcs Canada

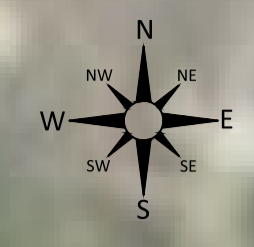
SITE REMEDIATION PROGRAM

Gravel Cap Installation



DRAWING INDEX	
Sheet No.	TITLE
C-00	COVER SHEET
C-01	EXISTING SITE CONDITIONS
C-02	DELINEATION OF SOIL IMPACTS
C-03	REMEDATION ACTIVITIES
C-04	CONSTRUCTION DETAILS
C-05	CROSS-SECTIONS
C-06	PROPOSED ACCESS ROUTE

WASKESIU LAWN BOWLING GREENS PRINCE ALBERT NATIONAL PARK, SK

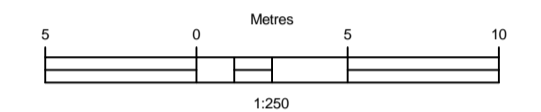


Canada

Parks Canada
Parcs Canada

LEGEND

- UNNAMED CREEK
- ASPHALT PATHWAY
- EXISTING CULVERTS
- WORK AREA
- TENNIS COURT FENCE
- TOPOGRAPHIC CONTOURS - MAJOR
- TOPOGRAPHIC CONTOURS - MINOR
- TREELINE
- TEMPORARY BENCHMARKS - CONCRETE BASE OF CORNER FENCE POSTS



Contractor to verify all dimensions & conditions on site and immediately notify the departmental representative of all discrepancies.

REV3	REVISED-RE-ISSUED FOR TENDER	08-24-2020
REV2	ISSUED FOR TENDER	03-27-2020
REV1	ISSUED FOR REVIEW	10-09-2019
revisions	description	date

A	A detail no. no. du detail	A
C	B location drawing no. sur dessin no.	B
	C drawing no. dessin no.	C

project projet

WASKESIU LAWN BOWLING GREENS

PRINCE ALBERT NATIONAL PARK
SASKATCHEWAN

drawing dessin

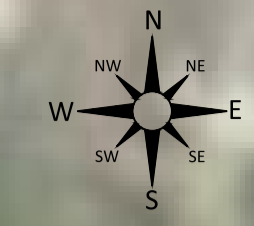
EXISTING SITE CONDITIONS

Designed By	P.CIPCIGAN	Conçu par
Date	2019/10/09	(yyyy/mm/dd)
Drawn By	D.LOGAN	Dessiné par
Date	2020/08/24	(yyyy/mm/dd)
Reviewed By	M.LYNDY	Examiné par
Date	2020/08/24	(yyyy/mm/dd)
Approved By	T.AUSTRINS	Approuvé par
Date	2020/08/24	(yyyy/mm/dd)
Tender	TENDER	Soumission
Project Manager	NICOLE CREAR	Administrateur de projets
Project no.		No. du projet

Drawing no. No. du dessin

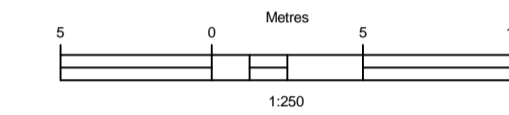
C-01





LEGEND

- ASPHALT PATHWAY
- EXISTING CULVERTS
- HAND AUGER LOCATIONS
- TENNIS COURT FENCE
- UNNAMED CREEK
- TOP OF GRAVEL CAP
- TOE OF GRAVEL CAP
- CENTRELINE OF SWALE AND DIRECTION OF FLOW
- OUTLINE OF SWALE
- MEETS APPLICABLE GUIDELINES
- EXCEEDS APPLICABLE GUIDELINES



Contractor to verify all dimensions & conditions on site and immediately notify the departmental representative of all discrepancies.

revisions	description	date
REV3	REVISED-RE-ISSUED FOR TENDER	08-24-2020
REV2	ISSUED FOR TENDER	03-27-2020
REV1	ISSUED FOR REVIEW	10-09-2019

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">A</td> <td style="width: 50%; text-align: center;">A</td> </tr> <tr> <td style="width: 50%; text-align: center;">C</td> <td style="width: 50%; text-align: center;">B</td> </tr> </table>	A	A	C	B	A detail no. / no. du détail B location drawing no. / sur dessin no. C drawing no. / dessin no.
A	A				
C	B				

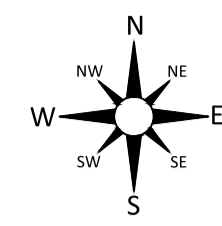
project projet
WASKESIU LAWN BOWLING GREENS
 PRINCE ALBERT NATIONAL PARK
 SASKATCHEWAN

drawing dessin
DELINEATION OF SOIL IMPACTS

Designed By	PAUL CIPCIGAN	Conçu par
Date	2019/10/09	(yyyy/mm/dd)
Drawn By	DONNA LOGAN	Dessiné par
Date	2020/08/24	(yyyy/mm/dd)
Reviewed By	REVIEWED	Examiné par
Date	2020/08/24	(yyyy/mm/dd)
Approved By	APPROVED	Approuvé par
Date	2020/08/24	(yyyy/mm/dd)
Tender	TENDER	Soumission
Project Manager	NICOLE CREAR	Administrateur de projets
Project no.		No. du projet

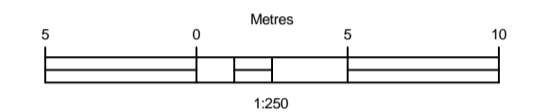
Drawing no. **C-02** No. du dessin





LEGEND

- UNNAMED CREEK
- ASPHALT PATHWAY
- EXISTING CULVERTS
- TENNIS COURT FENCE
- TOP OF GRAVEL CAP
- TOE OF GRAVEL CAP
- CENTRELINE OF SWALE AND DIRECTION OF FLOW
- OUTLINE OF SWALE
- CROSS SECTION LOCATIONS



Contractor to verify all dimensions & conditions on site and immediately notify the departmental representative of all discrepancies.

revisions	description	date
REV3	REVISED-RE-ISSUED FOR REVIEW	08-24-2020
REV2	ISSUED FOR TENDER	03-27-2020
REV1	ISSUED FOR REVIEW	10-09-2019

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">A</td> <td style="width: 50%; text-align: center;">A</td> </tr> <tr> <td style="width: 50%; text-align: center;">C</td> <td style="width: 50%; text-align: center;">B</td> </tr> </table>	A	A	C	B	<p>A detail no. no. du detail</p> <p>B location drawing no. sur dessin no.</p> <p>C drawing no. dessin no.</p>
A	A				
C	B				

project projet

WASKESIU LAWN BOWLING GREENS

PRINCE ALBERT NATIONAL PARK
SASKATCHEWAN

drawing dessin

REMEDIATION ACTIVITIES

Designed By	P.CIPCIGAN	Conçu par
Date	2019/10/09	(yyyy/mm/dd)
Drawn By	D.LOGAN	Dessiné par
Date	2020/08/24	(yyyy/mm/dd)
Reviewed By	M.LYNDY	Examiné par
Date	2020/08/24	(yyyy/mm/dd)
Approved By	T.AUSTRINS	Approuvé par
Date	2020/08/24	(yyyy/mm/dd)
Tender	TENDER	Soumission
Project Manager	NICOLE CREAR	Administrateur de projets
Project no.		No. du projet

Drawing no. **C-03** No. du dessin

WASKESIU DRIVE

LAKEVIEW DRIVE

MONTREAL DRIVE

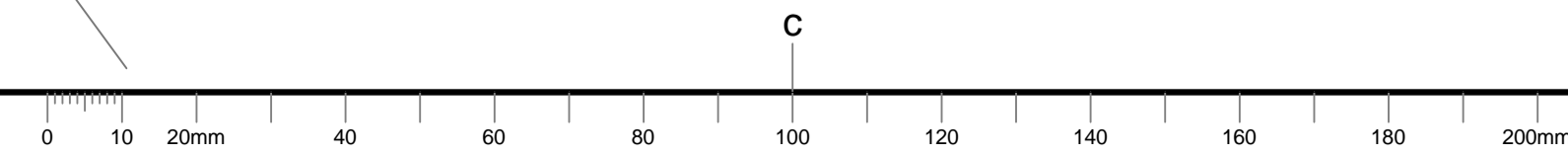
UNNAMED CREEK

TOE OF GRAVEL CAP
AREA =1461.65m²
(35.65x41m)

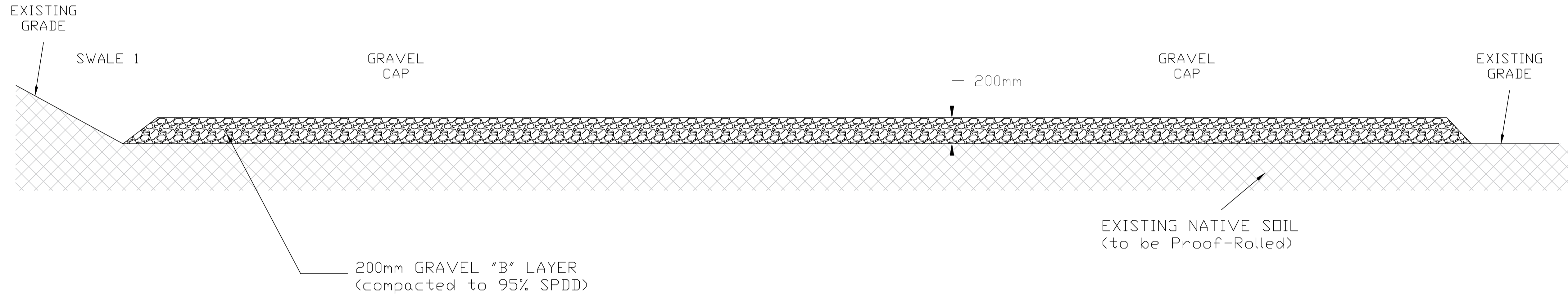
TOP OF GRAVEL CAP
AREA =1348.925m²
(34.15x39.5m)

LENGTH OF SWALE 1 = 132.5m

CULVERTS



GRAVEL CAP AREA CONSTRUCTION DETAIL



NOT TO SCALE

Contractor to verify all dimensions & conditions on site and immediately notify the departmental representative of all discrepancies.

revisions	description	date
REV1	ISSUED FOR REVIEW	08-24-2020
REV1	ISSUED FOR REVIEW	03-27-2020
REV1	ISSUED FOR REVIEW	10-09-2019

A	A detail no. no. du detail	A
C	B location drawing no. sur dessin no.	B
	C drawing no. dessin no.	C

project projet

WASKESIU LAWN BOWLING GREENS

PRINCE ALBERT NATIONAL PARK
SASKATCHEWAN

drawing dessin

CONSTRUCTION DETAILS

Designed By P.CIFCIGAN Conçu par
Date 2019/10/09 (yyyy/mm/dd)

Drawn By D.LOGAN Dessiné par
Date 2020/08/24 (yyyy/mm/dd)

Reviewed By M.LYNDS Examiné par
Date 2020/08/24 (yyyy/mm/dd)

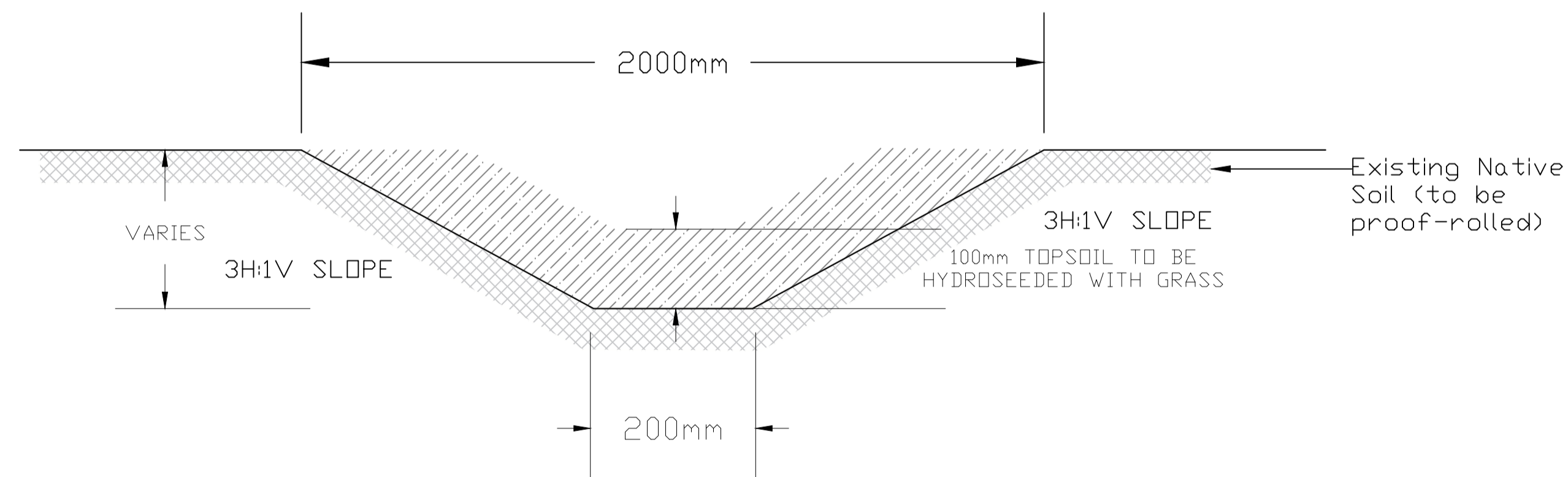
Approved By T.AUSTRINS Approuvé par
Date 2020/08/24 (yyyy/mm/dd)

Tender TENDER Soumission
Project Manager N.CREAR Administrateur de projets

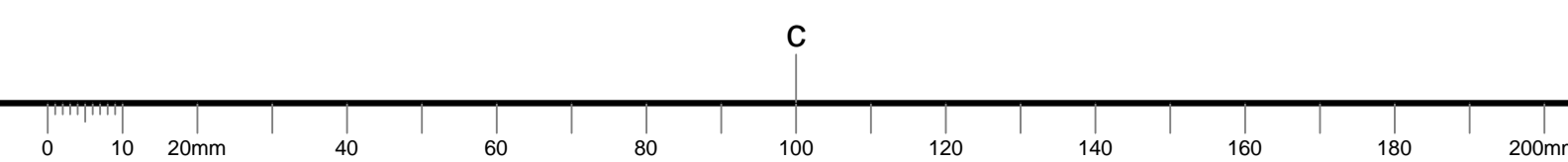
Project no. No. du projet

Drawing no. No. du dessin

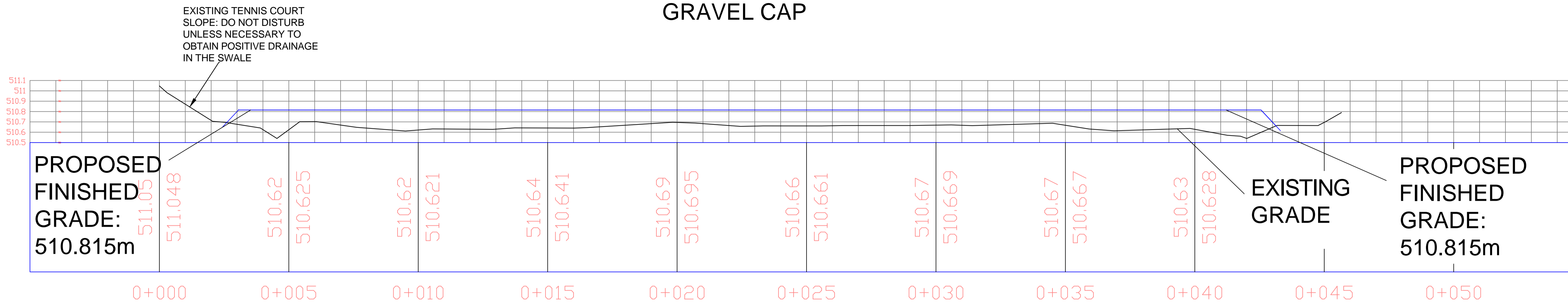
SWALE 1 CONSTRUCTION DETAIL



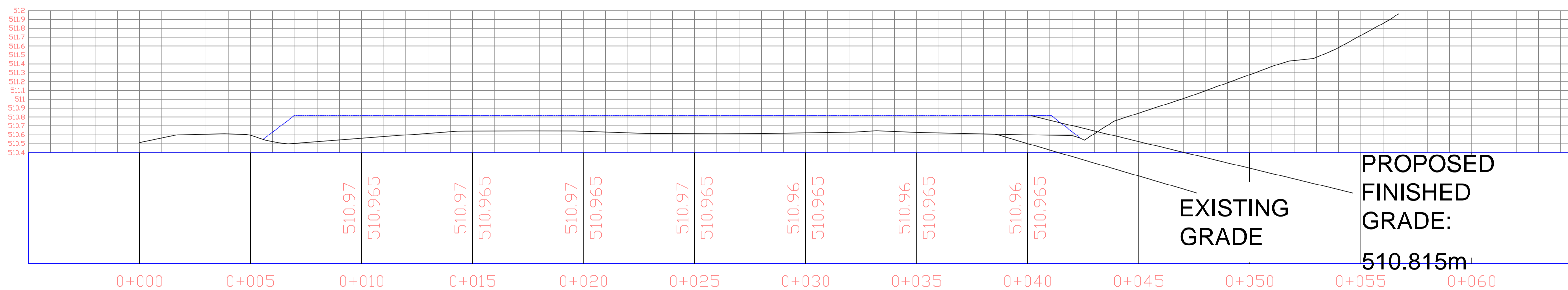
Excavate soil as needed to provide positive drainage inside the swale. Excavated soil to be placed under gravel cap.



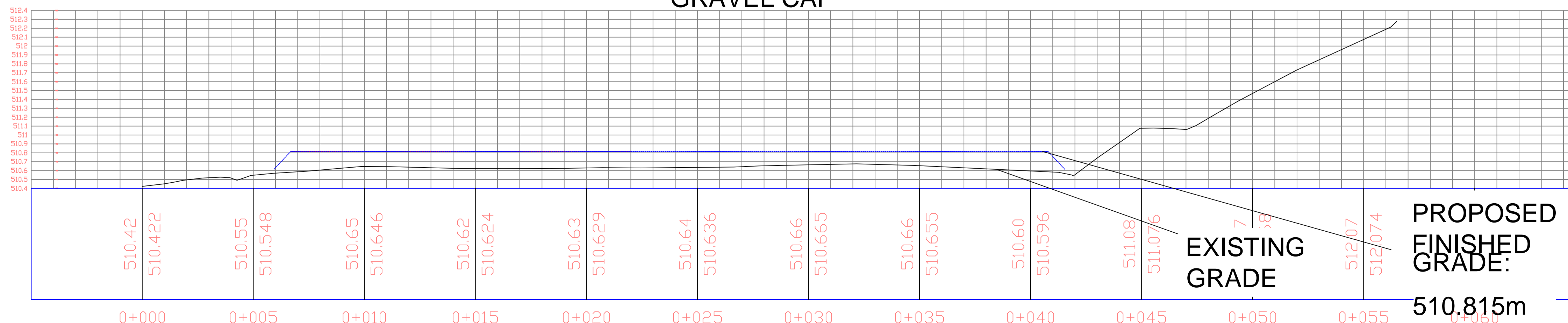
A-A' PROFILE GRAVEL CAP



B-B' PROFILE GRAVEL CAP



C-C' PROFILE GRAVEL CAP



NOTE: 4x VERTICAL EXAGGERATION ON ALL CROSS SECTIONS

Contractor to verify all dimensions & conditions on site and immediately notify the departmental representative of all discrepancies.

revisions	description	date
REV3	REVISED- RE-ISSUED FOR TENDER	08-24-2020
REV2	ISSUED FOR TENDER	03-27-2020
REV1	ISSUED FOR REVIEW	10-09-2019

A	B	C
A detail no. du detail	B location drawing no. sur dessin no.	C drawing no. dessin no.

project WASKESIU LAWN BOWLING GREENS

PRINCE ALBERT NATIONAL PARK
SASKATCHEWAN

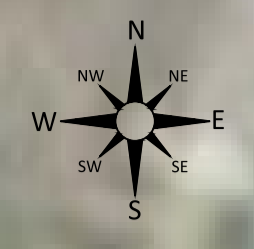
drawing CROSS-SECTIONS

Designed By	P.CIPCIGAN	Conçu par
Date	2019/10/08	(yyyy/mm/dd)
Drawn By	D.LOGAN	Dessiné par
Date	2020/08/24	(yyyy/mm/dd)
Reviewed By	M.LYNDS	Examiné par
Date	2020/08/24	(yyyy/mm/dd)
Approved By	T.AUSTRINS	Approuvé par
Date	2020/08/24	(yyyy/mm/dd)
Tender	TENDER N.CREAR	Soumission

Project manager Administrateur de projets

Project no. No. du projet

Drawing no. C-05 No. du dessin

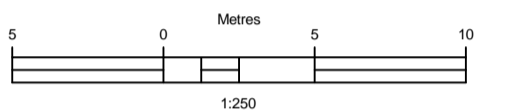


Canada

Parks Canada
Parcs Canada

LEGEND

- TREELINE
- - - WORK AREA
- ASPHALT PATHWAY
- EXISTING CULVERTS



Contractor to verify all dimensions & conditions on site and immediately notify the departmental representative of all discrepancies.

REV1	REVISED-RE-ISSUED FOR TENDER	08-24-2020
REV1	ISSUED FOR TENDER	03-27-2020
REV1	ISSUED FOR REVIEW	10-09-2019
revisions	description	date

<table border="1" style="width: 40px; height: 40px;"> <tr><td style="text-align: center;">A</td></tr> <tr><td style="text-align: center;">C</td></tr> </table>	A	C	A detail no. no. du detail B location drawing no. sur dessin no. C drawing no. dessin no.	<table border="1" style="width: 40px; height: 40px;"> <tr><td style="text-align: center;">A</td></tr> <tr><td style="text-align: center;">B C</td></tr> </table>	A	B C
A						
C						
A						
B C						

project projet
WASKESIU LAWN BOWLING GREENS
 PRINCE ALBERT NATIONAL PARK
 SASKATCHEWAN

drawing dessin
PROPOSED ACCESS ROUTE

Designed By	P.CIPCIGAN	Conçu par
Date	2019-10-09	(yyyy/mm/dd)
Drawn By	D.LOGAN	Dessiné par
Date	2020-08-24	(yyyy/mm/dd)
Reviewed By	M.LYNDY	Examiné par
Date	2020-08-24	(yyyy/mm/dd)
Approved By	T.AUSTRINS	Approuvé par
Date	2020-08-24	(yyyy/mm/dd)
Tender	TENDER	Soumission
Project Manager	NICOLE CREAR	Administrateur de projets
Project no.		No. du projet

Drawing no. No. du dessin
C-06