

SPECIFICATIONS

DIVISION 1 General Requirements

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Part 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract comprises supplying of 65,400 tonne of granular materials designated for the use in the proposed toe berm at Highfield Dam.
- .2 The Work includes the following:
 - .1 Sourcing the material.
 - .2 Obtaining all permissions for the removal of the material from the source including paying all fees and royalties.
 - .3 Compliance with landowner's and all other Authorities Having Jurisdiction (AHJ) conditions of permission to obtain material.
 - .4 Processing of all material at the source so the final product meets the design specification.
 - .5 Hauling material to stockpile location. The stockpile location will be on Canada Owned land east of the east abutment of the dam. (NE ¼ Section 36, Township 15, Range 11, West of the 3rd Meridian (NE 36-15-11-W3M)).
 - .6 Stockpiling at the designated location.
 - .7 Clean-up of stockpile location.

1.2 CONTRACT METHOD

- .1 Construct Work under combined lump sum and unit price contract.

1.3 WORK SEQUENCE

- .1 Construct Work in stages to accommodate continued use of premises during construction.
- .2 Co-ordinate Progress Schedule and co-ordinate with Departmental Representative Occupancy during construction.
- .3 Required stages:
 - .1 Delivery and stockpiling at site by July 1, 2015 of the total specified amount of granular material.

1.4 CONTRACTOR USE OF PREMISES

- .1 Limit use of premises for Work, for storage, and for access, to allow:
 - .1 Partial Departmental occupancy for access to an existing riprap stockpile.
- .2 Co-ordinate use of premises under direction of Departmental Representative.
- .3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .4 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .5 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.
- .6 At completion of construction condition of existing work: equal to or better than that which existed before new work started.

1.5 DEPARTMENTAL OCCUPANCY

- .1 Department may occupy site during construction period to access an existing riprap pile.

Co-operate with Departmental Representative in scheduling operations to minimize conflict and to facilitate Departmental usage.

1.6 DEPARTMENTAL FURNISHED ITEMS

- .1 Department Responsibilities:
 - .1 Supply Canada Owned land east of the east abutment of the dam for the purposes of stockpiling granular. (NE ¼ Section 36, Township15, Range 11, West of the 3rd Meridian (NE 36-15-11-W3M)).

1.7 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Specifications.
 - .2 Addenda.
 - .3 Change Orders.
 - .4 Other Modifications to Contract.
 - .5 Field Test Reports.
 - .6 Copy of Approved Work Schedule.
 - .7 Health and Safety Plan and Other Safety Related Documents.
 - .8 Other documents as specified.

Part 2 PRODUCTS - NOT USED

Part 3 EXECUTION - NOT USED

END OF SECTION

Part 1 GENERAL

1.1 REFERENCES

.1 General Conditions

1.2 CASH ALLOWANCES – NOT USED

1.3 ADDITIONAL WORK AND MATERIALS

.1 Expenditures under additional work and materials will be authorized in accordance with procedures provided in General Conditions GC6.4 – Determination of Price.

Part 2 PRODUCTS – NOT USED

Part 3 EXECUTION – NOT USED

END OF SECTION

Part 1 GENERAL

1.1 MEASUREMENT SYSTEM

- .1 This section specifies the measurement rules that will generally be used for payment purposes unless otherwise specified in the Contract Documents. In case of conflict between the method of measurement specified in this section and the requirements specified in Section 01 28 00 – Measurement Schedule, the latter will govern.
- .2 This section specifies the International System of Units (SI) in accordance with CAN/CSA–Z234.1–89 Canadian Metric Practice Guide.
- .3 When used in the Contract, the following abbreviations and symbols have the meaning assigned to them.

Abbreviation/Symbol	Meaning
µm	micrometre or micron
mm	millimetre
m	metre
mm ² or mm2	square millimetre
m ² or m2	square metre
ha	hectare
kPa	kilopascal
MPa	megapascal
m ³ or m3	cubic metre
l (or where clarity is needed L)	litre
L.S.	lump sum
g	gram
kg	kilogram
N	newton
kN	kilonewton
t	tonne
no.	number (quantity)
min	minute (time)
h	hour
d	day
wk	week
%	percent
>	greater than
≥	greater than or equal to
<	less than
≤	less than or equal to
\$	Canadian dollars
°	degree (angle)
°C	degree Celsius

1.2 METHOD OF MEASUREMENT

.1 Unless otherwise indicated in the Contract Documents:

- .1 Earthwork materials will be measured net in place, with no allowance for bulking, shrinkage, compression, foundation settlement, or waste;
- .2 Products will be measured net, with no allowance for waste;
- .3 Dimensions used in calculating quantities will be rounded to the nearest unit of dimension as follows:

Quantity	Dimension
Volume	centimetre
Area	decimetre
Length	centimetre

- .4 Contours may be based on aerial photograph interpretation and are approximate only. Actual ground elevations and location co-ordinates will be determined in the field during the course of the Work for measurement purposes; and
- .5 Measurements and payment will not be made for work carried out beyond measurement and payment lines and limits specified in the Contract Documents.

.2 When boundaries between different items of Work are not specified in the Contract Documents, such boundaries will be established by the Departmental Representative.

.3 Mass:

- .1 Mass will be measured by weigh scale or by estimated or theoretical mass taken from reference documents, as specified.
- .2 Mass will be measured to 3 decimal places.
- .3 Prepare detailed and summary haul records for material paid by mass as work progresses and submit daily to the Departmental Representative.

.4 Length:

- .1 Length will be measured at the item centreline or mean chord.
- .2 Items to be measured by linear dimension will be measured parallel to the base or foundation upon which such items are placed.
- .3 Items to be measured by station will be measured horizontal to the base or foundation upon which such items are placed.
- .4 Centre line for pipes, ducts, culverts, and similar items will be the line equidistant between inside faces of pipe walls.

.5 Area:

- .1 For rectangular and regular shaped objects, area will be measured using mean length and width or radius.
- .2 For irregular objects, area will be measured by the sum of squares, triangles, and circles, etc., as selected by the Departmental Representative.

- .6 Volumes:
 - .1 Unless otherwise indicated, volume will be measured using mean length, width, and height or thickness.
 - .2 Excavation and fill volumes will be computed using survey data input to software program.
- .7 Number of items will be measured on a per item basis.
- .8 Lump Sum items will not be measured for payment.
- .9 When standard manufactured items are identified by their physical characteristics, such characteristics will be considered as nominal. Unless more stringently controlled by specified tolerances, manufacturing tolerances established by the industry involved will be accepted.

1.3 MEASUREMENT COMPUTATION

- .1 Formulae and computer programs used for measurement computation will be as specified or, when not specified, as selected by the Departmental Representative.

1.4 MEASUREMENT OF WORK

- .1 Unless otherwise specified, the Departmental Representative will measure the Work for the purpose of determining payment to the Contractor.
- .2 The Departmental Representative will request the Contractor to attend with the Departmental Representative in making measurements.
- .3 If the Contractor does not attend pursuant to clause 1.4.2, measurements made or approved by the Departmental Representative will be considered to be the correct measurement for such part of the Work.
- .4 The Departmental Representative will prepare survey records and drawings for payment purposes as the Work progresses. The Departmental Representative will request the Contractor to attend, within 14 days, to examine and verify such records and drawings. If the Contractor does not attend to examine and verify such records and drawings, they will be considered to be correct.
- .5 If, after attending pursuant to clause 1.4.2 or 1.4.4, the Contractor disagrees with such measurements or records or drawings, they will nevertheless be considered correct until the Contractor notifies the Departmental Representative of the aspects in which they are considered incorrect. On receipt of such notice, the Departmental Representative will review the measurements or records or drawings and either confirm or vary them.

1.5 QUANTITIES

- .1 Unless otherwise indicated, quantities specified in Bid and Acceptance Form - Appendix 1 Combined Price Form for Unit Price Work are estimated quantities and will not be considered as actual quantities of Work to be performed. Subject to the Contract terms, unit prices stated in the Bid and Acceptance Form - Appendix 1 Combined Price Form

will be applied to actual quantities of Work performed as measured in accordance with the Contract Documents.

1.6 SCALES

- .1 Unless otherwise indicated, provide weigh scales, certified by Industry Canada, for measurement purposes.
- .2 Provide scales that are accurate to within 0.5% of correct mass throughout the range of use. Spring balances will not be permitted.
- .3 Prior to use and at anytime requested by the Departmental Representative, provide the services of a qualified independent person, acceptable to the Departmental Representative, for the testing and servicing of weigh scales. Perform baseline tests and record results. Service and adjust weigh scales to meet requirements of Industry Canada and the Contract Documents. Submit a final report of weigh scale tests, services, and adjustments.
- .4 Scales indicating more than true mass will not be permitted to operate and material measured subsequent to the last previous correct accuracy test will be reduced by the percentage of error in excess of 0.5%.
- .5 Scales indicating less than true mass will be adjusted and no additional payment will be made for materials previously scaled and recorded.

1.7 BID AND ACCEPTANCE FORM - APPENDIX 1 COMBINED PRICE FORM

- .1 Bid and Acceptance Form - Appendix 1 Combined Price Form is divided into items for purposes of measurement and payment of Work. Price each item in accordance with the methods of measurement specified in the Contract.
- .2 Item names in Bid and Acceptance Form - Appendix 1 Combined Price Form identify the work covered by the respective item, but do not define the size or nature of the unit.
- .3 Read item names in Bid and Acceptance Form - Appendix 1 Combined Price Form as part of the item scope, measurement, and payment requirements to which they apply in the Measurement Schedule.
- .4 For each price specified in Bid and Acceptance Form - Appendix 1 Combined Price Form include all costs and charges required to perform the Work including overhead charges and profit, and all costs of all related Work for which payment is not specified elsewhere.
- .5 Subject to the provisions of the Contract Documents, the total amount of Bid and Acceptance Form - Appendix 1 Combined Price Form shall cover all of the Contractor's obligations under the Contract and all matters and things necessary for performance of the Work in accordance with the Contract Documents.
- .6 Payments will be made only for items specified in Bid and Acceptance Form - Appendix 1 Combined Price Form. Costs and charges not directly provided for in the Schedule of Prices will be deemed to be included therein.

- .7 Works or material included in any one item will not also be measured for payment under another item. No item will be paid for more than once.
- .8 Omissions or errors in any item including quantities in Bid and Acceptance Form - Appendix 1 Combined Price Form will not invalidate the Contract nor release the Contractor from any of his obligations or liabilities under the Contract.

1.8 LUMP SUM ITEMS

- .1 Breakdown of Lump Sum Items
 - .1 Submit a breakdown of each Lump Sum item included in Bid and Acceptance Form - Appendix 1 Combined Price Form, to the Departmental Representative within 21 days from the date of notification of acceptance of the offer.
 - .2 Provide sufficient details as may be required by the Departmental Representative to identify the principal components of the Work and to permit ready valuation of Work performed.

Part 2 PRODUCTS – NOT USED

Part 3 EXECUTION – NOT USED

END OF SECTION

Part 1 GENERAL

1.1 MEASUREMENT SCHEDULE

.1 Schedule: See next page.

Part 2 PRODUCTS – NOT USED

Part 3 EXECUTION – NOT USED

ITEM NO.	ITEM NAME	SECTION	SCOPE AND MEASUREMENT
1.	Mobilization and Demobilization	Division 1	1. Scope: Includes supplying to the Site of all labour, equipment, products and incidentals; maintaining existing and providing temporary roads and facilities including buildings, utilities, and other construction necessary for the Contractor's methods during performance of the Contract and which does not remain as part of the Permanent Work; removing and transporting from the Site, all labour, equipment, products, and other items not required to remain upon Total Performance of the Work; cleaning of the Site; and all related work and materials for which payment is not included elsewhere.
2.	Toe Berm Granular	31 37 01	.1 Scope: Includes sourcing, supplying, paying royalties (as required), sizing, screening, quality control testing, loading, determining mass per load, hauling, stockpiling, and all related work and materials for which payment is not included elsewhere. .2 Measurement: Shall be the recorded mass of granular materials delivered to site.

END OF SECTION

Part 1 GENERAL

1.1 ADMINISTRATIVE RESPONSIBILITIES

- .1 The Departmental Representative will be responsible for the administrative requirements for the Preconstruction and Progress meetings.
- .2 The Contractor shall be responsible for administrative requirements for Workplace Orientation and Safety meetings.

1.2 ADMINISTRATIVE

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

1.3 PRECONSTRUCTION MEETING

- .1 Within 15 days after award of Contract and prior to commencement of activities at the site.
- .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 5 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 16.07 - Construction Progress Schedules - Bar (GANTT) Chart.
 - .3 Schedule of submission of shop drawings. Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 - Construction Facilities.
 - .5 Delivery schedule of specified materials and equipment.
 - .6 Site security.
 - .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
 - .8 Monthly progress claims, administrative procedures, photographs, hold backs.
 - .9 Appointment of inspection and testing agencies or firms.
 - .10 Insurances, transcript of policies.

1.4 PROGRESS MEETINGS

- .1 During course of Work and prior to project completion, schedule progress meetings at the call of the Departmental Representative.

- .2 Contractor, major Subcontractors involved in Work and Departmental Representative are to be in attendance.
- .3 Notify parties minimum 7 days prior to meetings.
- .4 Agenda to include the following:
 - .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 Safety Issues
 - .12 Other business.

1.5 WORKPLACE ORIENTATION MEETINGS

- .1 Frequency: As required for all new workers prior to commencement of working on Site.
- .2 Purpose: To familiarize new workers with site conditions, rules, regulations, safety and security requirements.
- .3 Attendees: All new Contractor and other personnel scheduled to work on the Site.
- .4 Agenda may include the following:
 - .1 Project description including areas of work.
 - .2 Hazardous areas including open excavations, construction equipment traffic, blasting, storage of chemicals or explosives, etc.
 - .3 Safety equipment to be worn by workers.
 - .4 Traffic rules on the Site.
 - .5 Evacuation procedures.
 - .6 First aid procedures.
 - .7 Excavation or work permit procedures.
 - .8 WHMIS requirements for storage and handling of chemicals.
 - .9 Fire safety rules and regulations.
 - .10 Rules and regulations regarding wildlife, environmental concerns, drugs, alcohol, etc.
 - .11 Incident reporting
 - .12 Sign-in procedures

1.6 SAFETY MEETINGS

- .1 Frequency: Weekly during the course of the Work for each area of the work.
- .2 Purpose: To review safety concerns and implement safety measures.
- .3 Attendees: Contractor's and Departmental personnel for each area of work.
- .4 Agenda may include the following:

- .1 Review and discussion of safety concerns, incidents, accidents and “near misses”.
- .2 Remedial or preventative actions to be taken.

Part 2 PRODUCTS - NOT USED

Part 3 EXECUTION - NOT USED

END OF SECTION

Part 1 GENERAL

1.1 DEFINITIONS

- .1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and 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 Master Plan: summary level schedule that identifies major activities and key milestones.
- .7 Milestone: significant event in project, usually completion of major deliverable.
- .8 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.
- .9 Project Planning, Monitoring and Control System: overall system operated by Departmental Representative to enable monitoring of project work in relation to established milestones.

1.2 REQUIREMENTS

- .1 Ensure Master Plan and Detail Schedules are practical and remain within specified Contract duration.
- .2 Plan to complete Work in accordance with prescribed milestones and time frame.
- .3 Limit activity durations to maximum of approximately 20 working days, to allow for progress reporting.
- .4 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

1.3 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Departmental Representative within 15 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 15 working days of receipt of acceptance of Master Plan.

1.4 PROJECT MILESTONES – NOT USED

1.5 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 revised schedules within 5 working days.
- .3 Revise impractical schedule and resubmit within 5 working days.
- .4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

1.6 PROJECT SCHEDULE

- .1 Develop detailed Project Schedule derived from Master Plan.

1.7 PROJECT SCHEDULE REPORTING

- .1 Update Project Schedule on weekly 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.

1.8 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.
- .2 Weather related delays with their remedial measures will be discussed and negotiated.

Part 2 PRODUCTS - NOT USED

Part 3 EXECUTION - NOT USED

END OF SECTION

Part 1 GENERAL

1.1 ADMINISTRATIVE

- .1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups 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 co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .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 is co-ordinated.
- .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.

1.2 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Where requested, submit shop drawings bearing stamp and signature of qualified professional engineer registered or licensed in Province of Saskatchewan, Canada.
- .3 Indicate materials, methods of placement, 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 co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow 10 days for Departmental Representative's review of each submission.
- .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .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, 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 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.
- .9 After Departmental Representative's review, distribute copies.
- .10 Submit 3 prints or 1 electronic copy of shop drawings for each requirement requested in specification Sections or as requested by Departmental Representative.
- .11 Submit electronic copies 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 electronic copies of manufacturers' 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.
- .13 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .14 Submit 3 print copies and 1 electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.
- .15 Delete information not applicable to project.
- .16 Supplement standard information to provide details applicable to project.
- .17 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned 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.
- .18 The review of shop drawings by Departmental Representative is for sole purpose of ascertaining conformance with general concept.
 - .1 This review shall not mean that Departmental Representative approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
 - .2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that

pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

Part 2 PRODUCTS - NOT USED

Part 3 EXECUTION - NOT USED

END OF SECTION

Part 1 GENERAL

1.1 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Saskatchewan
 - .1 Occupational Health and Safety Act, 1993, S.S. 2007.

1.2 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within 7 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.
- .3 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative monthly.
- .4 Submit copies of reports or directions issued by Federal and Provincial health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 7 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 7 days after receipt of comments from Departmental Representative.
- .7 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.
- .9 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.3 FILING OF NOTICE

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

1.4 SAFETY ASSESSMENT

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

1.5 MEETINGS

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

1.6 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.7 PROJECT/SITE CONDITIONS

- .1 Work at site will involve contact with:
 - .1 Contractors supplying or accessing riprap
 - .2 AAFC Staff.

1.8 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request resubmission with correction of deficiencies or concerns.

1.9 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.10 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Regulations, 1996.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.11 UNFORSEEN HAZARDS

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

1.12 HEALTH AND SAFETY CO-ORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1 Have site related working experience specific to activities associated with both underwater and dry land construction.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .4 Be responsible for implementing, enforcing daily and monitoring site specific Contractor's Health and Safety Plan.
 - .5 Be on site during execution of Work and report directly to and be under direction of site supervisor.

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 having jurisdiction, and in consultation with Departmental Representative.

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 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.

Part 2 PRODUCTS - NOT USED

Part 3 EXECUTION - NOT USED

END OF SECTION

Part 1 GENERAL

1.1 DEFINITIONS

- .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2 SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prior to commencing construction activities or delivery of materials to site, submit Environmental Protection Plan (EPP) for review and approval by Departmental Representative. EPP is to present comprehensive overview of known or potential environmental issues which must be addressed during construction. EPP to meet all legislative requirements and include a summary of means to avoid, reduce or manage risks to the environment.
- .3 Attached is **Appendix A “Figure 1, Site Location Plan”**, as taken directly from the report “Rare Plant, Wildlife, Fish and Habitat Assessments for the Rehabilitation of the Highfield Dam Project” (KGS Group 2010). The plan shows species of concern and vegetation communities near the stockpile location. The contractor’s EPP needs to be cognisant of the identified environmental features.
- .4 Address topics at level of detail commensurate with environmental issue and required construction task.
- .5 Environmental protection plan to include:
 - .1 Name of persons responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Name and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
 - .3 Name and qualifications of persons responsible for training site personnel.
 - .4 Descriptions of environmental protection personnel training program.
 - .5 Erosion and sediment control plan which identifies 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.
 - .6 Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil 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. Plans include measures to minimize amount of mud 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. Plan to include measures for marking limits of

use areas including methods for protection of features to be preserved within authorized work areas.

- .9 Spill Control Plan: including 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 including clearing debris.
- .11 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, do not become air borne and travel off project site.
- .12 Contaminant prevention plan that: identifies potentially hazardous substances to be used on job site; identifies intended actions to prevent introduction of such materials into air, water, or ground; and details provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .13 Waste water management plan that identifies methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.
- .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.
- .15 Pesticide treatment plan: to be included and updated, as required.

1.3 FIRES

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

1.4 DISPOSAL OF WASTES

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or any deleterious substances into waterways.

1.5 DRAINAGE

- .1 Provide erosion and sediment control plan that identifies type and location of erosion and sediment controls to be provided. Plan: 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.
- .2 Provide Water Pollution Prevention Plan (WPPP) to identify potential construction activities and materials that could pollute the reservoir or canal. Plan: include prevention, control, monitoring and reporting measures to assure compliance with Federal, Provincial, and Municipal laws and regulations.
- .3 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .4 Do not pump water containing suspended materials into waterways.
- .5 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.6 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties where indicated.
- .2 Minimize stripping of topsoil and vegetation.

1.7 WORK ADJACENT TO WATERWAYS

- .1 Do not dump excavated fill, waste material or debris in waterways.

1.8 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 Control emissions from equipment and plant to local authorities' emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area, by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.9 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/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite 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.

1.10 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, 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.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

Part 2 PRODUCTS - NOT USED

Part 3 EXECUTION - NOT USED

END OF SECTION

Part 1 GENERAL

1.1 REFERENCES AND CODES

- .1 Perform Work in accordance with federal, provincial or local codes provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Meet or exceed requirements of:
 - .1 Contract documents.
 - .2 Specified standards, codes and referenced documents.

1.2 REGULATORY RESPONSIBILITY

- .1 Conform to Regulatory Requirements, pay all fees and give all notices they require.
- .2 Obtain approvals necessary for the Work and the Contract from the regulatory agencies having jurisdiction, except those approvals obtained by the Departmental Representative as identified in this section.
- .3 Department will obtain those approvals that involve agreement between Department and the Regulatory Agency having jurisdiction.

1.3 REGULATORY REQUIREMENTS VARIANCE

- .1 If the Contract Documents are at variance with Regulatory Requirements, notify Departmental Representative in writing, requesting direction, immediately after such variance becomes known.
- .2 The Departmental Representative may make Changes in the Work due to Regulatory Requirements. Any cost associated with authorized changes will be valued in accordance with the General Conditions.
- .3 If the Contractor fails to provide written notice and performs work knowing it to be contrary to Regulatory Requirements, the Contractor accepts responsibility for correcting violations thereof, and bears the costs, expenses and damages attributable to the Contractor's failure to comply with the provisions of such Regulatory Requirements.

1.4 HAZARDOUS MATERIAL DISCOVERY

- .1 Stop work immediately when material hazardous to health of workers or the public is encountered during demolition work. Notify Departmental Representative.

Part 2 PRODUCTS - NOT USED

Part 3 EXECUTION - NOT USED

END OF SECTION

Part 1 GENERAL

1.1 SUBMITTALS

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

1.2 INSTALLATION AND REMOVAL

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
- .2 Identify areas which have to be gravelled to prevent tracking of mud.
- .3 Indicate use of supplemental or other staging area.
- .4 Provide construction facilities in order to execute work expeditiously.
- .5 Remove from site all such work after use.

1.3 HOISTING

- .1 Provide, operate and maintain hoists and cranes as required for moving of materials and equipment.
- .2 Hoists and cranes to be operated by qualified operator.

1.4 CONSTRUCTION PARKING

- .1 Parking will be permitted on site.
- .2 Provide and maintain adequate access to project site.

1.5 SECURITY

- .1 Provide and pay for site security personnel to guard site and contents of site after working hours and during holidays as deemed necessary by the Contractor.

1.6 OFFICES

- .1 Provide office heated to 22 degrees C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table.
- .2 Provide marked and fully stocked first-aid case in a readily available location.
- .3 Subcontractors to provide their own offices as necessary. Direct location of these offices.

1.7 EQUIPMENT, TOOL AND MATERIALS STORAGE

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.8 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.9 PROTECTION AND MAINTENANCE OF TRAFFIC

- .1 Provide access and temporary relocated roads as necessary to maintain traffic.
- .2 Maintain and protect traffic on affected roads during construction period.
- .3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
- .4 Protect travelling public from damage to person and property.
- .5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.
- .7 Construct access and haul roads necessary.
- .8 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.
- .9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .10 Dust control: adequate to ensure safe operation at all times.
- .11 Location, grade, width, and alignment of construction and hauling roads: subject to approval by Departmental Representative.
- .12 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.
- .13 Provide snow removal during period of Work.
- .14 Remove, upon completion of work, haul roads designated by Departmental Representative.

1.10 CLEAN-UP

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.
- .4 Stack stored new or salvaged material not in construction facilities.

Part 2 PRODUCTS - NOT USED

Part 3 EXECUTION

3.1 EROSION AND SEDIMENTATION CONTROL

- .1 Provide control measures to prevent discharge of sediments or deleterious materials into the reservoir and waterways during construction activities according to requirements of authorities having jurisdiction.

- .2 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.
- .3 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .4 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 SITE RESTORATION

- .1 Upon completion of Work, remove all temporary construction facilities, including haul roads. Restore the site to condition acceptable to Departmental Representative

END OF SECTION

Part 1 GENERAL

1.1 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Provide on-site containers for collection of waste materials and debris.
- .5 Dispose of waste materials and debris off site.
- .6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .7 Provide adequate ventilation during use of volatile or noxious substances.

1.2 FINAL CLEANING

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery and equipment.

Part 2 PRODUCTS - NOT USED

Part 3 EXECUTION - NOT USED

END OF SECTION

Part 1 GENERAL

1.1 INSPECTION AND DECLARATION

- .1 Contractor's Inspection: Contractor and Subcontractors: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Departmental Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
 - .2 Request Departmental Representative Inspection.
- .2 Departmental Representative Inspection: Departmental Representative and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor to correct Work accordingly.
- .3 Completion: submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents.
 - .2 Defects have been corrected and deficiencies have been completed.
- .4 Final Inspection: when items noted above are completed, request final inspection of Work by Departmental Representative and Contractor. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.
- .5 Declaration of Substantial Performance: when Departmental Representative considers deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance.
- .6 Commencement of Lien and Warranty Periods: date of Departmental Representative's acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
- .7 Final Payment: when Departmental Representative considers final deficiencies and defects have been corrected and it appears requirements of Contract have been totally performed, make application for final payment. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.
- .8 Payment of Holdback: after issuance of certificate of Substantial Performance of Work, submit an application for payment of holdback amount.

1.2 CLEANING

- .1 In accordance with Section 01 74 11 - Cleaning.

Part 2 PRODUCTS - NOT USED

Part 3 EXECUTION - NOT USED

END OF SECTION