

Project:	2026-RFT-013				
Addendum No.	3	No. of Pages:			
Date:	September 9, 2026	Doc. No: 2026-RFT-013			

The following clarifications in the Request for Tender Documents are effective immediately.
This Addendum forms part of the Contract Documents.

Reference to Addendum 2, answer #2 : The answer states “Refer to the updated table in 2.1.5 with classification requirements in 31 05 16 – Aggregates.” The Table was not included in Addendum 2.

Below is the **updated classification table** regarding Clause 2.1.5 in 31 05 16 – Aggregates :

ASTM Sieve Designation	Percent Passing					
	Granular A (25mm Base)	Granular B (75mm Sub-Base)	Granular C (Sand)	Select Subgrade	Riprap	6” Minus
200 mm	-	-	-	100	100	-
150 mm	-	-	-	-	-	100
100 mm	-	-	-	-	0-10	70-100
75 mm	-	100	-	-	-	-
37.5 mm	-	-	-	-	-	50-90
25 mm	100	50-100	-	50-100	0-5	30-70
19 mm	75-100	-	-	-	-	25-60
9.5 mm	50-85	-	100	-	0-2	-
4.75 mm	35-65	20-55	60-100	20-70	-	10-35
2 mm	25-50	-	30-85	-	-	-
0.425 mm	15-30	5-35	-	5-45	-	-
0.30 mm	-	-	10-50	-	-	-
0.15 mm	-	-	-	-	-	-
0.075 mm	5-8	0-8	0-10	0-10	0-1	0-10

Project Name:

Addendum No.: 3

The following Documents will be attached as PDF's :

- Part II – Service Agreement
- Part III – General Conditions`
- Part IV – Supplementary Conditions
- Part V – Terms of Reference
- Parts VI – General Requirements
- Geotechnical Report



CONSTRUCTION SERVICES
PART II – SERVICE AGREEMENT



CITY OF IQALUIT SERVICES AGREEMENT

BETWEEN: THE MUNICIPAL CORPORATION OF THE CITY OF IQALUIT

(hereinafter referred to as the "CITY OF IQALUIT")

OF THE FIRST PART

AND: **<CONTRACTOR NAME>**

(hereinafter referred to as the "Contractor")

OF THE SECOND PART

WHEREAS the CITY OF IQALUIT has requested the Contractor to provide construction services for the **<insert project name/ contract title>**;

AND WHEREAS the Contractor has agreed to provide such services to the CITY OF IQALUIT in its proposal dated **<insert proposal date>**;

AND WHEREAS the CITY OF IQALUIT and the Contractor wish to set out the terms and conditions relating to the provision of such services.

1. SERVICES AND PAYMENT

- 1.1 The Contractor agrees to provide to the CITY OF IQALUIT those services set out in the job description and scope of work provided on **<insert bid date> (the "Services")**.
- 1.2 The CITY OF IQALUIT agrees to pay for the services described above, a total amount not greater than **<Bid Value>**, for the provision of professional services based on the Bid dated **<Bid Submission Date>**.

2. TERM

- 2.1 This Contract shall commence on the **<Contract Commence Date>** and terminates on the **<Contract Termination Date>** unless otherwise terminated in accordance with the provisions of this Contract.

3. NOTICE AND ADDRESS

- 3.1 Any notice required to be given herein or any other communication required by this contract shall be in writing and shall be personally delivered, sent by facsimile, or posted by prepaid registered mail and shall be addressed as follows:
 - i) If, to the CITY OF IQALUIT:
Steve England
Chief Administrative Officer
City of Iqaluit
100-1085 Mivvik Street
Iqaluit, Nunavut, X0A 3H0

Reference:
 - ii) If to the contractor at:
<Contractor Representative – Name>
<Contractor Organization Name>
<Contractor Address>
- 3.2 Every such notice and communication, if delivered by hand, shall be deemed to have been received on the date of delivery or if sent by prepaid registered mail shall be deemed to have been received on the seventh day after posting, or if by facsimile, 48 hours after the time of transmission, excluding from the calculation weekends and statutory holidays.

CONSTRUCTION SERVICES
PART II – SERVICE AGREEMENT

4. COMPLETE AGREEMENT

- 4.1 This contract and its attachments constitute the complete contract between the parties. Except as provided herein, it supersedes and shall take effect in substitution for all previous agreements. It is subject to change only by an instrument executed in writing by the City.
- 4.2 If this contract arises from a request for proposals or tender call, the provisions of the request for proposals or tender call and the contractor's bid or proposal submission are incorporated into this contract and may be used to clarify, explain or supplement this contract, but shall not be used to contradict any express terms of this contract.
- 4.3 In the event of a conflict between this contract, the contractor's bid or proposal submission, and the City's original tender bid instructions, the more recently prepared document shall govern to the extent of such inconsistency.

5. GENERAL TERMS

- 5.1 Any information obtained from or concerning any department of the CITY OF IQALUIT or clients of any department of the CITY OF IQALUIT, by the contractor, its agents or employees in the performance of any contract shall be confidential. The contractor shall take such steps as are necessary to ensure that any such information is not disclosed to any other person and shall maintain confidential and secure all material and information that is the property of the CITY OF IQALUIT and in the possession of or under the control of the contractor. This clause survives the termination of this contract.
- 5.2 Time shall in every respect be of the essence. The contractor shall deliver the services specified in the contract and according to the project schedule on costs. The CITY OF IQALUIT may grant reasonable extensions to the contractor for delays, if the contractor can show those delays were caused by circumstances beyond the control of the contractor.
- 5.3 The contractor is an independent contractor with the CITY OF IQALUIT and nothing in this contract shall be construed or deemed to create the relationship of employee and employer or of principal and agent between the CITY OF IQALUIT and the contractor. The contractor is solely responsible for payments of all statutory deductions or contributions including but not limited to pension plans, unemployment insurance, income tax, workers' compensation and the Nunavut Payroll Tax.
- 5.4 This contract shall be interpreted and governed in accordance with the laws of Nunavut and the laws of Canada as they apply in Nunavut.
- 5.5 No waiver by either party of any breach of any term, condition or covenant of this contract shall be effective unless the waiver is in writing and signed by both parties. A waiver, with respect to a specific breach, shall not affect any rights of the parties relating to other or future breaches.
- 5.6 The failure of either party at any time to require the performance of any provision or requirement of this contract shall not affect the right of that party to require the subsequent performance of that provision or requirement.
- 5.7 Title to any report, drawing, photograph, plan, specification, model, prototype, pattern, sample, design, logo, technical information, invention, method or process and all other property, work or materials which are produced by the contractor in performing the contract or conceived, developed or first actually reduced to practice in performing the contract (herein called "the Property") shall vest in the CITY OF IQALUIT and the contractor hereby absolutely assigns to the CITY OF IQALUIT the copyright in the property for the whole of the term of the copyright. The contractor shall not be responsible for any loss or damage suffered by the City of Iqaluit or any third parties resulting from any unauthorized use or modification of the property, errors in transmission of the property, changes to the Property by others, the consequences of design defects due to the design of others, or defects in contract documents prepared by others, and the City of Iqaluit agrees to defend, indemnify, and hold the Contractor harmless from and against all claims, demands, losses, damages, liability and costs associated therewith. Subject to the foregoing, the Property may be relied by the City of Iqaluit for design and construction work undertaken by other parties with respect to the Services provided that such parties verify the accuracy and completeness of the Property to their satisfaction.
- 5.8 It is intended that all provisions of this agreement shall be fully binding and effective between the parties, but in the event that any particular provision or provisions or a part of one is found to be void, voidable or unenforceable for any reason whatever, then the remainder of the agreement shall be interpreted as if such provision, provisions, or part thereof, had not been included.
- 5.9 This contract may be extended by the written consent of the parties.

CONSTRUCTION SERVICES
PART II – SERVICE AGREEMENT

- 5.10 The CITY OF IQALUIT may delegate any of its authority and undertaking pursuant to this contract to any employee or contractor the CITY OF IQALUIT by notice in writing to the Contractor.
- 5.11 This contract shall ensure to the benefit of and be binding on the respective administrators, successors and assignment of each of the parties hereto.
6. CONTRACTOR RESPONSIBILITIES
- 6.1 The Contractor shall provide all equipment, supplies and materials necessary in connection with providing and carrying out the Services. The Contractor shall obtain and maintain, at its expense, all permits and licenses, and comply with all applicable laws which shall or might affect or apply to the Services.
- 6.2 The Contractor shall perform the Services with that degree of professional skill, care and diligence that an experienced and competent professional in the same field would use in performing similar services in relation to a project similar in scale and complexity to Services, and in a competent, efficient, lawful and ethical manner.
- 6.3 The Contractor shall indemnify and hold harmless, the CITY OF IQALUIT, its officers, employees, servants and agents from and against all claims, actions, causes of action, demands, losses, costs, damages, expenses, suits or other proceedings by whomsoever made, brought or prosecuted in any manner based upon or related to the negligent acts, errors, or omissions of the Contractor under this contract or the performance of the Services.
- 6.4 The Contractor shall be liable to the CITY OF IQALUIT for any loss or damage to property or equipment that is supplied to or placed in the care, custody or control of the Contractor for use in connection with the contract if such loss or damage is attributable to the negligence or deliberate acts of the Contractor or its employees or agents.
- 6.5 The Contractor shall not subcontract its Services hereunder, to any Subcontractor or third person without the prior written consent of the CITY OF IQALUIT. If the Contractor subcontracts any part of the Services, it shall require by contract that the Subcontractor comply with the provisions of this Contract of general application and of application specifically to the Services subcontracted, including without limitation to provide insurance as specified in ARTICLE 9. Contractor shall be fully responsible for any part of the Services performed by Subcontractor and for the acts or omissions of Subcontractor and all persons either directly or indirectly employed by them, to the same extent as the Contractor is for its own acts or omissions
- 6.6 The Contractor shall produce verbal and written reports, analyses, schedules, and other documents relating to the Services upon the request of the CITY OF IQALUIT. To produce the said reports, analyses, schedules and other documents the Contractor shall be given reasonable access facilities, equipment, and personnel of the CITY OF IQALUIT as may be required.
- 6.7 The Contractor shall establish and maintain, to the satisfaction of the CITY OF IQALUIT, appropriate business standards, procedures and controls including business standards, procedures and controls necessary to avoid any real or apparent impropriety or adverse impact on the interests of the CITY OF IQALUIT.
- 6.8 If, in the opinion of the CITY OF IQALUIT acting reasonably, the Contractor is in default in respect of any obligation of the Contractor hereunder, the CITY OF IQALUIT may rectify such default and any direct costs associated with any such remediation, including a reasonable allowance for the use of the CITY OF IQALUIT's own employees or equipment. Shall be due and owing by the Contractor to the CITY OF IQALUIT.
- 6.9 The Contractor may not assign or delegate work to be done under this contract, or any part thereof, to any other party without the prior written consent of the CITY OF IQALUIT. In the case of a proposed assignment of monies owing to the Contractor under this contract, the consent in writing of the CITY OF IQALUIT must first be obtained.
- 6.10 The Contractor shall keep proper accounts and records of the Services for a period of 3 years after the expiry or termination of this agreement. At any time during the term of this contract or during the three years following the completion or termination of this agreement, the Contractor shall produce copies of such accounts and records upon the written request of the CITY OF IQALUIT.

CONSTRUCTION SERVICES

PART II – SERVICE AGREEMENT

- 6.11 The Contractor shall notify the CITY OF IQALUIT immediately of any claim, action, or other proceeding made, brought, prosecuted or threatened in writing to be brought or prosecuted that is based upon, occasioned by or in any way attributable to the performance or non-performance of the services under this contract.
- 6.12 If at any time the Contractor considers their reasonable estimates indicate costs will exceed the project budget they will immediately advise the City of Iqaluit. If in the opinion of the City of Iqaluit, acting reasonably, the excess is due to design, costs factors or matters under the control or reasonably foreseeable by the Contractor, the CITY OF IQALUIT may require the Contractor to do everything by way of revision of the design to bring the cost estimate within the project budget. Costs of completing such revisions shall be based upon a level of compensation reasonably appropriate to the circumstances, including the reason for the revisions.
- 6.13 Except as required in the performance of Services set out in this agreement, the Contractor must maintain as confidential all data and information made available to the Contractor, the CITY OF IQALUIT, or any other parties which is generated by or results from the Contractor performance of the Services described in this Contract. All such data and information is the property of the City of Iqaluit. This clause shall survive the termination of the Contract.

7. TERMINATION

- 7.1 The CITY OF IQALUIT may terminate this contract at any time upon giving written notice to this effect to the Contractor if, in the opinion of the CITY OF IQALUIT, the Contractor is unable to deliver the service as required, the Contractor's performance of work is persistently faulty, in the event that the Contractor becomes insolvent or commits an act of bankruptcy, in the event that any actual or potential labor dispute delays or threatens to delay timely performance of the contract or the (Contractor's Sub- Contractor) defaults or fails to observe the terms and conditions of the contract in any material respect.
- 7.2 This contract shall terminate as of the day for termination set out in the written notice and the Contractor shall forthwith invoice the CITY OF IQALUIT for work performed to the date of termination.
- 7.3 Any invoice submitted by the Contractor pursuant to clause 7.2 shall be reviewed by the CITY OF IQALUIT to assess the amount which is properly due and owing for work done by the Contractor prior to termination.

8. FINANCIAL

- 8.1 The CITY OF IQALUIT, having given written notice of a breach, may withhold or hold back in whole or in part any payment due the Contractor without penalty, expense or liability, if in the opinion of the Contracting Authority, the Contractor has failed to comply with or has in any way breached an obligation of the Contractor. Any such hold back shall continue until the breach has been rectified to the satisfaction of the CITY OF IQALUIT.
- 8.2 The CITY OF IQALUIT may set off any payment due the Contractor against any monies owed by the Contractor to the CITY OF IQALUIT.
- 8.3 The City of Iqaluit will pay the Goods and Services Tax (GST).
- 8.4 Provided all terms and conditions on the part of the Contractor have been complied with, each invoice will be paid thirty (30) calendar days after receipt of the invoice, or thirty (30) calendar days after delivery of the services, whichever is later.
- 8.5 The CITY OF IQALUIT may, in order to discharge lawful obligations or to satisfy lawful claims against the Contractor or a Sub-Contractor arising out of the execution of work, pay any amount, which is due and payable to the Contractor under the contract, if any, directly to the obligee of and the claimants against the Contractor or Sub-Contractor.

9. INSURANCE AND LIABILITY

- 9.1 The Contractor's liability to the City of Iqaluit for claims arising out of this Agreement, or in any way relating to the Services, will be limited to direct damages and to the re-performance, without additional compensation, of any Services not meeting a normal professional standard of care and such liability will, in the aggregate, not exceed the amount of \$1,000,000.00. The limitations of liability will apply, to the extent permitted by law, whether Contractor's liability arises under breach of contract or warranty; tort, including negligence; strict liability; statutory liability; or any other cause of action, and will extend to and include Contractor's directors, officers, employees, insurers, agents and sub-contractor.

CONSTRUCTION SERVICES
PART II – SERVICE AGREEMENT

- 9.2 In no event will either party be liable to the other party for indirect or consequential damages including without limitation loss of use or production, loss of profits or business interruption.
- 9.3 The Contractor shall, without limiting his obligations or liabilities hereto, obtain, maintain and pay for during the period of this agreement, the following insurance with limits not less than those shown:
- a) Workers' Compensation insurance covering all employees engaged in the work in accordance with the statutory requirements of the Territory or Province having jurisdiction over such employees. If the Contractor is assessed any additional levy, extra assessment or super-assessment by a Workers' Compensation Board as a result of an accident causing injury or death to an employee of the Contractor or any sub-contractor, or due to unsafe working conditions, then such levy or assessment shall be paid by the Contractor at its sole cost and is not reimbursed by the CITY OF IQALUIT.
 - b) Employer's liability insurance with limits not less than \$500,000 for each accidental injury to or death of the contractor's employees engaged in the work. If Workers' Compensation insurance exists, then in such event, the aforementioned Employer's Liability insurance shall not be required but the Comprehensive General Liability policy referred to in item (d) herein shall contain an endorsement providing for Contingent Employers' Liability insurance.
 - c) Motor Vehicle, standard liability insurance covering all vehicles owned or non-owned, operated and/or licensed by the Contractor and used by the Contractor in the performance of this agreement in an amount not less than one million dollars (\$1,000,000.00) per occurrence for bodily injury, death and damage to property; and with respect to limits of not less than one million dollars (\$1,000,000.00) for vehicle hazards and not less than one million dollars (\$1,000,000.00) for Bodily Injury to or death of one or more passengers and loss of or damage to the passengers property in one accident.)
 - d) Comprehensive General Liability Insurance with limits of not less than \$5,000,000.00 (inclusive) per occurrence for bodily injury, death and damage to property including loss of use thereof. Such insurance shall include but not be limited to the following terms and conditions:
 - Products & Completed Operations Liability *
 - Contractor's Protective Liability
 - Blanket Contractual Liability
 - Broad Form Property Damage
 - Personal Injury Liability
 - Cross Liability
 - Medical Payments
 - Non-owned Automobile Liability *
 - Contingent Employers Liability *
 - Employees as Additional Insureds *

*WHERE APPLICABLE
 - e) Professional Liability Insurance with limits of not less than two hundred fifty thousand dollars (\$250,000.00) per claim and five hundred thousand dollars (\$500,000.00) in the annual aggregate, to cover claims arising out of the rendering of or failure to render any professional service under this contract or agreement.

All policies shall provide that thirty days written notice be given to the CITY OF IQALUIT prior to any cancellations of any such policies.

The comprehensive general liability Insurance policies shall name the CITY OF IQALUIT and any permitted sub-contractor's as additional insureds only with respect to the terms of this contract and shall extend to cover the employees of the insureds hereunder.

The contractor shall be responsible for any deductibles, exclusions and/or insufficiency of coverage

CONSTRUCTION SERVICES PART II – SERVICE AGREEMENT

relating to such policies.

The contractor shall deposit with the CITY OF IQALUIT prior to commencing with the work a certificate of insurance evidencing the insurance(s) required by this clause in a form satisfactory to the CITY OF IQALUIT and with insurance companies satisfactory to the CITY OF IQALUIT.

10. MISCELLANEOUS

- 10.1 **Amendments.** This agreement or any part thereof may not be modified, supplemented, or amended except as otherwise herein provided or by mutual agreement expressed in writing and duly executed by the parties hereto.
- 10.2 **Prior Agreements.** This agreement supersedes and replaces any and all prior representations, proposals, negotiations, letters of understanding, agreements, bids, quotations, purchase orders, contracts, or amendments thereto or any other communications, verbal or written between the parties hereto relating to the subject matter hereof.
- 10.3 **Entire Agreement.** This agreement sets forth the entire agreement between the parties hereto relating to the subject matter hereof.
- 10.4 **Remedies Cumulative.** The remedies of the CITY OF IQALUIT in this agreement are cumulative and are in addition to any remedies available to the CITY OF IQALUIT at law or in equity. No remedy will be deemed to exclude or to restrict the right of the CITY OF IQALUIT to any remedies against the Contractor and the CITY OF IQALUIT may from time to time have recourse to one or more of the remedies specified in this agreement or at law or in equity notwithstanding the termination of this agreement.
- 10.5 **Limitation of Liability.** Notwithstanding any other provision of this agreement, the total liability of the CITY OF IQALUIT with respect to this agreement or any obligations in connection with the agreement, whether based on warranty, indemnity, contract, tort (including negligence), strict liability or otherwise, shall be limited to the compensation paid to the Contractor under this agreement.
- 10.6 **General Interpretation.**

In this Agreement, unless the context implies otherwise:

- a) references to Sections and Appendices are to be construed as references to the sections of, and schedules to, this Agreement;
 - b) references to this Agreement or any other document shall be construed as references to this Agreement or that other document as amended, supplemented, novated or otherwise varied from time to time;
 - c) references to a provision of law is a reference to that provision as amended or re-enacted;
 - d) headings appearing in this Agreement are for convenience of reference only and in no way define, limit, or enlarge the scope or meaning of the provision.
 - e) words importing the plural shall include the singular and vice versa;
 - f) the word "include", "includes" or "including", when following any general statement, term or matter, shall not be construed to limit such general statement, term or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such as "without limitation" or "but not limited to" or words of similar import) is used with reference thereto but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term or matter;
 - g) any terms, covenants, provisions or conditions of this Contract which expressly or by their nature survive the termination of this Contract shall continue in full force and effect subsequent to and notwithstanding such termination, and shall not be merged with the termination, until such terms, covenants, provisions and conditions are satisfied or by their nature expire;
 - h) "hereof", "herein", "hereto" and "hereunder" and similar expressions refer to this Agreement and not to any particular Article, Section or other subdivision; and
 - i) references to a time of day shall be construed as references to Eastern Standard Time.
- 10.7 **Counterpart Execution.** This Agreement may be executed in separate counterparts, each of which, when so executed, shall be deemed to be an original, and such counterparts shall constitute the one and the same instrument. The counterparts of this Agreement and all ancillary documents may be executed



CONSTRUCTION SERVICES
PART II – SERVICE AGREEMENT



and delivered by facsimile or other electronic signature by any of the parties hereto to any other party and the receiving party may rely on the receipt of such document so executed and delivered by facsimile or other electronic means as if the original had been received.

IN WITNESS WHEREOF the parties hereto have set their hand as of the date and year entered below.

FOR THE CITY OF IQALUIT:

FOR THE CONTRACTOR:

[LEGAL NAME]

Name/Title

Name/Title

Signature

Signature

Date

Date

Witness

Witness

TABLE OF CONTENTS

1. GENERAL PROVISIONS	4
1.1 DEFINITION	4
1.2 DOCUMENTS AND INTERPRETATION	5
1.3 NOTICES	7
1.4 RIGHTS AND RENDERS	8
1.5 ASSIGNMENT	8
1.6 APPLICABLE LAW	8
1.7 SUCCESSORS AND ASSIGNS	8
2. CITY'S OBLIGATIONS	9
2.1 PAYMENT	9
2.2 SITE AVAILABILITY	9
2.3 CONSULTANT, OWNER'S AGENT, AND/ OR ENGINEER AS CITY REPRESENTATIVE	9
2.4 REFERENCE POINTS	9
2.5 MATERIALS SUPPLIED BY THE CITY	9
2.6 CONTROL OF THE WORK	9
2.7 LIMITATION OF LIABILITY	9
3. CONTRACTOR'S OBLIGATIONS	10
3.1 GENERAL OBLIGATIONS	10
3.2 INDEPENDENT CONTRACTOR	10
3.3 REVIEW OF CONTRACT DOCUMENTS	10
3.4 SITE CONDITIONS	10
3.5 TEMPORARY STRUCTURES	10
3.6 SCHEDULE	11
3.7 SUPERINTENDENT	11
3.8 SUBCONTRACTORS	12
3.9 OTHER CONTRACTORS	12
3.10 USE OF THE SITE	12
3.11 SURVEY	13
3.12 PROTECTION OF THE WORK, PROPERTY AND THE PUBLIC	13
3.13 PERMITS	13
3.14 APPLICABLE LAWS	14
3.15 MATERIAL AND PLANT SUPPLIED BY CITY	14
3.16 EQUIPMENT, PLANT AND MATERIAL SUPPLIED BY CONTRACTOR	14
3.17 WORKERS' COMPENSATION ACT	15
3.18 OCCUPATIONAL HEALTH AND SAFETY	15
3.19 CUTTING AND PATCHING	15
3.20 DEFECTIVE WORK	16
3.21 TESTING AND INSPECTION	16
3.22 SITE CLEANLINESS	17
3.23 CLAIMS AGAINST AND OBLIGATIONS OF THE CONTRACTOR	17
3.24 PATENT RIGHTS	18
3.25 ROYALTIES	18
3.26 RECORDS TO BE KEPT BY CONTRACTOR	18
3.27 PUBLIC CEREMONIES AND SIGNS	18
3.28 NON-COMPLIANCE BY CONTRACTOR	19
3.29 LANGUAGE SEQUENCE REQUIREMENTS FOR SIGNAGE	Error! Bookmark not defined.
4. ADMINISTRATION BY CITY REPRESENTATIVE	20
4.1 CITY REPRESENTATIVE'S DUTIES AND AUTHORITY	20

4.2	OBSERVING THE WORK	20
4.3	CITY REPRESENTATIVE'S DECISION.....	21
5.	PAYMENT AND COMPLETION	22
5.1	PROGRESS PAYMENTS	22
5.2	CONTRACT HOLDBACKS	24
5.3	SUBSTANTIAL PERFORMANCE	24
5.4	FINAL COMPLETION.....	25
5.5	FINAL PROGRESS PAYMENT	25
5.6	HOLDBACK RELEASE.....	26
5.7	DELAY IN MAKING PAYMENT.....	26
5.8	RIGHT OF SET-OFF	27
6.	TIME AND DELAYS	28
6.1	TIME OF THE ESSENCE	28
6.2	DELAYS.....	28
7.	ASSESSMENTS AND DAMAGES FOR LATE COMPLETION	29
7.1	LATE COMPLETION.....	29
8.	CHANGE ORDERS	30
8.1	CHANGES IN THE WORK	30
8.2	VALUATION OF CHANGES.....	30
8.3	CONTINGENCY ALLOWANCE.....	31
9.	DISPUTE RESOLUTION	33
9.1	CITY REPRESENTATIVE'S DECISION.....	33
9.2	APPOINTMENT OF REFEREE	34
9.3	APPOINTMENT OF ARBITRATOR.....	34
9.4	ADHERENCE TO PROVISIONS.....	35
10.	WITHDRAWAL, SUSPENSION AND TERMINATION	36
10.1	WITHDRAWAL OF THE WORK	36
10.2	SUSPENSION OF THE WORK	36
10.3	TERMINATION BY CITY	36
10.4	CONTRACT CANCELLATION	38
10.5	TERMINATION BY CONTRACTOR	38
11.	BONDS AND WARRANTY	39
11.1	OBLIGATIONS TO PROVIDE CONTRACT SECURITY	39
11.2	PRESCRIPTION OF ACCEPTABLE CONTRACT SECURITY	39
11.3	RETURN OF SECURITY DEPOSIT	39
11.4	WARRANTY.....	39
12.	INDEMNIFICATION AND INSURANCE.....	41
12.1	INDEMNIFICATION BY CONTRACTOR	41
12.2	INDEMNIFICATION BY CITY	41
12.3	POLICIES OF INSURANCE	41
13.	LOCAL AND INUIT INVOLVEMENT	44
13.1	REQUIREMENTS FOR INUIT, LOCAL AND NUNAVUT CONTENT.....	44
13.2	REQUIREMENT FOR COMMUNITY MEETINGS	44
13.3	MONITORING THE LEVEL OF INUIT, LOCAL AND NUNAVUT LABOUR	45



CONSTRUCTION SERVICES
PART III – GENERAL CONDITIONS
2026-RFT-013



13.4	REQUIREMENT FOR USING HOTELS OR BED AND BREAKFAST	45
14.	TRANSPORTATION OF MATERIALS	47
14.1	MARINE TRANSPORT RESOURCES	47

1. GENERAL PROVISIONS

1.1 DEFINITION

The following terms, whenever used in the Contractor Documents, shall mean:

- 1.1.1 **“Adjustment”**: a change in either the Contract Price or the Contract Time, or both, in accordance with the applicable provisions of the Contract Documents;
- 1.1.2 **“Applicable Laws”**: any and all applicable laws, rules, regulations, by-laws, codes and orders of any and all government bodies, agencies, authorities and courts;
- 1.1.3 **“Arbitrator”**: the person appointed under GC 9.3.1;
- 1.1.4 **“Articles of Agreement”**: the executed Articles of Agreement;
- 1.1.5 **“Change Order”**: a written instrument prepared by the City Representative and signed by the City and the Contractor stating their agreement upon:
 - .1 a change in the Work, and
 - .2 the method and/or the amount of Adjustment, if any;
- 1.1.6 **“City”**: the party defined as such in the Articles of Agreement;
- 1.1.7 **“City Representative”**: A Consultant, Owner’s Agent, and/ or Engineer designated as such in the Articles of Agreement, or such other person designated as such by the City from time to time, who will be responsible for administering the construction contract;
- 1.1.8 **“Claim”**: any or all of:
 - .1 a demand or assertion by the City or the Contractor seeking an interpretation of Contract terms, an Adjustment, or other relief with respect to the terms of this Contract;
 - .2 other disputes and matters in question between the City and the Contractor arising out of or relating to this Contract; and
 - .3 allegations by the City or the Contractor of errors or omissions on the part of the City Representative;
- 1.1.9 **“Completion Date”**: the date of Substantial Performance of the Work, as certified by the City Representative;
- 1.1.10 **“Construction Schedule”**: the Construction Schedule referred to in GC 3.6, including revisions thereto as provided in GC 3.6, GC 10.2.4 or otherwise required by the City Representative;
- 1.1.11 **“Consultant”**: a person retained by the City to act as the City’s Representative;
- 1.1.12 **“Contract”**: the undertaking by the parties to perform their respective duties and discharge their **obligations** as set out in the Contract Documents which represents the entire agreement between the parties;
- 1.1.13 **“Contract Documents”**: the documents referred to in the Articles of Agreement and **amendments** agreed on by the parties in writing;
- 1.1.14 **“Contract Price”**: the sum stated in the Articles of Agreement and as may be amended during the progress of the Work;

- 1.1.15 “**Contract Time**”: the time stated in the Articles of Agreement, and as may be amended during the progress of the Work, elapsing from the date of commencement of the Work until the date of Substantial Performance of the Work, as certified by the City Representative;
- 1.1.16 “**Contractor**”: the party defined as such in the Articles of Agreement;
- 1.1.17 “**Day**”: a calendar day;
- 1.1.18 “**Engineer**”: a person retained by the City to act as the City’s Representative;
- 1.1.19 “**Final Completion**”: **when** the Work has been performed in accordance with the Contract Documents, as certified by the City Representative;
- 1.1.20 “**GC**”: an acronym reference to a clause in these general conditions of this Contract;
- 1.1.21 “**Holdback Payment Certificate**”: a certificate issued in accordance with GC 5.6;
- 1.1.22 “**Lien Holdback**”: has the meaning given in GC 5.2.1.1;
- 1.1.23 “**Owner’s Agent**”: a person retained by the City to act as the City’s Representative;
- 1.1.24 “**Project**”: the total construction of which the Work to be performed under this Contract may be the whole or a part;
- 1.1.25 “**Referee**”: the person appointed under GC 9.2.1;
- 1.1.26 “**Site**”: the **land** or actual place designated in the Contract Documents for the performance of the Work;
- 1.1.27 “**Subcontractor**”: a party having a direct contract with the Contractor for the performance of any part of the Work, or to supply products worked to a special design for the Work;
- 1.1.28 “**Substantial Performance**”: when the Work has progressed to the point where, in the opinion of the City Representative as evidenced by the certificate of Substantial Performance, it is sufficiently complete, in accordance with the Contract Documents, so that the Work can be utilized for the intended purpose;
- 1.1.29 “**Supplier**”: a party having a direct contract with the contractor to supply products not worked to a special design for the Work;
- 1.1.30 “**Work**”: all or any part of the construction and services required by the Contract Documents, including all labour, materials, equipment and services provided or to be provided by the Contractor to fulfill his obligations under this Contract.
- 1.1.31 “**Warranty Holdback**”: has the meaning given in GC 5.2.1.3.

1.2 DOCUMENTS AND INTERPRETATION

- 1.2.1 It is the intent of the Contract Documents to include all labour, materials, equipment and services necessary to perform the Work in accordance with the Contract Documents. Any labour, materials, equipment and services that may be reasonably inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result, will be furnished and performed by the Contractor, whether or not specifically called for.
- 1.2.2 The Contract Documents are complementary, and what is required by one document shall be as binding as if required by all.

- 1.2.3 This Contract represents the entire agreement between the City and the Contractor and supersedes all prior negotiations, representations and agreements, either written or oral.
- 1.2.4 When words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents and are not otherwise defined, they shall be interpreted in accordance with that meaning.
- 1.2.5 The Contract Documents shall not be construed to create a contractual relationship of any kind between:
- .1 the City Representative and the Contractor, a Subcontractor, a Supplier, a subcontractor or its or their agent or employee, or other person performing any of the Work;
 - .2 the City and a Subcontractor, a Supplier, or their agent, employee, or other person performing any of the Work, or;
 - .3 between any persons or entities other than the City and the Contractor.
- The City Representative shall however, be entitled to demand performance and enforce the obligations of the parties under this Contract, to facilitate performance of the City Representative's duties.
- 1.2.6 Clarifications and interpretations of the Contract Documents shall be issued by the City Representative as provided in GC 4.1.
- 1.2.7 In the event of any inconsistency or conflict between provisions of the Contract Documents, the following shall apply:
- .1 documents of later date shall govern over earlier documents of the same classification;
 - .2 figured dimensions shown on drawings shall govern over scaled dimensions;
 - .3 drawings of larger scale shall govern over those of smaller scale;
 - .4 specifications shall govern over drawings;
 - .5 the general conditions shall govern over the specifications;
 - .6 supplementary general conditions shall govern over the general conditions, and
 - .7 the Articles of Agreement shall govern over all documents.
- 1.2.8 The City shall provide the Contractor with as many sets of Contract Documents as are reasonably required for the performance of the Work.
- 1.2.9 The Contractor shall maintain a set of drawings on the Site and record accurately and legibly all deviations caused by Site conditions and written instructions or change orders ordered by the City Representative. The Contractor shall also keep one copy of all current Contract Documents and shop drawings on the Site, in good condition. These documents shall be available to the City Representative throughout the duration of the Work.
- 1.2.10 All Contract Documents, including copies, and all models furnished by or to the Contractor are and shall remain the property of the City and are not to be used on other work. The Contract Documents are not to be copied or revised in any manner without the City's written consent.

- 1.2.11 The division into sections, the table on contents, and the heading in the Contract Documents, other than in the drawings and specifications, form no part of this Contract but are inserted for convenience of reference only.
- 1.2.12 Any reference to a statutory provision shall include any subordinate legislation made and from time-to-time amended, extended or re-enacted.
- 1.2.13 Unless otherwise indicated, all dollar amounts referred to in this Contract are in lawful money of Canada.
- 1.2.14 If any provision of this Contract is determined to be invalid or unenforceable in whole or in part, such invalidity or unenforceability shall attach only to such provision and everything else in this Contract shall continue in full force and effect. In the event that any provision of this Contract, as amended from time to time, shall be deemed invalid or void, in whole or in part, by any court of competent jurisdiction, the remaining terms and provisions of this Contract shall remain in full force and effect.
- 1.2.15 The schedules, appendices and attachments to this Contract are an internal part of this Contract and a reference to this Contract includes a reference to the schedules, appendices and attachments.
- 1.2.16 The language of the specifications and other documents comprising this Contract is in many cases written in the imperative for brevity. Clauses containing instruction, directions or obligations are directed to the Contractor and shall be construed and interpreted as if the words “the Contractor shall” immediately preceded the instructions, directions or obligations.
- 1.2.17 Unless the context otherwise requires, wherever used herein the plural includes the singular, the singular includes the plural, and each of the masculine, feminine and neuter genders include all other genders.
- 1.2.18 Unless otherwise provided in this Contract, all accounting and financial terms used in this Contract shall be interpreted and applied in accordance with Canadian generally accepted accounting principles, consistently applied from one period to the next.
- 1.2.19 References containing terms such as:
- .1 “hereof,” “herein,” “hereto,” “hereinafter,” and other terms of like import are not limited in applicability to the specific provision within which such references are set forth but instead refer to this Contract taken as a whole; and
 - .2 “includes” and “including”, whether or not used with the words “without limitation” or “but not limited to”, shall not be deemed limited by the specific enumeration of items but shall in all cases be deemed to be without limitation and construed and interpreted to mean “includes without limitation” and “including without limitation”;
- 1.2.20 Whenever the terms “will” or “shall” are used in this Contract in relation to the Contractor they shall be construed and interpreted as synonymous and to read “the Contractor shall”.

1.3 NOTICES

- 1.3.1 Where a notice is required by the Contract Documents to be given in writing to the Contractor, it may be delivered personally to the Contractor or his site superintendent, or delivered or sent by mail or facsimile transmission to the Contractor’s address set out in the Articles of Agreement or to his office at or near the Site.

- 1.3.2 Where a notice is required by the Contract Documents to be given in writing to the City Representative, it may be delivered personally, by email, or delivered or sent by mail or facsimile transmission to the City Representative's address set out in the Articles of Agreement, or to the office of the City Representative at or near the Site.
- 1.3.3 Notwithstanding the foregoing provisions of this GC 1.3, each party shall use the most expeditious method of giving the written notice or communication.
- 1.3.4 A written notice or communication sent by mail shall be deemed to have been received ten (10) business days from the date of posting. Whenever a notice or communication is sent by facsimile transmission, acknowledgement from the receiving party must be given to the other party that the notice or communication has in fact been received, for it to be effective; this acknowledgement may be made verbally, in person or by telephone. If no such acknowledgement is given, it shall be deemed to have been received and be effective ten (10) business days from the date the original document was sent.

1.4 RIGHTS AND REMEDIES

- 1.4.1 No obligations or responsibilities of any kind by or on behalf of the City shall be implied into the Contract Documents if in the opinion of the City Representative, it is not reasonable under the circumstances to imply that such obligations or responsibilities form part of the Contract Documents.
- 1.4.2 Any failure by the City or the City Representative to enforce or to require the strict performance of any of the provisions of this Contract shall not, in any way constitute a waiver of those provisions and affect or impair those provisions or any right the City has at any time to avail itself of any remedies the City may have for any breach of these provisions or to require the Work to be performed in accordance with the Contract Documents.
- 1.4.3 Except as expressly provided in the Contract Documents, the duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

1.5 ASSIGNMENT

This Contract, or any part of it, or any benefit or interest in it, shall not be assigned by either party without the prior written consent of the other party, which consent shall not be unreasonably withheld. Notwithstanding the foregoing, the City has the right, in the event of any default by the Contractor, to assign all its rights and remedies against the Contractor to the Government of Nunavut.

1.6 APPLICABLE LAW

This Contract shall be deemed to have been made in Nunavut and shall be governed by and interpreted in accordance with the laws of Nunavut and the laws of Canada applicable therein.

1.7 SUCCESSORS AND ASSIGNS

This Contract shall ensure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and assigns.

2. CITY'S OBLIGATIONS

2.1 PAYMENT

Subject to any other provision in the Contract Documents, the City shall make payments to the Contractor at the times and in the manner set out in GC 5.

2.2 SITE AVAILABILITY

2.2.1 The City shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access to the Site and any other lands designated for the use of the Contractor. The Contractor shall provide and pay for any additional lands and access the Contractor may require, in accordance with GC 3.10.1.

2.2.2 Except for permits and fees which are the responsibility of the Contractor under GC 3.13, the City shall obtain and pay for necessary approvals, easements and charges required for the development of the Site and for the use or occupancy of permanent structures or for permanent changes in existing facilities.

2.3 CONSULTANT, OWNER'S AGENT, AND/ OR ENGINEER AS CITY REPRESENTATIVE

2.3.1 Unless otherwise provided in the Contract Documents, the City shall communicate with the Contractor through the Consultant, and the Contractor shall communicate with the City through the Consultant.

2.3.2 If the contract with the Consultant is terminated, the City shall promptly appoint a replacement.

2.4 REFERENCE POINTS

The City shall establish physical reference points for construction on the Site which are, in the opinion of the City Representative, necessary to enable the Contractor to proceed with the Work. The Contractor shall safeguard such reference points in accordance with GC3.11.2.

2.5 MATERIALS SUPPLIED BY THE CITY

Any materials, instructions, information or services required to be supplied by the City under this Contract shall be furnished with reasonable promptness to avoid delay in the orderly progress of the Work. Unless explicitly stated in the Contract documents, all materials, instructions, information or services shall be supplied by the Contractor.

2.6 CONTROL OF THE WORK

Neither the City nor the City Representative shall supervise or have control or authority over, nor be responsible for, the Contractor's means, methods, techniques or procedures of construction. Neither the City nor the City Representative will be responsible for the Contractor's failure to perform the Work in accordance with the Contract Documents, nor for its failure to comply with Applicable Laws.

2.7 LIMITATION OF LIABILITY

In no event, including without limitation if the City breaches its obligations under this Contract, shall the City be liable to the Contractor, its Subcontractors, its Suppliers, or any other parties engaged directly or indirectly by or acting on their behalf, for indirect loss, consequential loss, loss of business opportunity or loss of anticipated profit.

3. CONTRACTOR'S OBLIGATIONS

3.1 GENERAL OBLIGATIONS

Notwithstanding any omissions from the Contractor's tender, the Contractor is required to perform all of the Work required by the Contract Documents, including any Work which can be reasonably inferred from them as being necessary to produce the intended result. The Contractor is to perform the Work within the Contract Time, in accordance with the Construction Schedule referred to in GC 3.6.

3.2 INDEPENDENT CONTRACTOR

The Contractor is an independent contractor and shall have complete control of the Work. The Contractor shall effectively direct and supervise the Work to ensure conformance with the Contract Documents. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all parts of the Work, except as may be otherwise specified in the Contract Documents.

Nothing in this Contract shall be construed to mean that the Contractor is an employee, agent or other representative of the City.

3.3 REVIEW OF CONTRACT DOCUMENTS

3.3.1 By executing this Contract, the Contractor represents that the Contractor has reviewed the Contract Documents and has verified the dimensions, quantities and details described in them. Failure to discover or correct errors, omissions, conflicts or discrepancies which ought to have been discovered by such a review shall not relieve the Contractor from full responsibility for unsatisfactory Work, faulty construction or improper operations resulting therefrom, nor from rectifying such conditions at the Contractor's expense.

3.3.2 If the Contractor proceeds with the Work in the face of an error, inconsistency or omission that the Contractor discovered, or that a competent Contractor reasonably experienced in the Work would have discovered, without additional instructions from the City Representative, then the Contractor shall at the Contractor's cost remove or replace any incorrectly constructed Work.

3.4 SITE CONDITIONS

3.4.1 By executing this Contract, the Contractor represents that the Contractor is familiar with the conditions under which the Work is to be performed. The Contractor further represents that the Contractor understands the requirements of the Contract Documents and what effects the Site conditions will have on the Work. The Contractor's failure to visit the Site will not excuse the Contractor from the responsibility which otherwise would have been assumed, had the Contractor visited the Site.

3.4.2 Following the start of the Work, if the subsurface conditions are substantially different from what could reasonably have been expected, based on a reasonable and proper examination of the Site by the Contractor and the information provided in the tender documents, if any, the Contractor must promptly notify the City Representative in writing prior to performing the Work. The Contractor may make a claim for changed site conditions in only accordance with GC 9.1.

3.5 TEMPORARY STRUCTURES

The Contractor shall have the sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and the design and execution of construction methods required in their use. The Contractor shall engage and pay for professional engineering personnel, registered to practice in Nunavut, skilled in the appropriate discipline, to perform these functions where required by law or by the Contract Documents and in all cases where such temporary facilities and their method of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results. The Contractor shall submit engineered documents to the City Representative, for review, before commencing temporary work.

3.6 SCHEDULE

- 3.6.1 Within ten (10) business days of executing the Articles of Agreement and as a condition of the first progress payment, the Contractor shall submit to the City Representative for review, a proposed Construction Schedule showing the anticipated time of commencement and completion of each of the major activities of the Work to be performed. This Construction Schedule shall include the sequence and coordination of the various operations and the estimated time required for the Work and shall provide sufficient detail to permit the City Representative to monitor the progress of the Work. The Contractor shall revise the proposed Construction Schedule as requested by the City Representative, and the Contractor shall perform the Work in strict adherence to the Construction Schedule, including revisions thereto required by the City Representative, unless it is changed in accordance with the terms of this Contract. Any deviations from the Construction Schedule must be approved by the City or the City Representative.
- 3.6.2 If at any time it should appear to the City Representative that the actual progress of the Work does not conform to the Construction Schedule, the Contractor shall produce at the City Representative's request, a revised Construction Schedule showing the modifications necessary to ensure completion of the Work in accordance with the previously approved Construction Schedule and shall promptly adopt acceptable additional means and methods of construction, at no cost to the City, which will make up for the time lost and will ensure completion in accordance with the revised Construction Schedule.
- 3.6.3 If the Contractor fails or refuses to revise the Construction Schedule as required by this GC, this Contract may be terminated at the City's option, in accordance with GC 10.3.
- 3.6.4 The City Representative's review, comments, consent, acceptance or approval to the Construction Schedule shall not relieve the Contractor of any of the Contractor's obligations under this Contract.

3.7 SUPERINTENDENT

- 3.7.1 The Contractor shall assign a competent superintendent and necessary assistants, one or more of whom shall be in attendance at the Site at all times during the progress of the Work. The superintendent and necessary assistants, if any, shall be designated in writing to the City Representative and shall act as the Contractor's authorized representative at the Site. All written or oral communications to the superintendent shall be deemed to have been given to the Contractor. The superintendent shall only be replaced after the Contractor has received written approval from the City.
- 3.7.2 The City may order the removal from the Work of any superintendent, supervisor, foreman or other employee who is in the opinion of the City, unfit for the Work,

unskilled in the work assigned to him or otherwise unsuitable. Any person so removed shall not be re-employed on the Work by the Contractor or by a Subcontractor.

3.8 SUBCONTRACTORS

- 3.8.1 The Contractor shall not employ any Subcontractor without the approval of the City. Once the names of the proposed Subcontractors have been submitted, the Contractor shall not change these Subcontractors without the advance written consent of the City. If any changes are made without consent, this Contract may be terminated at the City's option, in accordance with GC 10.3.
- 3.8.2 The City, through the City Representative, may, at any time during the performance of the Work, object to the use of a Subcontractor and direct the Contractor in writing to employ a different Subcontractor satisfactory to the City Representative.
- 3.8.3 The Contractor shall be fully responsible to the City for the acts and omissions of Subcontractors, their agents, employees, and all parties engaged by the Contractor or its Subcontractors for the provision of work or the supply of materials.
- 3.8.4 The Contractor agrees to incorporate the terms of the Contract Documents into all the Contractor's subcontract agreements.
- 3.8.5 The Contractor shall maintain good order and discipline among the Contractor's employees and the Subcontractors engaged in the Work. The Contractor shall not employ, or permit Subcontractors to employ, workers who are not skilled in the assigned task. The Contractor shall employ sufficient workers to perform the Work in compliance with the Construction Schedule.

3.9 OTHER CONTRACTORS

- 3.9.1 The City reserves the right to let separate contracts with other contractors or workers, or to undertake work using the City's own forces to do other work. If other contractors, workers or the City's own forces are sent onto the Site, with or without plant and material, the Contractor shall, to the satisfaction of the City, grant access to and cooperate with such persons and, in accordance with usual construction practice, coordinate the Work with the other work and connect to other work as specified or shown in the Contract Documents.
- 3.9.2 The Contractor shall at all times remain the Constructor, with regards to the Health and Safety Act requirements. The City and other contractors entering the Contractors site shall be responsible for adhering to the Contractor's Health and Safety policy and the City of Iqaluit's Contractor Safety, Health and Environmental Minimum Performance Standard (MPS) document as referenced in Part VI – General Requirements.
- 3.9.3 If the sending of other contractors, workers or the City's own forces onto the Site results in a delay in the performance of the Work, which could not have been reasonably foreseen or anticipated by the Contractor when executing the Articles of Agreement, the Contractor may make a claim therefore in accordance with GC 6.2 and 9.1.
- 3.9.4 If the Contractor discovers any deficiencies in any other work which might affect the Work, the Contractor shall immediately report such deficiencies to the City Representative and then confirm such report in writing.

3.10 USE OF THE SITE

- 3.10.1 The Contractor shall ensure confining the Contractor's equipment and plant, storage of materials and operations to limits indicated by the Contract Documents, by a specific direction of the City Representative or by Applicable Laws and shall not unreasonably occupy the Site. Where the Contractor requires additional land for the erection of temporary facilities and storage of materials, including access to them, the Contractor shall arrange for such and assume all costs and liabilities arising therefrom.
- 3.10.2 The Contractor shall not load or permit to be loaded on any part of the Work, a weight or load or force that will endanger its safety or exceed the design loads.
- 3.10.3 The Contractor shall not interfere in any way with the work or scheduling of any other contractor, worker or employee of the City. Subject to GC 3.9.2, in order to avoid or minimize such interference, the City may in its absolute discretion, establish schedules or methods and shall notify the Contractor accordingly.

3.11 SURVEY

- 3.11.1 The Contractor shall provide the City Representative with assistance, as required, to make any surveys and measurements, and to establish or check lines and grades.
- 3.11.2 The Contractor shall safeguard all points, stakes, grade marks and benchmarks made or established on the Work. The Contractor shall bear the expense of re- establishing them and for rectifying Work improperly installed due to the Contractor's failure to safeguard such points, stakes and marks. Additional surveys and staking required by the Contractor to perform the Work, shall be provided by the Contractor at its expense.

3.12 PROTECTION OF THE WORK, PROPERTY AND THE PUBLIC

- 3.12.1 The Contractor shall be responsible for protecting the Work, the City's property at the Site including the Contract Documents and any plant and material, including plant and material supplied by the City to the Contractor, against loss or damage from any cause but subject to GC 3.15.3. In particular, the Contractor shall take necessary precautions, at the Contractor's expense, to ensure that:
- .1 no person, adjacent property, right, easement or privilege is injured, damaged or infringed by reason of the Contractor's activities in performing the Work;
 - .2 pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted or endangered by the performance or existence of the Work;
 - .3 fire hazards in or about the Work or the Site are minimized;
 - .4 adequate medical services are available to all persons employed on the Work at all times during the performance of the Work;
 - .5 adequate sanitation measures are taken in respect of the Work; and
- 3.12.2 The City Representative may order the Contractor to do such things and to perform such additional Work as the City Representative considers reasonable and necessary to ensure compliance with or to remedy a breach of GC 3.12.1 and the Contractor shall comply with the directions of the City Representative, at the Contractor's expense.

3.13 PERMITS

- 3.13.1 The Contractor shall procure and post at the Site all permits, certificates and licenses required for the construction of the Work and shall be responsible for all fees in respect thereof.

- 3.13.2 The Contractor will be responsible for procuring and coordinating all permits issued by the City's Public Works and Engineering Department. Such permits include, but not limited to:

- .1 Water & Sewer Service Connection/ Disconnection Permit
- .2 Utility Permit
- .3 Road Closure Permit

Permit applications must be submitted to the City twenty (20) business days prior to the start of the works.

3.14 APPLICABLE LAWS

- 3.14.1 The Contractor shall perform the Work and give any required notices in full compliance with all Applicable Laws, ordinances, rules, regulations, codes and orders of the municipal and other authorities having jurisdiction which are in or come into force during the performance of the Work.
- 3.14.2 The Contractor shall have due regard for the protection of the environment in the performance of the Work and shall not place any materials, including without limitation, hazardous materials, or dispose of any such materials, or perform any Work in a manner contrary to applicable federal or territorial or municipal environmental laws and regulations, either at the Place of the Work, or at any other place or property.

3.15 MATERIAL AND PLANT SUPPLIED BY CITY

- 3.15.1 The Contractor is liable for any loss or damage to material, plant or real property that is supplied or placed by the City in the care, custody and control of the Contractor for use in connection with the Work, whether or not that loss or damage is attributable to causes beyond the Contractor's control.
- 3.15.2 The Contractor shall not use any material, plant or real property placed in the Contractor's care, custody and control by the City, except for the purpose of performing the Work.
- 3.15.3 The Contractor is not liable to the City for any loss or damage to material, plant or real property if that loss or damage results from and is directly attributable to reasonable wear and tear.

3.16 EQUIPMENT, PLANT AND MATERIAL SUPPLIED BY CONTRACTOR

- 3.16.1 Unless otherwise specified in the Contract Documents, the Contractor shall furnish and assume full responsibility for all materials, equipment, labour, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the performance, testing, finishing, start-up and completion of the Work. All materials, equipment, facilities, etc., furnished by the Contractor shall be maintained in a working, clean and sanitary manner.
- 3.16.2 Materials provided shall be new unless otherwise specified in the Contract Documents. Products that are not specified shall be of a quality best suited to their purpose and use, as approved by the City Representative.
- 3.16.3 All equipment, plant and material owned by the Contractor and to be incorporated in the Work, from the time of initial delivery to the Site, shall be deemed to be the property of the City; provided always that the vesting of such property shall not

prejudice the right of the Contractor to the sole use of the said equipment, plant and material for the purpose of performing the Work nor shall it affect the Contractor's responsibility to operate and maintain the same in accordance with the Contract Documents. The City shall not at any time be liable for the loss of, damage to or risk of loss of any of the Contractor's equipment, plant or materials.

3.17 WORKERS' COMPENSATION ACT

- 3.17.1 The Contractor shall comply with and ensure compliance at time of tender by all Subcontractors, with the requirements of the Workers' Compensation Act, SNU 2007, C.15. The Contractor and its Subcontractors shall maintain accounts in good standing with the Workers' Safety and Compensation Commission. The Contractor shall provide verification from the Workers' Compensation Board that the Contractor's account is in good standing prior to the release of holdbacks, at the end of the warranty period and as requested by the City Representative. The City may refuse to make a payment to the Contractor unless the Contractor furnishes evidence from the Workers' Compensation Board that the Contractor's account is in good standing.
- 3.17.2 If the City receives a notice from the Workers' Compensation Board that the Contractor's accounts, or any Subcontractors' accounts are not in good standing, or if a demand for payment is received, the City may suspend payments due to the Contractor until a letter of clearance is obtained or the City has paid the amount on behalf of the Contractor.
- 3.17.3 If the City is required to pay any amount to the Workers' Compensation Board on behalf of the Contractor, or any Subcontractor, the City may deduct the amount from any amount owing to the Contractor under this or any other contract, or may demand a reimbursement by the Contractor to the City for the amount paid by the City.
- 3.17.4 If at any time the performance of the Work is stopped because the Contractor unreasonably fails or refuses to comply with a regulation or order issued pursuant to the Workers Compensation Act, then such failure or refusal shall be considered a default under this Contract, and this Contract may be terminated at the City's option, in accordance with GC 10.3.

3.18 OCCUPATIONAL HEALTH AND SAFETY

- 3.18.1 The Contractor shall be solely responsible for construction safety at the Site as and to the extent required by the Safety Act, in effect at time of tender, and any other applicable construction safety legislation, regulations and codes, any City safety Policies, as amended from time to time, and by good construction practice.
- 3.18.2 In any case where, pursuant to the provisions of the Safety Act, R.S.N.W.T. 1988, c. S-1, as duplicated for Nunavut by s. 29 of the Nunavut Act, the Director of Inspections or a Safety Officer orders the Contractor or any Subcontractor performing the Work, to cease work because of failure to install or adopt safety devices directed by the regulations made under the said Act, or required by it, or because the Director of Inspections or a Safety Officer is of the opinion that conditions of immediate danger exist that would likely result in injury to any person, the City may exercise its right to terminate this Contract or suspend the Work immediately, in accordance with GC 10, until the default or failure is corrected.

3.19 CUTTING AND PATCHING

- 3.19.1 The Contractor shall do all cutting, fitting or patching of the Work that may be required to tie in properly with the work of other contractors shown in, or reasonably inferable from the Contract Documents.
- 3.19.2 The Contractor shall not endanger any existing Work by cutting, patching or otherwise, and shall not cut or alter the work of any other contractor save with the consent of the City Representative and then only to the extent permitted by the City Representative.
- 3.19.3 The Contractor shall not unreasonably withhold from the City or a separate contractor the Contractor's consent to cutting or otherwise altering the Work in accordance with any direction given by the City Representative.

3.20 DEFECTIVE WORK

- 3.20.1 Defective work, whether the result of poor workmanship, use of defective products or damage through carelessness or other act or omission of the Contractor or any Subcontractor, and whether incorporated in the Work or not, which has been rejected by the City Representative as failing to conform to the Contract Documents, shall be removed promptly from the Work and replaced or re- executed by the Contractor in accordance with the Contract Documents, at the Contractor's expense.
- 3.20.2 Where any part of the Work is damaged by such removals, replacements or re- execution, it shall be made good, promptly, at the Contractor's expense.
- 3.20.3 Where the Contractor fails to correct defective or rejected work within the time limits specified by the City Representative, the City may correct defective or rejected Work and deduct the cost of same from the Contract Price, or may terminate this Contract in accordance with GC 10.3.
- 3.20.4 In cases of emergency, the City may take whatever action it deems necessary to correct defective or rejected Work and deduct the cost of same from the Contract Price.
- 3.20.5 If, in the opinion of the City Representative, it is not expedient to correct defective work or work not done in accordance with the Contract Documents, the City may deduct from the Contract Price the difference in value between the Work as done and that required by this Contract, as determined and certified by the City Representative.

3.21 TESTING AND INSPECTION

- 3.21.1 Unless otherwise specified in the Contract Documents, the Contractor shall not rely on the City's testing program, for the Contractor's own quality control, but shall perform such testing as may be required to ensure that the Work complies in all respects with the Contract Documents.
- 3.21.2 The Contractor shall promptly provide the City Representative with two copies of all certificates, inspection and testing reports required by the Contract Documents or ordered by the City Representative.
- 3.21.3 The City Representative may conduct quality control testing regarding the acceptability of materials used in the Work and the Contractor shall furnish for the City Representative's approval such samples as the City Representative may reasonably require, at the Contractor's expense.
- 3.21.4 The City Representative may order retesting of questioned Work. If such retesting shows the Work to comply with the provisions of this Contract, the City shall pay the cost of retesting. If the retesting shows that through the fault of the Contractor the

Work does not so comply, the Contractor shall pay all associated costs. Testing which is paid for by the City shall not be subject to direction or control by the Contractor.

3.21.5 The City Representative shall at all times have access to the Work and the Contractor shall provide proper facilities for such access and for inspection. If any Work should be covered without the approval or consent of the City Representative, it must, if required by the City Representative, be uncovered for examination and subsequently recovered, both at the Contractor's expense.

3.21.6 Any inspection of the Work by the City Representative or the failure of the City Representative to make any inspection, or:

- .1 the thoroughness or lack of thoroughness of any inspection made by the City Representative;
- .2 the failure of the City Representative to observe defective workmanship or materials either by the Contractor or a Subcontractor;
- .3 the failure to direct the attention of the Contractor or Subcontractor, or of any other person, to the inadequacy of the manner in which this Contract is being performed, or
- .4 the inadequacy or insufficiency of any equipment or material used in the performance of or incorporated in the Work,

shall not relieve the Contractor from the responsibility for any failure to supply materials and complete the Work strictly in accordance with the Contract Documents.

3.22 SITE CLEANLINESS

3.22.1 The Contractor shall maintain the Site in a tidy condition and free from the accumulation of waste material and debris, to the satisfaction of the City Representative.

3.22.2 Before the issuance of a certificate of Substantial Performance, the Contractor shall remove all the Contractor's tools and material not required for the remaining Work, and all waste material and other debris, and shall ensure that the Work and the Site are clean and suitable for occupancy or use by the City, unless otherwise directed by the City Representative.

3.22.3 Before the issuance of a certificate of Final Completion, the Contractor shall remove from the Site all the Contractor's tools and material and any waste material and other debris, to the satisfaction of the City Representative.

3.22.4 If the Contractor fails or refuses to remove all such tools, materials, equipment and waste within a reasonable time after achieving Final Completion then, on written notice from the City Representative to the Contractor specifying a reasonable time to remedy such failure or refusal, the City may do or cause to be done the removal and all reasonable resulting costs incurred by the City may be deducted from any amounts owing by the City to the Contractor.

3.22.5 The Contractor's obligations described above do not extend to waste material and other debris caused by the City's agents or other contractors.

3.23 CLAIMS AGAINST AND OBLIGATIONS OF THE CONTRACTOR

3.23.1 The Contractor shall pay out and discharge all its lawful obligations and shall satisfy all lawful claims against it arising out of the performance of the Work at least as often as this Contract requires the City to pay the Contractor.

- 3.23.2 The Contractor shall, in accordance with the Contract Documents and whenever requested to do so by the City Representative, make a statutory declaration regarding the existence and condition of any obligations of and claims against the Contractor, any Subcontractors, or Suppliers. Upon request by the City, the Contractor shall provide letters from its Subcontractors and Suppliers regarding the status of any accounts with the Contractor and the details of any claims, if any.
- 3.23.3 The City may, in its absolute discretion, and at any time prior to the final release of holdbacks, in order to discharge lawful obligations of and satisfy lawful claims against the Contractor, any Subcontractors or Suppliers arising out of the performance of the Work, pay any amount that is due and payable to the Contractor pursuant to this Contract, directly to the obligees of and the claimants against, the Contractor, Subcontractor or Supplier. When the parties involved in the claim are in agreement on the validity and amount of the claim, the City may treat this as a lawful claim.
- 3.23.4 Where no agreement is reached between the parties as referred to above, the City may withhold payment, without any obligation to pay interest, until the validity and amount of the Claim is established by legal proceeding. The City may, in its absolute discretion, bring the matter before the Nunavut Court of Justice by way of Interpleader, and shall dispose of the funds withheld in accordance with the direction of the Court.
- 3.23.5 A payment made pursuant to this provision is, to the extent of the payment, a discharge of the City's liability to the Contractor under this Contract and may be deducted from an amount payable to the Contractor under this Contract.

3.24 PATENT RIGHTS

The Contractor shall indemnify the City from and against all claims, liabilities and proceedings for or on account of infringement of any patent rights, design trademark or name or other protected rights in respect of the Contractor's equipment, materials or tools used for or in connection with, or for incorporation into the Work, and from and against all damages, costs, charges and expenses whatsoever relating thereto.

3.25 ROYALTIES

Except where otherwise stated, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation, if any, for obtaining building materials required for the Work.

3.26 RECORDS TO BE KEPT BY CONTRACTOR

- 3.26.1 The Contractor shall maintain complete records of the Contractor's estimated and actual costs of the Work together with all tender calls, quotations, contracts, correspondence, invoices and receipts. In accordance with the terms of this Contract, these documents shall be available for audit and inspection by the City or by persons acting on behalf of the City when requested. The Contractor shall furnish any such person with any information it may require from time to time in connection with these records.
- 3.26.2 Records maintained by the Contractor shall be kept intact for six years following the end of the warranty period or such other period of time as directed by the City Representative.
- 3.26.3 The Contractor shall ensure that all of its Subcontractors comply with the above requirements.

3.27 PUBLIC CEREMONIES AND SIGNS

- 3.27.1 The Contractor shall not permit any public ceremony in connection with the Work without the prior written consent of the City.
- 3.27.2 The Contractor shall not erect or permit the erection of any sign or advertising on the Site without the prior written consent of the City.

3.28 NON-COMPLIANCE BY CONTRACTOR

- 3.28.1 If the Contractor fails to comply, within a reasonable time, with any decision or direction given by the City Representative, the City may employ such methods as the City deems advisable to do that which the Contractor failed to do.
- 3.28.2 The Contractor shall pay the City the total of all costs, expenses and damages incurred or sustained by the City by reason of the Contractor's failure to comply with any decision or direction referred to above, including the cost of any method employed by the City. Where the amounts owing to the Contractor under this Contract are insufficient to cover such costs, the Contractor shall pay the balance to the City immediately.

4. ADMINISTRATION BY CITY REPRESENTATIVE

4.1 CITY REPRESENTATIVE'S DUTIES AND AUTHORITY

- 4.1.1 The City Representative will administer this Contract on behalf of the City as provided in the Contract Documents.
- 4.1.2 The City Representative will be the City's representative until the Work has been completed in accordance with the Contract Documents.
- 4.1.3 Except as expressly stated in the Contract Documents, or at the discretion of the City, the City Representative shall have no authority to relieve the Contractor of any of the Contractor's obligations under this Contract.
- 4.1.4 The City Representative will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work performed and shall deal with Claims as they arise, in accordance with GC 9.1.
- 4.1.5 If any error, inconsistency, or omission in the Contract Documents is discovered, the City Representative shall provide directions or clarifications to the Contractor and notify the City immediately.
- 4.1.6 During the progress of the Work, the City Representative shall have authority to reject Work that, in the City Representative's opinion, does not conform with the requirements of the Contract Documents, or to issue written additional instructions regarding the Work which may, in the opinion of the City Representative, be necessary to supplement or clarify the Contract Documents. Such additional instructions shall be consistent with the intent of the Contract Documents, shall not entitle the Contractor to an Adjustment and shall be binding upon and be carried out promptly by the Contractor.
- 4.1.7 Wherever, under this Contract, the City Representative is required to exercise discretion by:
 - .1 rendering a decision, opinion or consent;
 - .2 expressing satisfaction or approval;
 - .3 determining value; or
 - .4 otherwise taking action which may affect the rights and obligations of the City or the Contractor, the City Representative shall do so impartially, consistent with the terms of this Contract and having regard to all of the circumstances. Any such decision, opinion, consent, expression of satisfaction or approval, determination of value or action, may be opened up, reviewed or revised as provided in GC 9.

4.2 OBSERVING THE WORK

The City Representative will visit the Site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine in general if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. However, the City Representative will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of such on-site observations, the City Representative will keep the City informed of the progress of the Work and will endeavour to guard the City against defects and deficiencies in the Work.

4.3 CITY REPRESENTATIVE'S DECISION

Except as provided in GC 4.1.7, neither the City Representative's authority or responsibilities under GC 4 or under any other provision of the Contract Documents nor any decision made by the City Representative in good faith either to exercise or not exercise such authority or responsibility, shall create, impose or give rise to any duty or responsibility owed by the City Representative to the Contractor, any Subcontractor, Supplier, or to any surety for or employee or agent of any of them.

5. PAYMENT AND COMPLETION

5.1 PROGRESS PAYMENTS

- 5.1.1 At the end of each calendar month, or such other period as is agreed to between the City Representative and the Contractor, the Contractor shall deliver to the City Representative a written progress claim that describes the Work that has been completed and any material that was delivered to the Site but not yet incorporated into the Work since the last progress claim. The Contractor's progress claim shall be submitted on the last day of the month, for the month which progress is being claimed. If the last day coincides on a weekend or holiday, it will be issued on the following business day.
- 5.1.2 The City Representative shall, within ten (10) business days of receipt of the Contractor's progress claim, review the claim and prepare a certificate for payment which may take the form of an endorsement on the progress claim. If the City Representative amends the progress claim, he will promptly notify the Contractor in writing, giving reasons for the amendment.
- 5.1.3 Where the Contractor does not submit a progress claim or where the City Representative does not endorse the Contractor's progress claim, the City Representative may calculate the progress payment and prepare a certificate for payment by the City. Where unit prices apply, payment will be calculated on the basis of the unit prices specified in the Contract Documents and the units of Work completed as determined by the City Representative. Where a lump sum price applies, payment will be calculated on the basis of the City Representative's estimate of the percentage of the Work completed.
- 5.1.4 The progress certificate will show, to the end of the period covered by the progress claim, the estimated value of all labour and materials incorporated into the Work, GST monies paid, all materials stored at the Site and all Change Orders certified by the City Representative. The certificate shall also show the aggregate of previous payments and the amounts withheld. The gross amount shown on such certificate, less the aggregate of all payments to date and sums withheld, shall become due and be payable by the City to the Contractor within thirty (30) calendar days following receipt by the City of the progress certificate.
- 5.1.5 The estimates referred to above shall not bind the City or the City Representative in any manner in the preparation of the final estimate of the Work done, but shall be held to be approximate only and shall in no case be taken as an acceptance of the Work or as a release of the Contractor from the Contractor's responsibilities under this Contract.
- 5.1.6 If for any reason the City disputes the net amount shown for payment on a progress certificate the City shall, within the time specified in this GC, pay to the Contractor any amount not disputed and also deliver to the Contractor and the City Representative written reasons for any deductions.
- 5.1.7 The following shall be added to the Progress Claims:
- Breakdown of Work Performed to Date
- Invoice number on breakdown matches the Invoice Number
 - Period Ending Date on breakdown matches Period Ending Date on Invoice

- Percent complete on breakdown is appropriate given previous Invoice breakdown
- Values claimed on Invoice Breakdown are appropriate given observations in Consultant Site Report
- Cost elements where no draw was requested have been confirmed with Payment Certifier

Breakdown of Cash Allowances

- All reported cash allowances match the contract values plus any changes
- Previously approved release amounts match the Cost Tracking Log at Period Ending Date
- Value of work claimed for Cash Allowances is appropriate given Consultant Site Report
- Values add up correctly

Breakdown of Project Change Notices

- All approved changes are identified (even if not being drawn against)
- Sum of approved Changes matches sum on Cost Tracking Log for Period End Date
- Value of work on claimed on Changes is appropriate given Consultant Site Report
- Values add up correctly

Invoice

- Invoice Date is not before Period Ending Date
- Payment terms are as per the Contract
- PO# has been properly identified
- The Invoice Number is correct
- GST/PST/HST is properly identified
- Invoice Amount matches the sum of the Breakdown of work performed to date
- Period Ending Date is correct

Certificate for Payment

- Number on Certificate matches the Invoice Number
- Certificate Period Ending Date matches the Invoice Period Ending Date
- Date prepared is after Invoice Date
- Project name is correct
- Contract Amount is correct
- Approved Project Changes match Consultant Change Order Log as of the Period Ending Date
- Lien holdback percentage is correct
- Verify all calculations and Total Value of Work Performed to Date
- Payment Certifier has signed the CoP

Statutory Declaration (CCDC 9A – 2018)

- Statutory Declaration is provided with the Certificate for Payment
- “Application for payment number” and “date” for the last payment received match Consultant and Owner records – confirm discrepancies with Owner
- Date of the contract, owner name, contractor name exactly match the Contract
- Seal (CCDC 9A 2018) is original and attached

- Signature and date of declaration is complete
- Approved Project Changes match Consultant Change Order Log as of the Period Ending Date

WSIB / WCB Review (required after construction starts)

- The Expiry Date of XXXX is beyond the end of the next invoice period
- Certificate number is included
- Form is signed (if applicable)

5.2 CONTRACT HOLDBACKS

5.2.1 The City will retain Contract holdbacks in accordance with the following:

- .1 ten percent from each progress payment made prior to the issuance of the first Holdback Payment Certificate by the City Representative (the “Lien Holdback”), and
- .2 five percent Owners Offset from any payments made to the Contractor following the issuance of the first Holdback Payment Certificate, other than from holdback payments.

5.3 SUBSTANTIAL PERFORMANCE

- 5.3.1 When the Contractor considers the Work ready to be utilized for its intended purpose, the Contractor may apply in writing to the City Representative to issue a Certificate of Substantial Performance. The Contractor shall prepare and submit with its application a comprehensive list of deficiencies and/or incomplete items to be completed or corrected, a statutory declaration as per GC 3.23.2 and particulars of, or a waiver of, all outstanding claims against the City, arising out of the Work. The Contractor shall proceed promptly to complete and correct the items on the list. Failure to include an item on this list does not alter the Contractor's responsibility to complete the Work in accordance with the Contract Documents.
- 5.3.2 Following the receipt of an application from the Contractor for a certificate of Substantial Performance, the City Representative shall, with reasonable promptness, make an inspection and assessment of the Work. Within five (5) business days of the inspection, the City Representative shall notify the Contractor of his approval, or reasons for, disapproval of the application. If the City Representative determines that the Work is substantially completed, he shall issue a certificate of Substantial Performance to the City and the Contractor. A list of items to be completed or rectified shall accompany the certificate. If the City Representative does not consider the Work to be substantially completed, he shall notify the Contractor in writing of the reasons why and list the items to be completed or rectified, of which the City Representative is aware.
- 5.3.3 The City may deduct from the Contract Price, or any amounts due to the Contractor, the costs associated with the City Representative being called upon to perform more than one inspection for the purpose of determining Substantial Performance, when in the opinion of the City Representative, the Work was clearly not yet substantially complete.
- 5.3.4 The certificate of Substantial Performance shall establish the date of Substantial Performance and shall fix the time within which the Contractor shall complete or correct all items on the list accompanying the certificate. Warranties required by the

Contract Documents shall commence on the date of Substantial Performance, unless otherwise provided, in the certificate of Substantial Performance.

- 5.3.5 Similarly, in accordance with the procedure set out above, the City Representative may in its absolute discretion, issue a Certificate of Substantial Performance in respect of any part of the Work which has been both completed to the satisfaction of the City Representative and which the City has elected to occupy or use prior to completion.
- 5.3.6 In addition to other holdbacks as provided by the Contract Documents, when considering Substantial Performance, the City may hold back from payments otherwise due to the Contractor the amount that is two times of the amount of a reasonable estimate, as determined by the City Representative, on account of deficient or defective Work already paid for. This holdback may be held, without interest, until such deficiency or defect is remedied. The items of defect or deficiency and the amounts of related holdback shall be listed separately on the payment certificate.

5.4 FINAL COMPLETION

- 5.4.1 Following Final Completion of the Work, including any testing, the Contractor shall provide the City Representative with the following:
- .1 a statutory declaration as referred to in GC 3.23.2 that:
 - a. the Work has been completed in accordance with the Contract Documents; and
 - b. no claims exist or alternatively setting out the particulars of any claims relating to personal injury or death or property loss or damage arising out of the Work, and any alleged infringement by the Contractor of a patent or other property right in performing this Contract; and
 - .2 particulars of, or a waiver of, all outstanding claims against the City, arising out of the Work.
- 5.4.2 Following receipt of the documents referred to in GC 5.4.1, the City Representative shall, with reasonable promptness, conduct an inspection and assessment of the Work to verify that the Work has been completed in accordance with the Contract Documents. Within ten (10) business days of receipt of the above documents, the City Representative shall either issue a certificate of Final Completion to the City and the Contractor or a list of items to be completed or rectified, of which the City Representative is aware. The City may deduct from monies owed to the Contractor the costs associated with the City Representative being called upon to perform more than one inspection.
- 5.4.3 Receipt by the Contractor of the certificate of Final Completion shall entitle the Contractor to payment in accordance with GC 5.5.

5.5 FINAL PROGRESS PAYMENT

- 5.5.1 The final progress payment certificate will be prepared following the issuance of the certificate of Final Completion. The final progress payment certificate will show the total amount payable to the Contractor, less any amounts retained and include the final WSCC Clearance Certificate.

- 5.5.2 The final progress payment amount shall be paid by the City to the Contractor within thirty (30) calendar days following receipt by the City of the final progress payment certificate.

5.6 HOLDBACK RELEASE

- 5.6.1 Forty-five (45) calendar days following the date of the issuance of the certificate of Substantial Performance by the City Representative, the Contractor may apply to the City for release of fifty percent of the Lien Holdback. The Contractor shall with such application provide the City Representative with a statutory declaration as referred to in GC 3.23.2, with the content referred to in GC 5.4.1.1, and the particulars of a waiver of, all outstanding claims against the City, arising out of the Work. The City Representative shall, within ten (10) business days' receipt of the Contractor's application, issue a Holdback Payment Certificate or a list of items to be rectified prior to payment.
- 5.6.2 Following the release of fifty percent of the Lien Holdback in accordance with GC 5.6.1, the Contractor may apply in writing for release of the remainder of all Contract lien holdback funds retained by the City, provided an irrevocable letter of credit, in a form acceptable to the City and from a bank and branch acceptable to the City, for the same amount is presented for the City's consideration. The City may, in its absolute discretion, accept or reject the Contractor's irrevocable letter of credit in place of the remainder of all Contract holdback funds.
- 5.6.3 The irrevocable letter of credit referred to in this provision must be for the same amount as the remainder of all Contract lien holdback funds and must remain in place until expiry of the warranty period referred to in GC 11.4. Should the Contractor's irrevocable letter of credit be scheduled to expire prior to the end of such warranty period, the City may, at any time within the ten (10) business days prior to the expiry date, call upon and draw down the irrevocable letter of credit, unless the Contractor presents a renewal thereof with an expiry date beyond the warranty period.
- 5.6.4 One year following the date of the issuance of the Certificate of Substantial Performance by the City Representative, the Contractor may apply to the City for release of the remainder of all Contract holdbacks or the return of irrevocable letters of credit, if any. The City Representative shall, within ten (10) business days of receipt of the Contractor's application, issue a Holdback Payment Certificate or a list of items to be rectified prior to payment.
- 5.6.5 The City may withhold from monies owing to the Contractor, an amount equal to the City Representative's estimate of the value of all outstanding deficiencies.
- 5.6.6 Subject to any applicable lien legislation requirements, holdback payments shall become payable or irrevocable letters of credit shall be returned by the City to the Contractor, within thirty (30) calendar days following receipt by the City of the Holdback Payment Certificate.

5.7 DELAY IN MAKING PAYMENT

- 5.7.1 Delay by the City in making payments when they are due pursuant to this provision shall not be a breach of this Contract by the City.
- 5.7.2 Unless otherwise stated in this Contract, when the City delays in making a payment that is due pursuant to this clause, the Contractor shall be entitled to receive simple interest on the amount that is overdue, at the prime lending rate of the main banker of the City.

5.8 RIGHT OF SET-OFF

Without limiting any right of set-off or deduction given or implied by law or elsewhere in the Contract Documents, the City may set-off any amount payable to the City by this Contractor against any amount payable to the Contractor under this Contract.

6. TIME AND DELAYS

6.1 TIME OF THE ESSENCE

Time is of the essence of this Contract, including without limitation the dates and time limits stated in the Contract Documents. By executing this Contract, the Contractor confirms that this Contract Time is a reasonable period for performing the Work.

6.2 DELAYS

6.2.1 Where a delay occurs in the progress of the Work and:

- .1 the delay is attributable to or within the control of the Contractor or its Subcontractors or was reasonably foreseeable by them at the time this Contract was entered into, the Completion Date will not be adjusted. The Contractor will be liable to the City for all costs and expenses incurred by the City, as well as for any losses resulting from the City's inability to utilize the Work for its intended purpose resulting from the delay, and the City may deduct such costs from payments owing to the Contractor under this Contract;
- .2 the delay is due to an act or neglect by the City, the City Representative, or other contractor, or of an employee of any of them, then the Contractor may make a Claim therefor, in accordance with GC 9.1, or
- .3 the cause for the delay does not fall within the circumstances described in 6.2.1 or 6.2.2 above, the Contractor may make a Claim for an Adjustment in the Contract Time (but not for an Adjustments of the Contract Price), in accordance with GC 9.1. This shall be the Contractor's sole and exclusive remedy for such delays.

6.2.2 In no event will adverse weather be considered to be a cause of delay beyond the Contractor's or its Subcontractors' control or not reasonably foreseeable by them at the time this Contract was entered into.

7. ASSESSMENTS AND DAMAGES FOR LATE COMPLETION

7.1 LATE COMPLETION

- 7.1.1 For the purposes of this General Condition, “period of delay” means the number of days commencing on the Completion Date fixed by the Articles of Agreement and ending on the day immediately preceding the day on which the certificate of Substantial Performance is issued but does not include any day within a period of extension granted pursuant to GC 9.1 and 6.2, or any other day on which, in the opinion of the City Representative, completion of the Work was delayed for reasons beyond the control of the Contractor.

8. CHANGE ORDERS

8.1 CHANGES IN THE WORK

- 8.1.1 Without invalidating this Contract, the City may, through the City Representative, direct in writing the Contractor to make changes in the Work by adding to, deleting from or revising the Work.
- 8.1.2 When no Change Order has been issued by the City Representative, and the Contractor claims that any of the Work being performed or proposed constitutes a change in the Work entitling the Contractor to an Adjustment, the Contractor may make a Claim therefore in accordance with GC 9.1.
- 8.1.3 Changes in the Work directed by the City shall not be initiated, and shall not be carried out by the Contractor, without the prior written authorization of the City through the City Representative.
- 8.1.4 Upon receipt of an approved Change Order from the City Representative, the Contractor shall promptly proceed with the Work involved under the applicable provisions of the Contract Documents, except as specifically provided in the Change Order.
- 8.1.5 The City Representative may in writing direct the Contractor to proceed with the Change notwithstanding that a Change Order has not been prepared or agreed at the time of such direction, and upon receipt of such direction the Contractor shall promptly proceed with the Work as aforesaid. If the parties fail to agree upon the price for such Change, the price therefor shall be as set out in GC 8.2.6 or 8.2.9, as applicable.
- 8.1.6 If notice of any change in the Work is required by the provisions of any bond to be given to a surety, the Contractor will be responsible for giving such notice, and the amount of each applicable bond shall be adjusted accordingly. For the purposes of this provision, the Contractor will be considered to be the surety's agent.

8.2 VALUATION OF CHANGES

- 8.2.1 When a change results in a decrease in the Work, the Contract Price shall be decreased by an amount to be determined by the City Representative, with such decrease valued in the same manner as if it were an increase.
- 8.2.2 When a change causes an increase in the Work, the Contract Price shall be increased in accordance with this provision.
- 8.2.3 If this Contract specifies unit prices for changes to the Work, and the City Representative concurs in their use on a particular change or portion thereof, then the Contractor shall be paid for such change or portion, a sum determined by applying the unit prices to the actual quantum, as measured by the City Representative, determined after completion of the Change.
- 8.2.4 Where this Contract specifies force account rates for labour, equipment and materials, and the City Representative concurs in their use on a particular change or portion thereof, then the Contractor shall be paid for such change or portion, a sum determined by applying the force account rates to the number of hours of labour and equipment expended and quantities of materials utilized. The Contractor shall present records of the work done to the City Representative for approval, at the times and in the manner specified by the City Representative.

- 8.2.5 If there are changes, or portions of changes, for which unit prices or force account rates are not applicable or specified, then the Contractor shall propose to the City Representative a fixed price for such changes or portions. Upon agreement by the City on the amount thereof, the proposed fixed price shall become the sum the Contractor shall be paid for such change or portion.
- 8.2.6 If the Contractor and the City are unable to agree on a fixed price, then the Contractor shall be reimbursed its costs for performing the changes as directed by the City Representative, consistent with the following:
- .1 wages, salaries and travelling expenses of the Contractor's employees while actually engaged on the Work, excluding any and all expenses of head office personnel;
 - .2 workers' compensation assessments, unemployment insurance premiums, pension plan payments and paid holidays;
 - .3 rental cost of machinery and equipment that is used in the performance of the Work, or an allowance for depreciation if owned by the Contractor;
 - .4 operation and maintenance costs for machinery and equipment used in the performance of the Work, other than costs of repairs arising out of defects existing before it was brought on to the Site;
 - .5 cost of materials necessary for and incorporated into the Work or consumed in the performance of the Work;
 - .6 cost of premiums for all bonds and insurance;
 - .7 other expenses incurred by the Contractor as approved in advance by the City Representative for the proper performance of the Work;
 - .8 Subcontractor costs calculated in accordance with GC 8.2.6.1-.7 above; and
 - .9 an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, and every other cost, charge and expense, in an aggregate amount that is equal to twenty percent of the expenses referred to in GC 8.2.6.1-.7, and equal to ten percent of the expenses referred to in GC 8.2.6.8 above.
- 8.2.7 Whenever the cost of any Work is to be determined in accordance with GC 8.2.6, the Contractor will establish and maintain records in accordance with GC 3.26.
- 8.2.8 Pending final determination of cost, amounts not in dispute shall be included in progress payments.
- 8.2.9 If the method of valuation of any increase cannot be promptly agreed upon, the City Representative shall determine the method of valuation and issue a written authorization for the change setting out the method of valuation.

8.3 CONTINGENCY ALLOWANCE

- 8.3.1 The Contract Price includes the contingency allowance, if any, stated in the Contract Documents.
- 8.3.2 Expenditures under the contingency allowance shall be authorized in the same manner as for a Change Order in accordance with GC 8, and the value shall be determined in accordance with GC 8.2.

- 8.3.3 The unexpended portion of the contingency allowance shall be credited to, and paid to, the City as a condition of achieving Substantial Performance, unless otherwise agreed to by the City.

9. DISPUTE RESOLUTION

9.1 CITY REPRESENTATIVE'S DECISION

- 9.1.1 Where a Claim arises out of, or in connection with this Contract or the performance of the Work, whether during the performance of the Work or after its completion and whether before or after termination of this Contract, the Claim shall, in the first place, be referred in writing to the City Representative in accordance with this provision.
- 9.1.2 A written notice stating the general nature of the Claim shall be delivered by the party making the Claim to the other party and to the City Representative promptly, and in no event later than five (5) business days after the occurrence of the event giving rise to the Claim. Any Work for which a Claim has been made, shall be kept readily accessible and shall not be covered up without the express permission of the City Representative.
- 9.1.3 Notice of the extent of the Claim with supporting data shall be delivered within ten (10) business days after such occurrence. The Contractor shall keep contemporaneous records as may reasonably be necessary to support the Contractor's Claim, which may be inspected by the City Representative, as he deems necessary.
- 9.1.4 The City Representative shall review the information submitted, consult with the parties and make reasonable efforts to obtain agreement between the City and the Contractor regarding the Claim. The parties agree that, both during and after the performance of the Work, each of them shall use their best efforts to resolve any disputes arising between them by amicable negotiations, and shall provide frank, candid and timely disclosure of all relevant facts, information and documents to facilitate those negotiations. The City Representative may request the parties to refer the matter to more senior levels of management within their organizations, in an effort to resolve the Claim.
- 9.1.5 Where the City and the Contractor reach an agreement on the Claim, the City Representative will, where appropriate, prepare a Change Order for the City's approval, which shall be sufficient to effect a change in this Contract, in accordance with the terms of the Change Order and the Contract Documents.
- 9.1.6 If the City and the Contractor cannot reach an agreement regarding the Claim, the City Representative shall decide the matter and notify the parties in writing of his decision, within ten (10) business days of the last submission, and in no event later than twenty (20) business days following the date of the occurrence giving rise to the Claim. Valuation of Adjustments in the Contract Price shall be determined by the City Representative in accordance with GC 8.2.
- 9.1.7 Unless this Contract has already been terminated, the Contractor shall, in every case, proceed with the Work with all due diligence and the City and the Contractor shall give effect forthwith to every such decision of the City Representative unless and until the same shall be revised, as hereinafter provided.
- 9.1.8 Where either party disputes the decision of the City Representative or where the City Representative fails to notify the parties of his decision in accordance with GC 9.1.6 then either party may, within ten (10) business days, notify the other party of its intention to refer the matter to the Referee in accordance with GC 9.2 or Arbitrator in accordance with GC 9.3, as application. No referral may be made unless such notice is given. Notices shall be copied to the City Representative for information.

- 9.1.9 If the City Representative has given notice of his decision as to a matter in dispute to the parties and no notice of intention to refer the matter to the Referee has been given by either the City or the Contractor within twenty (20) business days, the City Representative's decision shall become final and binding upon the parties.
- 9.1.10 No act by the claimant shall be construed as a renunciation or waiver of any of its rights or recourses provided the claimant has given the required notices and carried out the instructions specified. The presentation of a Claim shall not be grounds for delay or interruption of the Work.

9.2 APPOINTMENT OF REFEREE

- 9.2.1 If the City and the Contractor agree to appoint a Referee, the City and the Contractor shall name, within twenty (20) business days of the parties signing this Contract, a Referee who may be called upon during the performance of, or after the completion of the Work, to settle any Claims or disputes arising under this Contract. Where the Referee appointed in accordance with this provision refuses to act, is incapable of acting or dies, the parties shall name a new Referee at the earliest opportunity. Should the parties be unable to agree on a Referee within the time specified, the City Representative whose decision shall be final, shall name a Referee.
- 9.2.2 Where either party has disputed a decision of the City Representative in accordance with GC 9.1.8, the Referee shall review the decision of the City Representative and may, if he deems it appropriate, require the parties to supply him with further information or documentation, giving each party an opportunity to respond. The Referee may inspect the Work after giving reasonable notice to each party of the time he intends to do so.
- 9.2.3 Not later than twenty (20) business days after receipt of the last documentary submission, where the matter has not been resolved in accordance with GC 9.2.2, the Referee shall issue his written decision with reasons to the parties.
- 9.2.4 The costs of retaining the Referee shall be shared equally between the City and the Contractor, unless the Referee directs otherwise. The City may deduct such costs assessed against the Contractor by the Referee, from any amount due and payable by the City to the Contractor under this Contract.

9.3 APPOINTMENT OF ARBITRATOR

- 9.3.1 If the parties agree to appoint a Referee, then within ten (10) business days after the Referee has rendered his decision, either party may, by written notice to the other party and to the City Representative for information, refer the decision of the Referee to arbitration pursuant to this GC 9.3. If the parties have not agreed to appoint a Referee, then within the fourteen-day period referred to in GC 9.1.8, either party may refer to decision of the City Representative to arbitration pursuant to this 9.3. Upon any such referral, the parties shall appoint a single Arbitrator, for arbitration in accordance with the Arbitration Act, R.S.N.W.T. (Nu) 1988, c. A-5, as duplicated for Nunavut by s. 29 of the Nunavut Act, subject to the following provisions:
- .1 the Arbitrator shall have the authority to call upon the Referee to give evidence during the arbitration proceedings, including all documentation prepared by the Referee or reviewed by him;
 - .2 the decision of the Arbitrator shall be final and binding upon the parties who covenant that their disputes shall be so decided by arbitration alone and not by recourse to any court by way of action at law;

- .3 arbitration proceedings may be commenced prior to or after completion of the Work, provided that the obligations of the City, the City Representative and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the Work;
 - .4 before the arbitration proceeds on the substantive issues, a budget for the proceedings shall be established by the Arbitrator and each party shall deposit, as security for costs, a sum equal to half of such budget with the Arbitrator, who shall thereupon deposit such funds in an interest bearing trust account with a chartered bank. Subject to the award and payment of costs as hereinafter provided, the balance of the security deposits and interests shall be properly returned to the respective parties; and
 - .5 the cost of arbitration may be awarded against the parties hereto or against any one of them as the Arbitrator may decide.
- 9.3.2 If a Claim involves the Work of a Subcontractor, either the City or the Contractor may join such Subcontractor as a party to the arbitration between the City and the Contractor. The Contractor shall include in all its subcontracts specific provision whereby its Subcontractors consent to being joined in an arbitration between the City and the Contractor involving the Work of such Subcontractors. Nothing in this provision nor in the provision of such subcontracts consenting to joinder shall create any claim, right or cause of action in favour of the Subcontractors as against the City or the City Representative, that does not otherwise exist.
- 9.3.3 If no notice is received within the time limits set out or referred to in GC 9.3.1, the decision of the Referee shall be final and binding on the parties.
- 9.3.4 The Contractor agrees that it shall join other arbitration proceedings with respect to the Project, as requested in writing by the City.
- 9.4 ADHERENCE TO PROVISIONS**
- 9.4.1 The provisions, including without limitation, procedure and sequences, outlined in GC 9.1 to 9.3 for the resolution of disputes shall be strictly adhered to by both parties.

10. WITHDRAWAL, SUSPENSION AND TERMINATION

10.1 WITHDRAWAL OF THE WORK

- 10.1.1 After giving the Contractor five (5) business days written notice within which the Contractor may remedy any delay or default specified, the City may, through the City Representative, withdraw the Work from the Contractor where the Contractor is not diligently performing the Work to the satisfaction of the City Representative or has not completed the Work within the time specified in this Contract.
- 10.1.2 On withdrawal of the Work, the City may:
- .1 take possession of all plant, equipment and materials on the Site and ordered by the Contractor for the Work but not yet delivered to the Site; and
 - .2 complete the Work withdrawn from the Contractor.
- 10.1.3 Withdrawal of the Work by the City does not terminate this Contract and does not relieve the Contractor of its obligation to complete the remainder of the Work.
- 10.1.4 The Contract Price will be reduced by the value of the Work withdrawn, as determined by the City Representative. The Contractor shall be liable to the City for all extra costs incurred by the City to complete the Work withdrawn from the Contractor, including all amounts set out in GC 10.3.4 notwithstanding that the Contractor may not be in default hereunder, and the City may deduct such costs from payments owing to the Contractor under this Contract.

10.2 SUSPENSION OF THE WORK

- 10.2.1 The City may through the City Representative suspend the progress of the Work at any time by giving the Contractor a written notice, which shall include the reason for the suspension.
- 10.2.2 Where such a suspension results in a delay in the progress of the Work, the rights of the parties shall be determined in accordance with GC 6.2.1 (.1), (.2) or (.3) as applicable, and shall be based on the reason for the suspension.
- 10.2.3 During the period of suspension, the Contractor shall protect, preserve and maintain the Work in a manner satisfactory to the City and shall not remove any part of the plant, equipment and materials from the Site without the prior written consent of the City.
- 10.2.4 Following the suspension, the Construction Schedule shall be revised by the Contractor, for approval by the City, and the Work shall be completed as provided in the revised schedule.
- 10.2.5 Where the Work or any part thereof is suspended on the written instructions of the City and if permission to resume Work is not given by the City within a period of within twenty (20) business days from the date of suspension, the Contractor may request permission from the City to proceed with the Work. If the City does not grant permission within ten (10) business days of receipt of the Contractor's written request, the Contractor may elect to treat the suspension, where it affects only part of the Work, as an omission of such Work by giving a further notice to the City to that effect or, where it affects the whole of the Work, treat this Contract as having been cancelled by the City, in accordance with GC 10.4.

10.3 TERMINATION BY CITY

- 10.3.1 Without limitation, any or all of the following actions by or circumstances relating to the Contractor shall constitute default on the part of the Contractor:
- .1 committing or threatening to commit any act of insolvency or bankruptcy, voluntary or otherwise;
 - .2 having a receiver appointed on account of insolvency or in respect of any property;
 - .3 making a general assignment for the benefit of creditors;
 - .4 failing to comply with or persistently disregarding statutes, regulations, bylaws or directives of competent authorities relating to the Work;
 - .5 failing to comply with any requests, instruction or direction of the City Representative;
 - .6 failing to pay accounts relating to the Work as they come due;
 - .7 failing to prosecute the Work with skill and diligence;
 - .8 assigning or subletting this Contract or any portion thereof without the required consent from the City;
 - .9 failing or refusing to correct defective or deficient Work; and
 - .10 being otherwise in default in carrying out any of its obligations under this Contract, whether such default is similar or dissimilar in nature to the causes listed previously.
- 10.3.2 The Contractor shall immediately advise the City in writing of any default listed in GC 10.3.1.
- 10.3.3 If the Contractor is in default under this Contract, the City shall be entitled to any or all of the following:
- .1 take possession of all Work in progress, materials and construction equipment at the Site, at no additional charge for the retention or use of the construction equipment;
 - .2 eject and exclude from the Site all personnel of the Contractor and any Subcontractor;
 - .3 terminate the City's utilization of the Contractor to perform the Work;
 - .4 finish the Work by whatever means the City may deem appropriate under the circumstances; and
 - .5 withhold any further payments to the Contractor until the Contractor's liability to the City is ascertained.
- 10.3.4 The Contractor shall be liable to the City for:
- .1 the extra expense of finishing the Work, including compensation to the City for additional engineering, managerial and administrative services;
 - .2 the cost of correcting deficiencies in that portion of the Work performed by the Contractor; and
 - .3 all other loss, damage and expense occasioned to the City by reason of the Contractor's default,

and the City may deduct such amounts from payments owing to the Contractor under this Contract.

- 10.3.5 Any action by the City under this GC 10.3 shall be without prejudice to the City's other rights or remedies under any security held by the City for performance of this Contract by the Contractor.

10.4 CONTRACT CANCELLATION

- 10.4.1 The City shall have the right which may be exercised from time to time, with or without cause, and on ten (10) business days written notice to the Contractor, to cancel any uncompleted or unperformed portion of the Work. In the event of such cancellation, the Contractor shall be entitled to the following:
- .1 reimbursement at this Contract rate for all items completed and delivered;
 - .2 reimbursement for the costs to the Contractor for Work in progress and expenses incurred in the course of the Work, plus a reasonable return on such costs and expenses; and
 - .3 reimbursement for costs and expenses directly caused by the cancellation.
- 10.4.2 Title to all Work for which reimbursement is made shall vest in the City.
- 10.4.3 The City shall not be liable to the Contractor for indirect loss, consequential loss, loss of business opportunity or loss of anticipated profit on the cancelled portion or portions of the Work.
- 10.4.4 This section shall not apply to situations in which the City is entitled to terminate this Contract by reason of default by the Contractor.

10.5 TERMINATION BY CONTRACTOR

- 10.5.1 If the City should be adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the City's insolvency, or if a receiver is appointed because of the City's insolvency, the Contractor may, without prejudice to any other right or remedy the Contractor may have, by giving the City or receiver or trustee in bankruptcy notice in writing, terminate this Contract.
- 10.5.2 If the Work should be stopped or otherwise delayed for a period of within twenty (20) business days or more under an order of a court or other public authority and providing that such order was not issued as the result of an act or fault of the Contractor or of anyone directly or indirectly employed or engaged by the Contractor, the Contractor may, without prejudice to any other right or remedy the Contractor may have, by giving the City notice in writing, terminate this Contract.
- 10.5.3 If the Contractor terminates this Contract under the conditions set out above, the Contractor shall be entitled to be paid for all work performed including reasonable profit, for loss sustained upon products and construction machinery and equipment, and such other damages as the Contractor may have sustained as a result of the termination of this Contract.

11. BONDS AND WARRANTY

11.1 OBLIGATIONS TO PROVIDE CONTRACT SECURITY

- 11.1.1 The Contractor shall promptly provide to the City the surety bonds called for in the Contract Documents, not later than ten (10) business days following receipt by the Contractor of the letter of acceptance.
- 11.1.2 Such bonds shall be issued by a duly licensed surety company authorized to transact the business of suretyship in Nunavut and shall be maintained in good standing until the fulfillment of this Contract.
- 11.1.3 Prior to or at the time of making a Claim under such bonds, the City shall send written notification to the Contractor, stating the nature of the default for which a Claim is being made.

11.2 PRESCRIPTION OF ACCEPTABLE CONTRACT SECURITY

- 11.2.1 The Contractor shall deliver to the City:
 - .1 a performance bond and a labour and material payment bond each in an amount that is equal to and not less than fifty percent of the Contract Price referred to in the Articles of Agreement; or
 - .2 a security deposit in an amount that is equal to ten percent of the Contract Price referred to in the Articles of Agreement.
- 11.2.2 The performance bond and the labour and material payment bond referred to in GC 11.2.1.1 shall be in a form as approved by the Federal Treasury Board (Federal Contracts).
- 11.2.3 A security deposit referred to in GC 11.2.1.2 shall be in a form of:
 - .1 an irrevocable letter of credit in a form acceptable to the City and from a bank and branch acceptable to the City; or
 - .2 a certified cheque or bank draft from a bank acceptable to the City and made payable to the City.
- 11.2.4 Should the Contractor's irrevocable letter of credit be scheduled to expire prior to the Completion Date set out in the Articles of Agreement, the City may, at any time within the ten (10) business days prior to the expiry date, call upon and draw down the irrevocable letter of credit, unless the Contractor presents a renewal thereof with an expiry date beyond the anticipated date for Final Completion, as determined by the City Representative.

11.3 RETURN OF SECURITY DEPOSIT

- 11.3.1 Following issuance of the certificate of Substantial Performance, the City may, in its absolute discretion, release all or part of the security deposit referred to herein.
- 11.3.2 Following issuance of the certificate of Final Completion, the Contractor shall, subject to the terms of this Contract, be entitled to the remainder of any security deposit.
- 11.3.3 Interest shall not be paid on security deposits.

11.4 WARRANTY

- 11.4.1 The Contractor warrants and guarantees that the Work is and shall be free from all defects or deficiencies in, or arising from, materials or workmanship in any part of the

Work for the period of one year from the date of Substantial Performance of the Work, as certified by the City Representative, or such longer period as may be specified in the Contract Documents for certain products or Work.

- 11.4.2 The Contractor shall promptly correct, at its own expense, defects or deficiencies in the Work which appear prior to and during the warranty described in GC 11.4.1. The Contractor shall correct and pay for all damages resulting from corrections made under this provision.
- 11.4.3 Work performed to correct defects or deficiencies shall be warranted and guaranteed to be free from defects or deficiencies, on the same basis as the original Work, for a period of one year from the day said work was completed.
- 11.4.4 The City or the City Representative shall promptly give the Contractor written notice of observed defects and deficiencies.
- 11.4.5 If any defects or deficiencies in the Work appear at any time prior to the end of the warranty period, the City Representative may instruct the Contractor to search for the cause thereof. If such defect or deficiency is one for which the Contractor is liable, the cost of the Work carried out in searching shall be at the Contractor's expense, and it shall in such case remedy such defect or deficiency at its own cost; otherwise it shall be at the City's expense.
- 11.4.6 In an emergency or to prevent an emergency or if the Contractor neglects for any reason to correct defects or deficiencies within a reasonable time, the City may perform the Work or direct another party, on the City's behalf, to do the Work. All costs associated with the correction of such defects or deficiencies shall be paid for by the Contractor and the City may deduct such costs from amounts owing to the Contractor.

12. INDEMNIFICATION AND INSURANCE

12.1 INDEMNIFICATION BY CONTRACTOR

- 12.1.1 The Contractor shall defend, indemnify and save harmless the City and the City Representative, their agents and employees from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of or attributable to the Contractor's performance of the Work, or by reason of any matter or thing done, permitted or omitted to be done, by the Contractor, its Subcontractors, its Suppliers or their agents or employees, whether occasioned by negligence or otherwise. Such indemnity shall survive completion or termination of this Contract.
- 12.1.2 Nothing contained in the Contract Documents or any approval, express or implied, of the City Representative or City shall relieve the Contractor of any liability for latent defects or any liability which may be imposed by law.

12.2 INDEMNIFICATION BY CITY

The City shall, subject to any law that affects the City's rights, powers, privileges or obligations, indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damages, actions, suits or proceedings arising out of his activities under this Contract that are directly attributable to:

- 12.2.1 lack of or a defect in the City's title to the Site whether real or alleged; or
- 12.2.2 an infringement or an alleged infringement by the Contractor of any patent of invention or any other kind of intellectual property occurring while the Contractor was performing any act for the purposes of this Contract employing a model, plan or design or anything related to the Work that was supplied by the City to the Contractor.

12.3 POLICIES OF INSURANCE

Without restricting the generality of GC 12.1, the Contractor shall provide and maintain the insurance coverages listed in this provision. Unless otherwise stipulated, the duration of each insurance policy shall be from the date of commencement of the Work until the date of issuance of the certificate of Final Completion. Prior to commencement of the Work, the Contractor shall provide the City with confirmation of coverage in the format attached as Appendix A to these General Conditions, and, if required, a certified true copy of the policies certified by an authorized representative of the Insurer. The Contractor shall ensure that any Subcontractors comply with the insurance requirements outlined in this GC 12. The insurance coverages required are as follows:

12.3.1 General Liability Insurance

Contractor's comprehensive general or commercial general liability insurance shall have limits of not less than **five million dollars (\$5,000,000)** per occurrence with a property damage deductible not exceeding **two thousand five hundred dollars (\$2,500)**. The insurance provided shall be no less broad than the insurance provided by IBC Form 2100 or its equivalent replacement and shall include a standard non-owned automobile policy including a blanket contractual liability endorsement. To achieve the required limit, umbrella or excess liability insurance may be used. All liability coverage shall be maintained for completed operations hazards from the date of Final Completion of the Work, as set out in the certificate of Final Completion, on an ongoing basis for a period of not less than six years from the date of such certificate.

The City shall be added as an additional insured with respect to liability arising out of the operations of the named insured. The policy shall be endorsed to provide the City

with not less than thirty (30) calendar days' written notice in advance of any cancellation, change or amendment restricting coverage.

12.3.2 Automobile Liability Insurance

Automobile liability insurance in respect of licensed vehicles shall have limits of not less than **five million dollars (\$5,000,000)** inclusive per occurrence for bodily injury, death, and damage to property and covering all licensed vehicles owned or leased by the Contractor, endorsed to provide the City with not less than fifteen (15) calendar days' written notice in advance of any cancellation, change or amendment restricting coverage.

12.3.3 Property and Boiler and Machinery Insurance

- .1 "All risks" property insurance shall be in the joint names of the Contractor, the City and the City Representative, insuring not less than the sum of the amount of the Contract Price and the full value of all labour, tools, equipment and materials that are to be provided by the City for incorporation into the Work, with a deductible not exceeding **two thousand five hundred dollars (\$2,500)**. The insurance provided shall be no less broad than the insurance provided by IBC Form 4042 or its equivalent replacement. The policy will contain a waiver of rights of subrogation against all those insured by the policy. Such coverage shall be maintained continuously until the date the certificate of Final Completion is issued or an earlier date specified by the City;
- .2 the policy will allow for partial or total use or occupancy of the Work. If because of such use or occupancy the Contractor is unable to provide coverage, the Contractor shall notify the City in writing prior to such use pay for property and, if necessary, boiler insurance insuring the full value of the Work as in 12.3.3.1 above, including coverage for such use or occupancy and shall provide the Contractor with proof of such insurance. The Contractor shall refund to the City the unearned premium applicable to the Contractor's policy upon termination of coverage;
- .3 where, due to the nature of the Work, the full insurable value of the Work is substantially less than the Contract Price, the City may, at its sole discretion, reduce the amount of insurance required or waive the course of construction insurance requirement;
- .4 where such risks exist, the Contractor shall provide boiler and machinery insurance insuring not less than the replacement value of boilers, pressure vessels and other objects insurable under a boiler & machinery policy and forming part of the Work;
- .5 the policies shall provide that, in the event of a loss or damage, payment shall be made to the City and the Contractor as their respective interests may appear. The Contractor shall act on behalf of the City for the purpose of claiming the amount of loss or damage from the Insurers. When the extent of the loss or damage is determined, the Contractor shall proceed to restore the Work. Loss or damage shall not affect the rights and obligations of either party under this Contract except that the Contractor shall be entitled to such reasonable extension of Contract Time relative to the extent of the loss or damage in accordance with the terms of this Contract; and

- .6 the Contractor shall be responsible for deductible amounts under the policies except where such amounts may be excluded from the Contractor's responsibility in accordance with the Contract documents.

12.3.4 Aircraft and Watercraft Liability Insurance

Where such risks exist, the Contractor shall obtain aircraft and watercraft liability insurance with respect to owned or non-owned aircraft and watercraft if used directly or indirectly in the performance of the Work, including use of additional premises, and shall have limits of not less than **two million dollars (\$2,000,000)** inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof, and limits of not less than two million dollars for aircraft passenger hazard. Such insurance shall be in a form acceptable to the City. The policies shall be endorsed to provide the City with not less than fifteen (15) calendar days' written notice in advance of any cancellation, change or amendment restricting coverage.

12.3.5 Contractor's Equipment Insurance

The Contractor shall give proof of insurance in a form acceptable to the City of "all risks" Contractor's equipment insurance covering construction machinery and equipment used by the Contractor for the performance of the Work, including boiler insurance on temporary boilers and pressure vessels. The insurance shall be in a form acceptable to the City and shall not allow subrogation claims by the insurer against the City. The policies shall be endorsed to provide the City with not less than fifteen (15) calendar days' written notice in advance of cancellation, change or amendment restricting coverage.

12.3.6 Other Insurance

The Contractor shall provide, maintain and pay for any additional insurance required to be provided by law, or which the Contractor considers necessary to cover risks not otherwise covered by insurance specified in the Contract Documents.

12.3.7 Insurance General

- .1 All required insurance policies shall be with insurers licensed to underwrite insurance in Nunavut and signed by representatives licensed to do so for insurance in Nunavut.
- .2 The Contractor shall require and ensure that its Subcontractors maintain liability insurance comparable to that required above.
- .3 If the Contractor fails to provide or maintain insurance as required by this General Condition or elsewhere in the Contract Documents, then the City shall have the right to provide and maintain such insurance and give evidence to the Contractor and the City Representative. The Contractor shall pay the cost thereof to the City on demand or the City may deduct the costs from monies which are due or may become due to the Contractor.
- .4 Where an insurer fails or refuses to pay any claims under an insurance policy covering the activities of the Contractor or a Subcontractor relating to or arising out of the Work, the Contractor shall not be released from any liability arising under this Contract.

13. LOCAL AND INUIT INVOLVEMENT

13.1 REQUIREMENTS FOR INUIT, LOCAL AND NUNAVUT CONTENT

- 13.1.1 The Contractor shall, in the performance of the Work, employ Inuit, Local and Nunavut workers and use Inuit, Local and Nunavut content to the greatest extent possible. Workers shall meet all levels of proficiency, qualification and expertise as dictated by Applicable Laws and/or as defined in the Contract Documents.
- 13.1.2 The Contractor shall provide to the City Representative a schedule indicating the anticipated total monthly value of all Inuit, Local and Nunavut content and labour to be expended in the execution of the Work. This schedule shall provide the benchmark for ensuring compliance by the Contractor with the requirements for the use of Inuit, Local and Nunavut content during the performance of the Work.

13.2 REQUIREMENT FOR COMMUNITY MEETINGS

- 13.2.1 If required under this RFT (if the NNI Policy applies), The Contractor shall arrange meetings on a monthly basis, or other basis as may be mutually agreed by the parties to this contract, to monitor the use of Inuit, Local and Nunavut labour and Inuit, Local and Nunavut content. The Contractor shall give the City five (5) business days' notice of all meetings called under GC 13.2. The Contractor shall take reasonable steps to ensure that these meetings include the following representatives:
- .1 a community representative who has been designated to speak on behalf of the community (if available);
 - .2 a community manpower representative (if available);
 - .3 the Contractor; and
 - .4 the City Representative.
- 13.2.2 In addition to the community meetings contemplated in GC 13.2.1, the Contractor shall arrange a community meeting prior to the start of the Work which shall be arranged on the same terms as indicated in GC 13.2.1 and at that meeting shall:
- .1 provide a schedule referred to in GC 13.1.2 above to the community representative;
 - .2 request from the community manpower representative or from the City if no community manpower representative has been delegated, a list of workers available in the community; and
 - .3 identify specific types of workers required during the project such as plumbers, painters or electricians and how many of those workers are required and when they are required and based on information received in accordance with GC 13.2.2.2 maintain a list of community manpower.
- 13.2.3 At the community meetings contemplated in GC 13.2.1, the Contractor shall:
- .1 provide employment reports identifying workers used during the past month;
 - .2 provide a schedule referred to in GC 13.2.2.1, or such schedule as amended, if necessary; and
 - .3 provide a consolidated report at the time of Substantial Performance, which shall confirm the total amount of Inuit, Local and Nunavut content used. This report will identify Inuit, Local and Nunavut payroll separately. This consolidated report shall be a condition precedent to the release of payment.

- 13.2.4 The City shall attend all community meetings organized by the Contractor in accordance with this GC 13.2 and when requested by the Contractor shall identify and contact potential community workers who may be available to be employed on the Work, identify alternate workers if those workers initially identified are not available to work, and assist in confirming the residency of local workers.

13.3 MONITORING THE LEVEL OF INUIT, LOCAL AND NUNAVUT LABOUR

- 13.3.1 The Contractor is responsible to ensure that every worker identified as Local or Nunavut meets the qualifying requirements, which are, for Nunavut, being ordinarily resident in Nunavut for the past 12 months, and for Local being a Nunavut resident ordinarily resident in the subject community for the past 4 months. The Contractor may be required to provide proof of residency of workers at any time throughout the course of performing the Work.
- 13.3.2 Reasonable proof of Nunavut and Local residency shall be any of the following:
- .1 being listed on the Nunavut Tunggavik Inc. (NTI) enrolment list and provision of a physical address where residing;
 - .2 if the last 12 months have been spent as ordinarily resident in Nunavut and a physical address of such residence has been provided, then
 - a. provides a valid Nunavut Health Care Card effective at least 9 months prior to start date of employment on the Work; and/or
 - b. provides another accepted proof of residency such as: a Nunavut General Hunting License, a Nunavut Driver's License, a lease or rental receipt, or a certified Schedule T222 Income Tax return from the previous year or proof that Income Tax was paid in the Nunavut during the previous tax year; or
 - .3 is included on a list of approved Local or Nunavut residents verified by the municipality of their residence.
- 13.3.3 The Contractor is responsible to ensure that every worker identified as Inuit is on the NTI Inuit enrolment list or would qualify to be on the list.
- 13.3.4 If requested by the City to do so, the Contractor shall obtain a signed consent form from workers which verifies their residency and permits the City to obtain any and all information required to support the worker's claim of residency and/or Inuit status. A worker does not need to comply with the requirements of this clause if the worker is on the NTI Inuit enrolment list.

13.4 REQUIREMENT FOR USING HOTELS OR BED AND BREAKFAST

- 13.4.1 If performance of the Work is undertaken where a Commercial Room and Board Facility (as defined below) exists within a Community (as defined below), the Tenderer is required to use a Commercial Room and Board Facility to house and feed all workers directly employed by the Contractor, any Subcontractor or agent or any other business working on the Project. The Contractor, Subcontractor, agent or other business are not required to use Commercial Room and Board Facilities for workers who are Local Residents.
- 13.4.2 In this Contract:

- .1 “Commercial Room and Board Facility” means a Hotel or a Bed and Breakfast (Tourist Home) that holds a Tourist Establishment License issued by the Government of Nunavut under the Travel and Tourism Act.
 - .2 “Community” means a community in which the Work (as defined in the Contract) is being performed and includes the entire area within a 20- kilometer radius of that community.
- 13.4.3 The Commercial Room and Board Facility must:
- .1 meet the applicable requirements under the *Public Health Act*, and of the *Eating or Drinking Place Regulations*; and
 - .2 meet all applicable requirements of the *Public Health Act* the *Fire Prevention Act* and applicable regulations thereunder, and any other applicable Government of Nunavut or federal legislation.

14. TRANSPORTATION OF MATERIALS

14.1 MARINE TRANSPORT RESOURCES

- 14.1.1 Whenever marine (water) transport is to be utilized, the Contractor may use, and space may be booked directly with the following carrier:
- .1 Nunavut Sealink and Supply (NSSI),
 - .2 By ships loading at the Montreal area Port of Ste-Catherine
 - .3 Nunavut Eastern Arctic Shipping (NEAS)
 - .4 By ships loading at the Port of Valleyfield, Salaberry-de-Valleyfield
- 14.1.2 The annual shipping rates offered by marine carriers are dependent upon anticipated cargo quantities including the materials for construction projects; therefore, Contractors may tender using the published sailing schedules and rates available from the above marine carriers.
- 14.1.3 In exceptional or extraordinary circumstances, where the specified marine carrier's sailing schedule is in substantial conflict with the Construction Schedule, the City will review the circumstances, taking into account the adverse impact on the project and the specified marine carrier's interests, and the City may provide authorization to allow the relevant cargo to be shipped with a marine carrier other than the specified marine carrier, depending upon the circumstances; and such authorization must be writing.
- 14.1.4 If a Contractor uses a marine carrier other than the City contracted marine carrier without the City's written authorization to do so, the Contractor shall be responsible for extra freight cost, administrative costs or any other costs, incurred by the City which result directly or indirectly from the Contractor's failure to use the City specified marine carrier as set out in this GC 14. The Contractor shall also be responsible to refund to the City any monies saved by the Contractor by using a marine carrier other than the specified marine carrier as set out in this GC 14.

END OF SECTION



CONSTRUCTION SERVICES
PART IV – SUPPLEMENTARY CONDITIONS



Amend the General Conditions as follows:

Add the following Definitions (if applicable):

.1 Not Used

1. INTRODUCTION

1.1. GENERAL SUMMARY

- 1.1.1. This section outlines in general the work to be done under the Contract at insert location/ address, as shown on the contract drawings and specified herein.
- 1.1.2. Recognize that the Work under the Contract is to be performed in construction constraints (i.e. working in running plant, road right-of-way, etc.) that must be kept in continuous uninterrupted operation. Plan and schedule the Work consistent with specified operational constraints and with the objective of uninterrupted operation of the
 - .1 Main Road way (Akiliq Drive) and deviating road way (Hubbard Lane) connected to several lots, will need to implement traffic safety plan.
 - .2 Dogteam compound access must be maintained at all times
- 1.1.3. Supervise, organize, coordinate and direct all construction operations described in the contract documents, regardless of the section in which the works are specified. The Contractor shall resolve conflicts arising between trades, sub-contractors, suppliers, and/or other contractors working in the adjacent area.
- 1.1.4. Provide all necessary labour, materials, equipment and services required to perform the Work.
- 1.1.5. Be responsible for all means and methods required to execute the work.
- 1.1.6. Construct and test foundations, structures, pipelines, buildings, tanks, equipment and other facilities shown on the contract drawings and specified herein.
- 1.1.7. Supply, install, calibrate, and commission all mechanical, electrical, process instrumentation and communication equipment shown on the contract drawings and specified herein.
- 1.1.8. In addition to constructing the works shown on the drawings, design, construct, and maintain, unless otherwise specified or shown on the drawings, all temporary works and facilities required for the construction of the works. Remove temporary works and facilities when construction is completed. Temporary works and facilities include, but are not limited to, the following:
 - .1 All security fencing whether permanent or temporary.
 - .2 Shoring and bracing systems for excavation whether part or all is left in place or not, shall be designed, approved and stamped by a Professional Engineer Licensed in Nunavut.
 - .3 Construction access roads and related items.
 - .4 Excavation and/or dewatering systems.
 - .5 Formwork for concrete.
 - .6 Falsework and bracing for formwork or for other parts of the works while under construction.
 - .7 Bracing and shoring for partially completed steelwork, precast concrete, existing structures and pipelines, or other assemblies.

- .8 Scaffolding.
- .9 Curtains or water to control the migration of dust during work inside existing buildings or outside.
- .10 Protection for existing structures and facilities as necessary for the construction to proceed.
- .11 Temporary barriers and enclosures.
- .12 Temporary utilities (water, power, light, instrumentation, heating, ventilation services and sanitary facilities, etc.).
- .13 Piping and equipment support.
- .14 Snow removal around the job site.
- .15 Temporary vehicular access and parking development, maintenance, and restoration.

1.2. WORK REQUIREMENTS

- 1.2.1. The Work must be performed to the requirements described in Part VI – General Requirements.

2. SCOPE OF SERVICES

2.1. DEMOLITION, DISMANTILING AND REMOVAL

- 2.1.1. Rock Removal as illustrated in IFT package

2.2. CIVIL

- 2.2.1. Rough Grading as illustrated in IFT package
- 2.2.2. Trenching and Backfill as illustrated in IFT package
- 2.2.3. Pipe Culverts & Ditching as illustrated in IFT package
- 2.2.4. Road Grading and construction as illustrated in IFT package

3. LIST OF DRAWINGS

Drawings provided by the City are intended to represent the general arrangement of the work and may not show all the details of the existing conditions within the work area.

Do not deviate from the drawings unless authorized in writing by the Engineer of Record.

Drawing No.	Rev. No.	Title
C-101		SITE PLAN/LOT LAYOUT
C-102		DRAINAGE PLAN
C-103		GRADING PLAN
C-104		HEAT TOPOGRAPHY

C-201		PROPOSED ROAD PLAN/PROFILE STA 0+000 TO 0+300
C-202		PROPOSED ROAD PLAN/PROFILE STA 0+300 TO 0+600
C-203		PROPOSED ROAD PLAN/PROFILE STA 0+600 TO 0+900
C-204		PROPOSED ROAD PLAN/PROFILE STA 0+900 TO 1+200
C-205		PROPOSED ROAD PLAN/PROFILE STA 1+200 TO 1+350
C-206		HUBBARD LANE PLAN/PROFILE STA 0+000 TO 0+300
C-207		HUBBARD LANE PLAN/PROFILE STA 0+300 TO 0+580
C-501		ROADWAY DETAILS – SECTION VIEW
C-502		CULVERT DETAILS – SECTION VIEW

4. TECHNICAL ATTACHMENTS

File Name	Document Title
	West 40 Specifications
	Geotechnical Report

END OF SECTION

TABLE OF CONTENTS

1.	SUMMARY OF WORK.....	5
1.1	DEFINITION.....	Error! Bookmark not defined.
1.2	GENERAL SUMMARY	5
1.3	WORK BY OTHERS	6
1.4	CODES AND PERFORMANCE REQUIREMENTS	6
1.5	WORK COMPLIANCE	7
1.6	ENGINEER DESIGN.....	7
1.7	DOCUMENTS REQUIRED.....	7
1.8	SUBSTANTIAL COMPLETION.....	7
2.	CONTRACTORS USE OF PREMISES	9
2.1	DESCRIPTION	9
2.2	GENERAL	9
2.3	STAGING AREA.....	9
2.4	WORK AREA.....	9
2.5	STORAGE	10
2.6	ENTRY OF OWNER’S STAFF INTO CONTRACTOR’S WORKING LIMITS	10
3.	COORDINATION	11
3.1	CONSTRUCTION COORDINATION WITH CITY OPERATIONS STAFF	11
3.2	COORDINATION OF TRADES AND SUBCONTRACTORS.....	12
3.3	COOPERATION WITH OTHER CONTRACTORS	13
3.4	UTILITY NOTIFICATION AND COORDINATION	13
3.5	WORKING WITHIN THE A CITY EASEMENT AND/OR RIGHT-OF-WAY	13
3.6	PARTIAL OR FULL CLOSURE OF A MUNICIPAL ROADWAY	14
3.7	WATER AND SEWER CONNECTIONS/ DISCONNECTIONS.....	14
3.8	WORKING IN EXISTING BUILDINGS	15
4.	REGULATORY REQUIREMENTS	16
4.1	SUBMITTALS.....	16
4.2	APPLICABLE CODES	16
4.3	PERMITS, APPROVALS, AND LICENCES.....	16
5.	SPECIAL PROJECT PROCEDURES	18
5.1	UTILITIES.....	18
5.2	LIMITS OF CONSTRUCTION.....	18
5.3	WORK PERMITS	18
5.4	TRAFFIC CONTROL	18
5.5	WORK IN HAZARDOUS AREAS	20
5.6	WORK IN CONFINED SPACES.....	21
5.7	STORAGE AND PROTECTION OF MATERIALS AND EQUIPMENT	22
5.8	DISPOSAL OF MATERIAL OFF-SITE	22
5.9	ENVIRONMENTAL CONSIDERATIONS DURING CONSTRUCTION.....	23
5.10	PROTECTION OF EXISTING STRUCTURES AND PROPERTY	23

5.11	EROSION AND SEDIMENT CONTROL	23
5.12	DAMANGE BY VEHICLES AND OTHER EQUIPMENT	24
5.13	PROPERTY OWNER’S LETTER OF RELEASE	24
5.14	UTILITY OWNER’S LETTER OF RELEASE	24
5.15	INCLEMENT WEATHER	24
5.16	SNOW PLOWING	24
6.	CONSTRUCTION SEQUENCING	25
6.1	GENERAL	25
6.2	COORDINATION	25
6.3	SERVICES PROVIDED BY THE CONTRACTOR	25
6.4	SERVICES PROVIDED BY THE CITY	25
6.5	SEQUENCE OF CONSTRUCTION	25
7.	PAYMENT PROCEDURES	28
7.1	TERMS OF PAYMENT	28
7.2	SCHEDULE OF VALUES	30
7.3	APPLICATION FOR PAYMENT	30
7.4	NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS	34
8.	PROJECT MEETINGS	35
8.1	GENERAL	35
8.2	PRECONSTRUCTION MEETING	35
8.3	PROGRESS MEETINGS	36
8.4	OTHER MEETINGS	37
9.	CONSTRUCTION PROGRESS SCHEDULE	39
9.1	CONTRACTOR’S RESPONSIBILITIES	39
9.2	CONSTRUCTION SEQUENCING	40
9.3	MONTHLY CONSTRUCTION SCHEDULE UPDATE	41
9.4	RE-BASELINE CONTRACT CONSTRUCTION PROGRESS SCHEDULE	41
9.5	THREE-WEEK LOOK-AHEAD	41
9.6	MONTHLY EXPENDITURE/ CASH FLOW FORECAST	42
9.7	REVIEW, UPDATE AND REVISIONS	42
9.8	REQUESTS FOR TIME EXTENSIONS	42
10.	SUBMITTAL PROCEDURES	44
10.1	SUMMARY	44
10.2	ADMINISTRATIVE	44
10.3	PROCEDURES	45
11.	HEALTH AND SAFETY REQUIREMENTS	48
11.1	REFERENCES	48
11.2	GENERAL REQUIREMENTS	48
11.3	SUBMITTALS	51
11.4	CHEMICALS	53
11.5	DESIGNATED SUBSTANCES / HAZARDOUS WASTE	53

11.6	FALL PROTECTION	54
11.7	CONFINED SPACE ENTRY	54
11.8	LADDERS	54
11.9	WELDING/ CUTTING	54
11.10	SCAFFOLDING	54
11.11	MOBILE EQUIPMENT	55
11.12	CONSTRUCTION TOWERS AND HOISTS	55
11.13	EXCAVATING AND TRENCHING	55
11.14	UNFORESEEN HAZARDS	55
11.15	CORRECTION OF NON-COMPLIANCE	55
12.	QUALITY CONTROL	57
12.1	CONTRACTOR'S RESPONSIBILITY	57
12.2	SUBMITTALS	57
12.3	INSPECTION	58
12.4	INDEPENDENT INSPECTION AGENCIES	58
12.5	ACCESS TO WORK	58
12.6	PROCEDURES	59
12.7	REJECTED WORK	59
12.8	REPORTS	59
12.9	SPECIAL INSTRUCTIONS	59
13.	TEMPORARY UTILITIES	60
13.1	INSTALLATION AND REMOVAL	60
13.2	DEWATERING	60
13.3	WATER SUPPLY	60
13.4	TEMPORARY HEATING AND VENTILATION	60
13.5	TEMPORARY POWER AND LIGHT	61
13.6	TEMPORARY COMMUNICATION FACILITIES	61
13.7	FIRE PROTECTION	61
14.	PRESERVATION AND PROTECTION	62
14.1	DESCRIPTION	62
14.2	GENERAL	62
14.3	MAINTENANCE AND PROTECTION OF EXISTING UTILITIES, SERVICE, STRUCTURES AND PROPERTIES	62
14.4	PROTECTION, SOUNDNESS AND REPAIR OF NEW CONSTRUCTION	63
14.5	PROTECTION AGAINST FREEZING	63
14.6	SURVEY MONUMENTS	63
15.	MATERIALS AND EQUIPMENT	64
15.1	GENERAL	64
15.2	SUBMITTALS	64
15.3	EQUIPMENT DELIVERY AND INSPECTION	64
15.4	HANDLING, STORAGE, AND PROTECTION	64

16.	CONSTRUCTION FACILITIES	66
16.1	MOBILIZATION	66
16.2	INSTALLATION AND REMOVAL.....	66
16.3	SCAFFOLDING	66
16.4	HOISTING.....	66
16.5	STAGING AREA.....	66
16.6	SITE STORAGE/ LOADING.....	67
16.7	CONSTRUCTION PARKING	67
16.8	SECURITY	67
16.9	OFFICES.....	67
16.10	EQUIPMENT, TOOL AND MATERIALS STORAGE.....	67
16.11	SANITARY FACILITIES	67
16.12	CONSTRUCTION SIGNAGE.....	67
16.13	CLEAN-UP	68
17.	TEMPORARY BARRIERS AND ENCLOSURES	69
17.1	INSTALLATION AND REMOVAL.....	69
17.2	GUARD RAILS AND BARRICADES.....	69
17.3	WEATHER ENCLOSURES	69
17.4	DUST TIGHT SCREENS.....	69
17.5	ACCESS TO SITE	69
17.6	PUBLIC TRAFFIC FLOW.....	69
17.7	FIRE ROUTES.....	69
17.8	PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY.....	69
17.9	PROTECTION OF BUILDING FINISHES.....	70
18.	CLOSEOUT PROCEDURES	71
18.1	SECTION INCLUDES.....	71
18.2	INSPECTION AND DECLARATION	71
19.	CLOSEOUT SUBMITTALS.....	73
19.1	SECTION INCLUDES.....	73
19.2	SUBMISSION.....	73
19.3	AS-BUILTS AND SAMPLES.....	73
19.4	RECORDING ACTUAL SITE CONDITIONS	74
19.5	EQUIPMENT AND SYSTEMS	74
19.6	MATERIALS AND FINISHES.....	75
19.7	SPARE PARTS.....	75
19.8	MAINTENANCE MATERIALS.....	75
19.9	STORAGE, HANDLING AND PROTECTION.....	75
19.10	PRE-WARRANTY CONFERENCE	75
19.11	WARRANTIES AND BONDS.....	76

1. SUMMARY OF WORK

1.1 DEFINITION

- 1.1.1 The City of Iqaluit is hereinafter and elsewhere in the Contract Documents referred to as the Owner. The contract documents may refer to “the Owner”, “the City of Iqaluit”, “the City” and “City”. All these have the same meaning as “the Owner”.
- 1.1.2 The contract documents may refer to “City Representative”, “Engineer”, “Consultant”, “Owners Agent” and “Contract Administrator”. All these have the same meaning as “City Representative”.
- 1.1.3 Where the word “provide” is used in any General Requirements sections or the Terms of Reference, it shall mean furnishing and incorporating a specified item, product, or material in the Works, including all necessary labour, materials, and equipment to perform the Work required, ready for use by the Owner.

1.2 GENERAL SUMMARY

- 1.2.1 Recognize that the Work under the Contract is to be performed in a facility, location, area that must be kept in continuous uninterrupted operation, or where municipal services must be maintained. Plan and schedule the Work consistent with specified operational constraints and with the objective of uninterrupted operation of the existing facility, structure, and/or service provided by the City.
- 1.2.2 Supervise, organize, coordinate and direct all construction operations described in the contract documents, regardless of the section in which the works are specified. The Contractor shall resolve conflicts arising between trades, sub-contractors, suppliers and/or other contractors working in the adjacent area.
- 1.2.3 Construct and test foundations, structures, pipelines, buildings, tanks, equipment and other facilities shown on the contract drawings and specified within the terms of reference.
- 1.2.4 Supply, install, calibrate and commission all mechanical, electrical, process, instrumentation and communication equipment shown on the contract drawings and specified within the terms of reference. Include operating assistance to the Owner as described.
- 1.2.5 In addition to constructing the works shown on the drawings and described within the terms of reference, design, construct, and maintain, unless otherwise specified on shown on the drawings or described in the terms of reference, all temporary works and facilities required for the construction of the works. Remove temporary works and facilities when construction is completed. Temporary works and facilities include, but are not limit to, the following:
 - .1 All security fencing whether permanent or temporary.
 - .2 Shoring and bracing systems for excavations whether part of all is left in place or not, shall be designed, approved and stamped by a Professional Engineer Licensed in Nunavut.
 - .3 Construction access roads and related items.
 - .4 Excavation and/or dewatering systems.
 - .5 Formwork for concrete.

- .6 Falsework and bracing for formwork or for other parts of the works while under construction.
 - .7 Bracing and shoring for partially completed steelwork, precast concrete, existing structures and pipelines, or other assembly.
 - .8 Scaffolding.
 - .9 Temporary bypass pumping systems to divert flows away from the work area so that services are uninterrupted, while ensuring the work can be performed safely.
 - .10 Protection for existing structures and facilities as necessary for the construction to proceed.
 - .11 Temporary power and/or utilities necessary to existing City buildings and/or facilities, in order to ensure services are not interrupted as a result of the work.
 - .12 Curtains to control the migration of dust during work inside existing buildings, structures, and rooms.
 - .13 Temporary barriers and enclosures.
 - .14 Temporary utilities (water, power, light, instrumentation, heating, ventilation services and sanitary facilities, etc.).
 - .15 Piping and equipment support.
 - .16 Snow removal around the job site.
 - .17 Temporary vehicular access and parking development, maintenance, and restoration.
 - .18 Regrading of gravel roads affected by construction works.
- 1.2.6 Contractor to be responsible for all means and methods required to execute the work, as described in the Terms of Reference.

1.3 WORK BY OTHERS

- 1.3.1 Coordinate work of other Contractors. Report promptly to City Representative, in writing, any defects which may interfere with proper execution of the Work for this contract.

1.4 CODES AND PERFORMANCE REQUIREMENTS

- 1.4.1 Perform work in accordance with National Building Code of Canada (NBC) and any other code of territorial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
- 1.4.2 Meet or exceed the requirements of:
 - .1 Contract documents.
 - .2 General requirements and terms of reference.
 - .3 Addenda.
 - .4 Reviewed Shop Drawings.
 - .5 Field Instructions and Change Orders.
 - .6 Other modifications to Contract.
 - .7 Field test reports.



CONSTRUCTION SERVICES
PART VI – GENERAL REQUIREMENTS



- .8 Copy of approved work schedule.
- .9 Manufacturer's installation and application instructions.

1.5 WORK COMPLIANCE

- 1.5.1 Provide all work during its progress and at its completion to the lines, levels, and grades shown.
- 1.5.2 Build all work in a thoroughly substantial and workmanlike manner, in accordance with the Contract Drawings, General Requirements, and Terms of Reference, subject to such modifications and additions as may be deemed necessary during its execution. In no case will any work in excess of the requirements of the Drawings, General Requirements or Terms of Reference be paid for, unless approved in writing by the City Representative.

1.6 ENGINEER DESIGN

- 1.6.1 Where general requirements or terms of reference require work to be designed by an engineer, engage a professional engineer licensed in the Territory of Nunavut within demonstrated experience to design such work.

1.7 DOCUMENTS REQUIRED

- 1.7.1 Maintain at job site, one copy of each document as follows:
 - .1 Contract Documents
 - .2 Contract Drawings
 - .3 Addenda
 - .4 Reviewed Shop Drawings
 - .5 List of Outstanding Shop Drawings
 - .6 Change Orders
 - .7 Other Modifications to Contract
 - .8 Field Test Reports
 - .9 Copy of Approved Works Schedule
 - .10 Site Specific Health and Safety Plan and Other Safety Related Documents
 - .11 Current as-built document of construction work in progress
 - .12 Other documents as specified
 - .13 Permits
 - .14 All other Plans as required by the Contract documents (site shutdown plan, sediment and erosion control plan, emergency response plan)

1.8 SUBSTANTIAL COMPLETION

- 1.8.1 In addition to the requirements in the General Conditions and Supplementary General Conditions, Substantial Completion shall only be issued once the following requirements have been addressed to the satisfaction of the City Representative:
 - .1 Successful testing, start-up and commissioning of all equipment and/or systems specified in the Contract Documents.

END OF SECTION



CONSTRUCTION SERVICES
PART VI – GENERAL REQUIREMENTS



2. CONTRACTORS USE OF PREMISES

2.1 DESCRIPTION

- 2.1.1 This Section specifies requirements for the Contractor's use of project site during the construction.

2.2 GENERAL

- 2.2.1 Normal working hours shall be Monday to Saturday, 7:00am to 7:00pm, excluding statutory holidays. No work shall be permitted outside of these hours within the Contractor first obtaining written approval from the City Representative and Owner, five (5) working days in advance of the planned work.
- 2.2.2 The Contractor shall arrange with the City for easements for construction, storage and access to all the Works within the Owner's property line.
- 2.2.3 Do not enter upon or occupy with workers, tools or materials any land other than public streets, roadways, rights-of-way or easements shown on the Contract Drawings except after written consent has been received from the property owner.
- 2.2.4 The Contractor shall obtain written approval from the City Representative for shutdown and tie-in work to existing facilities and structures. The City's staff will be responsible for operations of the existing facilities and structures during the construction period.
- 2.2.5 The Contractor shall obtain written approval from the City Representative for work that will be executed within a municipal right-of-way, and for partial or full closure of municipal roadways.
- 2.2.6 Do not impede normal operation of existing facilities and structures.
- 2.2.7 A temporary fence and access gate are to be erected to separate the work area from the plant operating area as specified herein and as directed by the City Representative.

2.3 STAGING AREA

- 2.3.1 The staging area will be identified on the contract drawings or provided by the City Representative at the pre-construction meeting. If the staging area is not identified on the Contract drawings, or provided by the City Representative, then the Contractor shall propose a staging area for the City's approval.
- 2.3.2 Locate construction trailers, laydown areas, and temporary buildings under the direction of the City Representative.

2.4 WORK AREA

- 2.4.1 Contractor shall clearly delineate the entire perimeter of his working area with a sturdy metal fence of at least 1.8m height, with sufficient access gates, complete with signage identifying company name, site contact telephone number, and emergency contact information prior to commencement of any work.
- 2.4.2 All points of entry into the Contractor's working area, including stair and walkways, shall be similarly controlled by sturdy barriers and signage. Do not impede emergency egress from any area.
- 2.4.3 Confine operations within easements for construction, storage and access.
- 2.4.4 Install, secure and maintain fencing along working and storage areas, access routes and both sides of easements.

- 2.4.5 Do not enter upon or occupy any land with labour, tools or materials other than the easements for construction except after written consent has been received from property owner.
- 2.4.6 Do not encumber site with materials or equipment.
- 2.4.7 Where the work takes place in different areas of the facilities, structures, or work areas at different times of the contract, a 'rolling' definition of working area can be utilized.
- 2.4.8 Install, secure and maintain jersey barriers or other heavy duty physical barriers to protect all trenches, excavations, and utilities.

2.5 STORAGE

- 2.5.1 Contractor shall provide suitable storage areas, as well as security if needed, for construction materials. Storage and security of construction materials will be the responsibility of the Contractor.
- 2.5.2 Contractor shall obtain permission from the City Representative before storing any materials in any new facility or work areas under construction.
- 2.5.3 Excess materials resulting from any or all excavations are the property of the Owner. Its disposal by the Contractor as part of the contract shall be as directed by the Owner unless the Owner waives this requirement. Under this circumstance, the contractor shall be responsible for the disposal of any or all of the excess materials.

2.6 ENTRY OF OWNER'S STAFF INTO CONTRACTOR'S WORKING LIMITS

- 2.6.1 The Owner may require access to the work site during the construction period for the purpose of maintaining normal operation of City infrastructure and services. Cooperate with the Owner in scheduling construction activities to facilitate the Owner's usage and to minimize conflict.
- 2.6.2 Maintain the entire works free of debris, snow and ice at all times, including access to all buildings, facilities and structures which continues to be operated and/or maintained by Owner's staff.
- 2.6.3 Prepare a written procedure regarding the entry of Owner's staff into the construction site and submit to the City Representative for review. The procedure must be communicated to all operating staff who may enter the construction site.
- 2.6.4 The existing facilities and/or structures operate 24 hours per day, 7 days per week. In the event of conflict between construction activities and general operations, operations shall have priority. Take every precaution to avoid interfering within routine operation and maintenance.

END OF SECTION

3. COORDINATION

3.1 CONSTRUCTION COORDINATION WITH CITY OPERATIONS STAFF

- 3.1.1 The existing facilities, structures and systems operate 24 hours a day, 7 days per week. In the event of a conflict between construction operations and routine City operations, City operations have priority. Take every precaution to avoid interfering with routine operation and maintenance activities. Reschedule construction activities, if required, without change, to the contract price.
- 3.1.2 Coordinate activities on the site and in the existing buildings/ facilities/ structures with the City Representative.
- 3.1.3 Perform work continuously during critical shutdowns, connections and changeover, and as required to prevent interruption of City operations.
- 3.1.4 The Contractor must identify work activities that may impact the operation and maintenance activities of the City operations staff, in advance of the scheduled work, at least 5 business days prior to the work. The Contractor shall submit to the City Representative a detailed work plan listing work activities for the next 14 calendar days, detailing the works that will affect City operations staff.
- 3.1.5 Do not close lines, open or close valves, or take other action which would affect the operation of the existing systems, except as specifically required by the Contract Documents and only after the prior authorization of the City Representative has been obtained.
- 3.1.6 Coordinate the proposed work with the City Representative prior to process shutdowns. Under no circumstances stop the work at the end of a normal working day if such action may cause a cessation of any facility or structure operating process. In such cases, remain on site until the necessary work is complete.
- 3.1.7 Coordinate activities on the site and in the existing buildings/ facilities with the City Representative.
- 3.1.8 Perform work continuously during critical shutdown, connection and changeover, and as required to prevent interruption of the facility operation or City services.
- 3.1.9 Shutdown of existing facilities/ structures and tie-ins:
 - .1 When the Contractor requires a part of an existing facility, structure or process system shutdown for execution of construction activities, a formal shutdown request must be made in writing at least 14 calendar days in advance of the requested shutdown date. The shutdown request shall describe in detail the proposed method, and the procedures proposed to accomplish each portion of the Work that requires an interruption to the operation of the existing facility, structure or system. The Contractor shall not begin any such Work until it has received written acceptance of the methodology and approach from the City Representative. The Contractor shall include in its plan the specific number of work hours to complete each facility interruption, along with measures to mitigate risk to the City.

- .2 The Contractor participating in the planning and execution of the shutdown shall coordinate with the City staff on the planning of the shutdown activity. The Contractor and City staff shall work together to establish a shutdown specific energy and equipment lockout strategy that is required for each shutdown of existing facilities, structures, and systems for all work that includes the Contractor's work to connect new systems to the existing facilities and structures. The operator is not obliged to provide the shutdown within the 14-day period if the effectiveness of the plant operations could be compromised. The operator will not unreasonably delay or refuse to make the plant processes or systems available for the Contractor's construction activities. A delay or refusal shall be based on the operator's opinion that the performance of the plant will be compromised.
- .3 At each location where tie-in is required, the Contractor shall provide a complete system of temporary works including bulkheads, pumps, power, equipment, and labour as necessary to maintain facility/ structure/ system operations, and to allow for construction of the new structures/ systems.
- .4 All temporary equipment, tools, materials, labour, and miscellaneous equipment must be scheduled and available at the Site in advance of any shutdowns. The Owner will not be responsible for delays or claims as a result of the Contractors lack of coordination.
- .5 The City reserves the right to cancel any scheduled shutdown if system or weather conditions dictate, at no additional cost to the City.
- .6 Prior to making major tie-ins to existing process units and structures, demonstrate that the equipment installed in all new structures is fully functional. Connections to existing works will not be permitted until all equipment in the new adjacent works operates to the satisfaction of the City Representative. No claim for delay will be entertained due to unsatisfactory operation of any equipment.
- .7 Operations provided by City staff:
 - .i Access to City facilities and structures.
 - .ii Opening and closing of existing valves and gates in existing buildings, structures, or systems.
 - .iii Isolation of existing process piping.
- .8 In the event any existing facility or structure is damaged, changes mode of operation or there is a risk of actual process upset due to the Contractor's work activity, the Contractor shall stop work immediately, contact the City Operations representative, report the incident to the City Representative, and make the Contractor's on-site resources available at the request and direction of the City Operations Representative at no extra cost to the project to mitigate any damage.
- .9 Contractor shall supply and maintain all appropriate and necessary equipment for confined space entry operations in accordance with applicable regulations.
- .10 The Contractor shall coordinate confined space entry operations where multiple parties are involved in accordance with the Nunavut Safety Act and Occupational Health and Safety Regulations.

3.2 COORDINATION OF TRADES AND SUBCONTRACTORS

- 3.2.1 The Contractor shall ensure cooperation with and between the trades and Subcontractors to ensure that the Work is carried out expeditiously and in a satisfactory

manner. The Contractor shall be responsible for all extra costs arising from failure to properly coordinate the Work with the work of others

- 3.2.2 Coordinate civil, structural, architectural, mechanical, electrical, and instrumentation and work for the equipment and systems being constructed. Plan and coordinate the work in a timely manner so that the work proceeds expeditiously.
- 3.2.3 Extras will not be considered, based on differences of interpretation of the terms of references, as to which trade shall supply and install certain items or materials. Such coordination is entirely the responsibility of the Contractor.

3.3 COOPERATION WITH OTHER CONTRACTORS

- 3.3.1 Other contracts may be awarded to construct adjacent work to which this contract work connects.
- 3.3.2 At the interference with other contracts, jointly plan and coordinate with other contractors the work so that the project:
 - .1 Will not be delayed.
 - .2 Will not be endangered in any way.
 - .3 Will be correctly connected.
 - .4 Will not cause the City to be designated as the “Prime Contractor” as set out in the Safety Act.
- 3.3.3 Where any equipment is supplied by the Owner, coordinate unloading, transfer, installation, testing and placing into operation.
- 3.3.4 Where other work is in progress within or adjacent to the limits of this Contract, cooperate and coordinate with other Contractor(s), Utility Companies and the City of Iqaluit, and allow reasonable, free access to their work at all times.
- 3.3.5 Cooperate and make suitable working arrangements with other Contractor(s).
- 3.3.6 Notify the City Representative in advance and obtain approval in writing from the City Representative for all arrangements made with other Contractor(s).

3.4 UTILITY NOTIFICATION AND COORDINATION

- 3.4.1 Coordinate the Work with various utilities within Project limits. The Contractor shall notify applicable utilities prior to commencing the Work. The Contractor shall also notify the applicable utilities if any damage occurs, or if conflicts or emergencies arise during the execution of the Work.
- 3.4.2 Should any piping, sewers, cables or similar services be encountered during performance of the work that are not known from the City or other utility company's records, the Contractor shall notify the City Representative and the appropriate utility agency and shall not proceed with their removal or cutting until direction has been provided.

3.5 WORKING WITHIN THE A CITY EASEMENT AND/OR RIGHT-OF-WAY

- 3.5.1 For construction work that will be taking place within a City easement and/or right-of-way, the Contractor must submit to the City Representative a completed City of Iqaluit Utility Permit application, along with all supplementary documents, for review and approval with the Department of Public Works and Engineering.
- 3.5.2 Supplementary documents shall include:

- .1 Brief work plan methodology describing the work that will be taking place within the easement and/or right-of-way, the means of construction, temporary structures that will be used, the equipment that will be used.
 - .2 Schedule outlining duration of work, along with all phases and activities that will comprise the work.
 - .3 Traffic control plan (if applicable).
- 3.5.3 Utility permits must be submitted 20 business days in advance of the planned Work. The Contractor will not be granted an extension of time to the Contract, should they fail to submit a permit application within the timelines stipulated.
- 3.5.4 No work can proceed until approval has been provided in writing by the City Representative.
- 3.5.5 The Contractor must account for the time to review and approve permit applications within their construction schedule.
- 3.5.6 Pay relevant permit fees and charges.
- 3.6 PARTIAL OR FULL CLOSURE OF A MUNICIPAL ROADWAY**
- 3.6.1 For construction work that will require a partial or full closure of a municipal roadway, the Contractor must submit to the City Representative a completed City of Iqaluit Road Closure Permit Application, along with all supplementary documents, for review and approval with the Department of Public Works and Engineering.
- 3.6.2 Supplementary documents shall include:
- .1 Brief work plan methodology describing the work that will be taking place within the easement and/or right-of-way, the means of construction, temporary structures that will be used, the equipment that will be used.
 - .2 Schedule outlining duration of work, along with all phases and activities that will comprise the work.
 - .3 Traffic control plan. Refer to Section 5 Special Project Procedures regarding traffic control plan requirements.
- 3.6.3 Road closure permits must be submitted 20 business days in advance of the planned Work. The Contractor will not be granted an extension of time to the Contract, should they fail to submit a permit application within the timelines stipulated.
- 3.6.4 No work can proceed until approval has been provided in writing by the City Representative.
- 3.6.5 The Contractor must account for the time to review and approve permit applications within their construction schedule.
- 3.6.6 Pay relevant permit fees and charges.
- 3.7 WATER AND SEWER CONNECTIONS/ DISCONNECTIONS**
- 3.7.1 For tie-in to City water and/or sewer infrastructure, the Contractor must submit to the City Representative a completed City of Iqaluit Water & Sewer Connection/ Disconnection Permit Application, along with all supplementary documents, for review and approval with the Department of Public Works and Engineering.
- 3.7.2 Supplementary documents shall include:

- .1 Brief work plan methodology describing the work that will be taking place within the easement and/or right-of-way, the means of construction, temporary structures that will be used, the equipment that will be used
 - .2 Schedule outlining duration of work, along with all phases and activities that will comprise the work, along with dates/ times when City operations support is required to shutdown/ isolation of City systems.
 - .3 Traffic control plan (if applicable). Refer to Section 5 Special Project Procedures regarding traffic control plan requirements.
 - .4 By-pass plan (if applicable). Refer to Section 5 Special Project Procedures regarding by-pass plan requirements.
- 3.7.3 Utility permits must be submitted 20 business days in advance of the planned Work. The Contractor will not be granted an extension of time to the Contract, should they fail to submit a permit application within the timelines stipulated.
- 3.7.4 No work can proceed until approval has been provided in writing by the City Representative.
- 3.7.5 The Contractor must account for the time to review and approve permit applications within their construction schedule.
- 3.7.6 Pay relevant permit fees and charges.

3.8 WORKING IN EXISTING BUILDINGS

- 3.8.1 Obtain permission in writing from the City Representative prior to commencing work within an existing City building and/or facility, at least 7 business day prior to the start of work. The Contractor is to notify the City Representative what work will be taking place within the existing building, along with the measures that will be taken in order to ensure separation of work from City operations. Refer to Section 5 Special Project Procedures work permits.
- 3.8.2 The Contractor shall be responsible for enforcement of fire protection methods and procedures and adherence to local fire regulations, including any applicable requirements of the Safety Act and Occupational Health and Safety Regulations during the execution of the Work.
- 3.8.3 The Contractor shall ensure that existing fire protection and alarm systems are not obstructed, shut-off or made inactive at any time for the duration of the Contract. The Contractor shall not use any fire hydrant, standpipe or hose system for other than fire protection purposes.

END OF SECTION

4. REGULATORY REQUIREMENTS

4.1 SUBMITTALS

- 4.1.1 Quality Control Submittals: Submit certificates from inspecting authorities for electrical work and pressure piping, etc.

4.2 APPLICABLE CODES

- 4.2.1 Comply with the latest edition of the following statutes and codes and all amendments thereto:
- .1 The Nunavut Building Code Act and Regulations.
 - .2 National Building Code of Canada.
 - .3 Safety Act and Occupational Health and Safety Regulations.
 - .4 Nunavut Boilers and Pressure Vessel Act and Regulations.
 - .5 Canadian Electrical Code.
 - .6 Nunavut Electrical Protection Act.
 - .7 Nunavut Gas Protection Act.
 - .8 Codes and Standards of the National Fire Protection Association (NFPA).
 - .9 Nunavut Environmental Protection Act.
 - .10 Nunavut Waters and Nunavut Surface Rights Tribunal Act.
 - .11 City of Iqaluit Municipal Design Guidelines.
 - .12 City of Iqaluit By-Laws:
 - a. By-Law No. 200 Water & Sewer Services.
 - b. By-Law No. 137 Highway Obstructions.
 - c. By-Law No. 138 Highway Occupancy.
 - d. By-Law No. 319 Highway Traffic.
- 4.2.2 The Contractor shall conform to and enforce strict compliance with the Safety Act and Occupational Health and Safety Regulations. For purposes of the Safety Act and Occupational Health and Safety Regulations, the Contractor will be designated the “Prime Contractor” and assumes the responsibilities of the “Prime Contractor” as set out in the Act and its regulations.

4.3 PERMITS, APPROVALS, AND LICENCES

- 4.3.1 Apply for, obtain, and pay for all permits, approvals, and licenses required for the project, including but not limited to:
- .1 Canadian Standards Association (CSA).
 - .2 Field certification of equipment.
 - .3 Electrical supply and inspection authorities including Government of Nunavut Electrical Safety authority. Contractor shall apply for permit, and review of installations.
 - .4 City of Iqaluit utility permits.
 - .5 City of Iqaluit road closure permits.



CONSTRUCTION SERVICES
PART VI – GENERAL REQUIREMENTS



- .6 City of Iqaluit water and sewer service connection/ disconnection permits.
- .7 Government of Nunavut Building permits.
- .8 Government of Nunavut Boiler and Pressure Vessel permits.
- .9 Government of Nunavut Gas and Liquified Petroleum Gas permits.
- .10 Other permits required for the work from governing federal, territorial and municipal authorities having jurisdiction.
- 4.3.2 Arrange for regular inspections and a final inspection with:
 - .1 The territorial electrical safety inspector.
 - .2 The territorial building inspector.
- 4.3.3 Arrange for all other regular inspections and final inspections.
- 4.3.4 The Contractor shall be solely responsible, without limitations, for any delays arising from the Contractor's failure to plan for the required inspections and to ascertain the availability of the Permit/Approval/Licensing Inspectors to complete the required inspections for the Works under this Contract. The related costs and expenses incurred by the Contractor shall be borne by the Contractor, with no change in the Contract Price and/or Contract Time.

END OF SECTION

5. SPECIAL PROJECT PROCEDURES

5.1 UTILITIES

- 5.1.1 The Contractor's attention is drawn to the presence of utilities on and around this site. The locations of utilities as shown on the Contract Drawings are approximate only and are not guaranteed. The Contractor shall be responsible for obtaining a stake-out of the utility from the company involved. The Contractor shall co-ordinate his work with the Utility Company and the Owner of concerned, should there be any bracing, removal or relocation of the pole lines or underground utility required. There will be no additional payment to the Contractor for any delays due to the relocation of utilities.

5.2 LIMITS OF CONSTRUCTION

- 5.2.1 The Contractor shall note that all work is to be contained within the limits of construction as noted in the Contract Documents. Trespassing outside these limits is not allowed. These requirements will be strictly enforced.
- 5.2.2 The Contractor shall coordinate the use of premises for staging, construction, storage and access area under the direction of the City Representative.

5.3 WORK PERMITS

- 5.3.1 When working in existing City facilities, buildings, and structures, the Contractor is to abide by the Owner's Location Work Permit. Contractor's site representatives will be expected to attend an initial meeting to complete this Permit together with the Owner at minimum every 7 business days in advance or with every change in location or nature of the work, to review safe work procedures as it relates to work within the existing facility. No work will be allowed to take place in existing facilities until the Location Work Permit procedure is utilized.
- 5.3.2 Provide a detailed work plan and schedule outlining all proposed tasks and timing for the related work. Meet with the City Representative and Owner as may be required to clarify and coordinate activities and timing. The City will review the request and return with comments if any.

5.4 TRAFFIC CONTROL

- 5.4.1 The Contractor shall develop a site-specific Traffic Control Plan (TCP) as per the site condition and submit to the City Representative for review and approval. TCP must be submitted 7 business days prior to start of construction work.
- 5.4.2 Contractor shall follow all standard traffic control procedures in accordance with the requirements of the Safety Act and Occupational Health and Safety Regulations.
- 5.4.3 Comply with requirements relevant to City of Iqaluit By-Laws with respect to road obstructions and occupancy.
- 5.4.4 When working on travelled ways:
- .1 Place equipment in position which presents minimum interference and hazard to travelling public.
 - .2 Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.
 - .3 Do not leave equipment on travelled way overnight.

- 5.4.5 Do not close any lanes or roads without approval of City Representative via a Road Closure permit. Before re-routing traffic erect suitable signs and devices approved by City Representative.
- 5.4.6 Keep travelled ways graded, free of pot-holes and of sufficient width for required number of lanes of traffic.
- 5.4.7 Keep travelled ways free of snow:
 - .1 Pile snow in designated location(s).
 - .2 Do not pile snow on construction site or on adjacent property.
- 5.4.8 As indicated, provide graveled detours or temporary roads to facilitate passage of traffic around restricted construction area:
- 5.4.9 Do grading for detour in accordance with City Representative's written approval.
- 5.4.10 Provide and maintain road access and egress to property fronting along Work under Contract and in other areas as indicated, unless other means of road access exist that meet approval of City Representative.
- 5.4.11 Provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response.
- 5.4.12 Supply and erect signs, delineators, barricades (concrete jersey barriers) and miscellaneous warning devices, as well as flagpersons, as required by the City of Iqaluit.
- 5.4.13 Place signs and other devices in locations approved by City Representative.
- 5.4.14 Meet with City Representative prior to commencement of Work to prepare list of signs and other devices required for project. If situation on site changes, revise list to approval of City Representative.
- 5.4.15 Continually maintain traffic control devices in use by:
 - .1 Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
 - .2 Removing or covering signs which do not apply to conditions existing from day to day.
- 5.4.16 Provide competent and properly equipped flagpersons as Directed by City Representative.
 - .1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
 - .2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, and traffic signal system is not in use.
 - .3 When workmen or equipment are employed on travelled way over brow of hills, high snowbanks, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.
 - .4 Where temporary protection is required while other traffic control devices are being erected or taken down.

- .5 For emergency protection when other traffic control devices are not readily available.
- .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
- .7 At each end of restricted sections as directed by City Representative.
- .8 Delays to public traffic due to contractor's operators: maximum 15 minutes.
- .9 At the discretion of the City, if the City is of the opinion that flag persons are required to maintain site safety.
- 5.4.17 Where roadway, carrying two-way traffic, is restricted to one lane, for 24 hours each day, provide portable traffic signal system. Adjust, as necessary, and regularly maintain system during period of restriction. Signal system to meet requirements of Part IV of Manual of Uniform Traffic Control Devices for Streets and Highways.
- 5.4.18 Maintain existing conditions for traffic throughout period of contract except that, when required for construction under contract and when measures have been taken as specified and approved by City Representative to protect and control public traffic.
- 5.4.19 Maintain existing conditions for traffic crossing right-of-way.
 - .1 Maintain existing conditions for traffic crossing right-of-way except when required for construction.
 - .2 Delays to public traffic: maximum 15 minutes.

5.5 WORK IN HAZARDOUS AREAS

- 5.5.1 Before commencing the day's work and while working in areas that may contain an explosive, toxic or oxygen deficient atmosphere, test for explosive, toxic gases, and oxygen deficiencies. If a hazardous condition is found, make the work area safe before commencing or continuing work.
 - .1 Provide and maintain a suitable detection meter. Use this meter continuously. Calibrate the meter to sound an alarm at a preset warning level.
 - .2 Recalibrate the meter at times recommended by the manufacturer.
- 5.5.2 Smoking is not permitted in the hazardous areas and other areas designated by the City. The Contractor shall post "No Smoking" signs as required.
- 5.5.3 Use non-sparking tools in areas where an explosive atmosphere may exist.
- 5.5.4 Perform work in hazardous locations in accordance with the requirements of the Safety Act and Occupational Health and Safety Regulations.
- 5.5.5 It is the Contractor's responsibility (as Prime Contractor) to establish the classification of the work areas for the purpose of this contract.
- 5.5.6 Work Procedures for Hazardous Locations:
 - .1 Contractor is a Prime Contractor on this project and is responsible for site safety and adhering to all applicable laws and regulations applicable to the work procedures and/or locations.
 - .2 Construction activities that occur in hazardous locations require continuous combustible gas monitoring by the Contractor when the potential for a hazardous atmosphere exists.

5.5.7 Metering for Toxic, Combustible Gas, H₂S and Oxygen Deficiency:

- .1 Utilize a suitable portable gas detection meter to continuously monitor for toxic gases, combustible gases, hydrogen sulfide and oxygen deficiency in the surrounding atmosphere. Set meter to sound alarm at a preset warning level. The Contractor shall demonstrate to the City Representative that the meter has recently been calibrated by a certified technician and is adequately functional for the intended purpose.

5.5.8 Meter Operator:

- .1 When the potential for a hazardous atmosphere exists have a competent worker operate and read the portable meter continuously while construction activities occur in the designated hazardous locations. This meter operator is not permitted to assist in the construction activity in any way. Locate meter operator in the immediate vicinity of construction activity. If work in two or more different hazardous locations is required at the same time, provide the additional meter operator and meter.

5.5.9 Logbook:

- .1 Maintain a logbook with:
 - a. Date.
 - b. Name of meter operator.
 - c. Explosive gas and oxygen deficiency readings every ½ hour.
- .2 Construction activity type:
 - a. Location of construction activity.
 - b. Submit logbook to the City Representative when construction is complete.

5.5.10 Firefighting Equipment:

- .1 Provide and maintain suitable firefighting equipment when working in designated hazardous locations. Train personnel in the use of firefighting equipment.

5.6 WORK IN CONFINED SPACES

5.6.1 For the purposes of this Contract, the following areas in existing operating process areas are identified as confined space locations:

- .1 Access vaults (AV's).
- .2 Manholes (MH's).
- .3 Tanks, vessels, and sumps.

5.6.2 All work and entry into the identified Confined Spaces is to be done in accordance with the Nunavut Safety Act, R.S.N.W.T. 1988,c.S-1 – 2016, and the Nunavut Occupational Health and Safety Regulations, R-003-2016 – 2016.

5.6.3 The Contractor is responsible for all duties to ensure the work performed in the confined spaces is carried out in accordance with the Nunavut Safety Act, R.S.N.W.T. 1988,c.S-1 – 2016, and the Nunavut Occupational Health and Safety Regulations, R-003-2016 – 2016. The Contractor is responsible for all actions to ensure the duties imposed on employers by the Nunavut Safety Act, R.S.N.W.T. 1988,c.S-1 – 2016, and the Nunavut Occupational Health and Safety Regulations, R-003-2016 – 2016 are

performed to protect the health and safety of all workers working in the confined spaces.

- 5.6.4 For all confined space entries, involving workers from any employer, the Contractor is responsible for all coordination for work activities, confined space assessment, development of entry plans, permitting, supply of equipment for atmospheric testing and monitoring, ventilation, access and egress, entry, monitoring, control, rescue planning, and the initiation and implementation of rescue procedures in accordance with the Regulations.
- 5.6.5 The Contractor shall maintain all appropriate documentation required under the Regulation and provide daily copies to the City Representative.
- 5.6.6 The Contractor shall supply all required safety, monitoring, control and personal protective equipment required for confined space entry operation, including, but not limited to entry and rescue equipment, atmosphere monitors (see Section 5) and breathing apparatus/ respiratory protection.
- 5.6.7 The Contractor shall ensure that all workers entering or interacting with the identified confined spaces are appropriately trained and that proof of training is provided upon request.

5.7 STORAGE AND PROTECTION OF MATERIALS AND EQUIPMENT

- 5.7.1 Protect materials and equipment after unloading, from weather, dust, dirt and moisture, both before and after erection and placing. Observe manufacturer's written instructions for temporary storage.
- 5.7.2 Maintain equipment in good condition, as per manufacturer's instructions.
- 5.7.3 Provide manufacturer's written instructions for the storing of equipment during the construction period, well in advance of equipment delivery.
- 5.7.4 Store specialty items to ensure protection from damage to materials or finish.
- 5.7.5 Store materials subject to water absorption off the ground. Protect materials from other damage due to environmental conditions using waterproof covers.
- 5.7.6 As work proceeds and upon completion, promptly clean up and remove from site surplus materials resulting from foregoing work.

5.8 DISPOSAL OF MATERIAL OFF-SITE

- 5.8.1 Material designated to be removed from the site must be promptly removed.
- 5.8.2 Make necessary arrangements for environmentally safe transportation and ultimate disposal in compliance with all applicable Regulations and Guidelines at no cost to the City, unless noted otherwise.
- 5.8.3 Carry out additional chemical analysis of site materials suspected to be contaminated and determine applicable Regulations and Guidelines as may be required to determine the environmental quality of materials encountered and to determine suitable means for transportation and ultimate disposal. Notify the City Representative of concerns and provide copy of test results. Payment for haulage and disposal fees for contaminated excavated material will be considered Extra Work to this Contract as required.
- 5.8.4 Removal of all waste material to the City's Waste Management Facility's West 40 Landfill. The Contractor will be responsible for all costs associated with loading, transportation and haulage, and tipping fees from the project site to the landfill.

5.9 ENVIRONMENTAL CONSIDERATIONS DURING CONSTRUCTION

5.9.1 Equipment Fueling:

- .1 Designate an area within the working limits, a minimum of 30 meters away from open water courses, to be used exclusively for fueling construction equipment.
- .2 Submit for review a plan for the interception and rapid clean-up of fuel spills should they occur.
- .3 Maintain the apparatus for cleaning up fuel spills on site.

5.9.2 Cleaning Equipment:

- .1 Keep construction equipment clean so that no debris is deposited on the City roadways.
- .2 Contain construction debris in a designated area within the working limits.
- .3 Dispose of debris off-site.

5.9.3 Noise Control:

- .1 Use only vehicles and equipment equipped with effective muffling devices. Provide noise barriers on stationary engines and compressors. Provide noise barriers on stationary engines and compressors.
- .2 Comply with City of Iqaluit Noise By-Law.
- .3 Consider noise attenuation measures in the approach and submissions for noise generating activities.

5.9.4 Dust Control:

- .1 Use water, or other methods to control dust as directed by the City Representative. Do not use chemical means of dust control without prior written approval from the City Representative. The use of petroleum products will not be allowed at any time.
- .2 Submit dust control plan detailing proposed methods to control dust on site for review and acceptance by the City Representative.

5.10 PROTECTION OF EXISTING STRUCTURES AND PROPERTY

5.10.1 The Contractor will be held fully responsible by the City for any damage to utilities, properties, buildings, homes, or structures adjacent to or in the general area of the work, through settlement of ground, vibration or shock resulting from any cause relating to the work carried out under this Contract. Make good and repair such damage at own expense.

5.10.2 Refer to Section 14 – Preservation and Protection.

5.11 EROSION AND SEDIMENT CONTROL

5.11.1 Prepare and implement a separate detailed erosion and sediment control plan for the duration of the work.

5.11.2 Correct all erosion control deficiencies noted by the City Representative. Maintain appropriate measures in place until the construction is fully completed.

5.11.3 Cooperate with the City Representative and the Owner for periodic inspections (during and after construction).

5.12 DAMAGE BY VEHICLES AND OTHER EQUIPMENT

- 5.12.1 If at any time, in the opinion of the City Representative, damage is being or is likely to be done to any road, highway, improvements or property therein, other than such portions as are part of the work, by the Contractor's vehicles or other equipment whether licensed or unlicensed, the Contractor shall, on the direction of the City Representative and at the Contractor's own expense, make changes in or substitutions for such vehicles or other equipment or shall alter loadings or shall in some manner remove the cause.

5.13 PROPERTY OWNER'S LETTER OF RELEASE

- 5.13.1 The Contractor will be required, when instructed by the City Representative, to provide a letter from the Owner and/or Owners of property adjacent to the work or on which the work was constructed, clearly stating that the reinstatement work carried out by the Contractor has been completed satisfactorily.
- 5.13.2 This letter of release will only be required where damage has been caused to private property or where work takes place on private property or easement.

5.14 UTILITY OWNER'S LETTER OF RELEASE

- 5.14.1 The Contractor will be required, when instructed by the City Representative, to provide a letter from the owners of utilities stating that all services damaged during construction of the work have been satisfactorily repaired.

5.15 INCLEMENT WEATHER

- 5.15.1 Make adequate protection and take all necessary precautions at times of inclement weather.
- 5.15.2 Inclement weather or extra work caused by such weather will not be accepted as reason for additional payment or an extension to the time of completion. The Contractor shall carry for inclement weather in the Project Schedule.

5.16 SNOW PLOWING

- 5.16.1 The Contractor shall be responsible for snow and ice removal in the designated construction area and related access roads for each group of primary clarifiers as well as Contractor's staging and storage area at its own cost.
- 5.16.2 Snow plowing shall be under the direction of the City Representative and shall not block any municipal roadways, easements, access roads or driveways for the general public or City operating staff to access.
- 5.16.3 Snow is to be disposed of at the designated snow disposal area, as directed by the City Representative.

END OF SECTION

6. CONSTRUCTION SEQUENCING

6.1 GENERAL

- 6.1.1 The Work is to be completed in the time stated in the Form of Tender. In this regard, the Contractor is responsible for scheduling the sequencing of work.
- 6.1.2 This Section includes mandatory construction sequencing constraints and a suggested general sequence of construction that will satisfy the mandatory constraints required in the execution of the Work.
- 6.1.3 The Contractor shall plan to perform the work activities in such a sequence that does not necessitate the removal from service any essential part or component of the existing works without first having a temporary facility to enable continuous normal operation of the existing water pollution control plant and process or has fully commissioned new facilities that are capable of operating in place of the part or component of the existing works that the Contractor must demolish and/or modify.
- 6.1.4 The Contractor's sequencing of work shall consider the submission of technical submittals and shop drawings for review and approval, prior to the commencement of work in the field.
- 6.1.5 The Contractor's schedule shall incorporate a logical sequence of construction activities, such that the work be completed in a manner that is safe, efficient, and interruption free as per the time stated in the Form of Tender.

6.2 COORDINATION

- 6.2.1 It is noted that the proposed works must be constructed so as not to interfere with or cause any un-scheduled interruption of operation of existing City process systems and services.
- 6.2.2 Coordinate the requirements of this Section with the other requirements of the Contract Documents.
- 6.2.3 Refer to Section 3 for other coordination requirements.

6.3 SERVICES PROVIDED BY THE CONTRACTOR

- 6.3.1 The Contractor shall coordinate the construction activities with the City Representative in advance as per Section 3.
- 6.3.2 The Contractor shall provide the required temporary construction, drainage, grading, sedimentation, and erosion control measures for the construction area.
- 6.3.3 The Contractor shall provide the necessary temporary power, pumping facilities, ventilation equipment, pipes, valves, fittings, diversions, temporary bulkheads, or any other equipment and systems, as required during construction.

6.4 SERVICES PROVIDED BY THE CITY

- 6.4.1 The City will undertake all necessary isolations and shut-downs of operating equipment and systems.
- 6.4.2 The City will provide access to existing City buildings, facilities, and structures.

6.5 SEQUENCE OF CONSTRUCTION

- 6.5.1 Prior to mobilization, the Contractor will be required to adhere to the following sequencing requirements:

- .1 Submit technical submittals to the City Representative for review and approval. Technical submittals will consist of the following:
 - a. Contractor Site-Specific Health and Safety Plan and Health and Environmental Minimum Performance Standard (MPS) and associated MPS checklist.
 - b. Contractor trade certificates and training records.
 - c. Construction schedule.
 - d. Traffic Control Plan (if applicable).
 - e. Erosion and Sediment Control Plan (if applicable).
 - f. Quality Assurance and Quality Control Plan.
 - .2 Obtain confirmation from the City Representative that the technical submittals presented above have been approved.
- 6.5.2 The City Representative may choose to delay mobilization activities, at no additional cost or impact to the Project Schedule, should the specified technical submittals not be submitted and approved prior to the start of mobilization activities.
- 6.5.3 Prior to initiating construction activities in the field, the Contractor will be required to adhere to the following sequencing requirements:
- .1 Submit relevant shop drawings to the City Representative for review and approval prior to commencing the installations in the field.
 - .2 Obtain confirmation from the City Representative that the shop drawing(s) have been approved.
 - .3 Commence relevant installations related to approved shop drawings in the field.
- 6.5.4 The City Representative may choose to reject the installations in the field, at no additional cost or impact to the Project Schedule, if the relevant shop drawings are not approved prior to installation in the field.
- 6.5.5 The City Representative will be provided with five (5) business days to review relevant technical submittals and shop drawings. The City assumes only one (1) round of reviews for technical submittals and shop drawings. The Contractor will not be granted an extension of time or a change to the contract price, should the Contractor not address all review comments from the first submission, and require a subsequent review of a second or further resubmission(s).
- 6.5.6 Prior to backfilling an excavated trench where new civil installations or repairs have taken place, allow for the inspection of the works by the City Representative. Should the Contractor backfill the site, while failing to present the works and provide indication to the City Representative that the works are ready for an inspection, the Contractor will be required to re-excavate the site in order to allow for an inspection of the works to take place at no change to the contract price and no extension to the contract schedule.
- 6.5.7 The Contractor's schedule shall carry for the implementation of the Inspection and Test Plan and required hold points identified in the Contract documents and any delays associated with not satisfying the requirements of the Inspection and Test Plan and/or the required hold points.



CONSTRUCTION SERVICES
PART VI – GENERAL REQUIREMENTS



END OF SECTION

7. PAYMENT PROCEDURES

7.1 TERMS OF PAYMENT

- 7.1.1 Make applications for payment on account as provided in Agreement as Work progresses.
- 7.1.2 Applications for payment will be made monthly.
- 7.1.3 The date for Contractor's submission of monthly application for payment shall be on the last business day of the month.
- 7.1.4 The Contractor shall be reimbursed on a monthly basis in accordance with the instructions provided in the Bid Form.
- 7.1.5 For administrative purposes, the monthly application for payment shall be in the form of a progress payment and must indicate:

- .1 Contract/ Project Title.
- .2 City of Iqaluit Service Contract number.
- .3 Progress payment number.
- .4 Date progress payment issued.
- .5 Period progress payment covers.
- .6 The following shall be added to the Progress Claims:

Breakdown of Work Performed to Date

- Invoice number on breakdown matches the Invoice Number
- Period Ending Date on breakdown matches Period Ending Date on Invoice
- Percent complete on breakdown is appropriate given previous Invoice breakdown
- Values claimed on Invoice Breakdown are appropriate given observations in Consultant Site Report
- Cost elements where no draw was requested have been confirmed with Payment Certifier

Breakdown of Cash Allowances

- All reported cash allowances match the contract values plus any changes
- Previously approved release amounts match the Cost Tracking Log at Period Ending Date
- Value of work claimed for Cash Allowances is appropriate given Consultant Site Report
- Values add up correctly

Breakdown of Project Change Notices

- All approved changes are identified (even if not being drawn against)
- Sum of approved Changes matches sum on Cost Tracking Log for Period End Date
- Value of work on claimed on Changes is appropriate given Consultant Site Report
- Values add up correctly

Invoice

- Invoice Date is not before Period Ending Date
- Payment terms are as per the Contract
- PO# has been properly identified
- The Invoice Number is correct
- GST/PST/HST is properly identified
- Invoice Amount matches the sum of the Breakdown of work performed to date
- Period Ending Date is correct

Certificate for Payment

- Number on Certificate matches the Invoice Number
- Certificate Period Ending Date matches the Invoice Period Ending Date
- Date prepared is after Invoice Date
- Project name is correct
- Contract Amount is correct
- Approved Project Changes match Consultant Change Order Log as of the Period Ending Date
- Lien holdback percentage is correct
- Verify all calculations and Total Value of Work Performed to Date
- Payment Certifier has signed the CoP

Statutory Declaration (CCDC 9A – 2018)

- Statutory Declaration is provided with the Certificate for Payment
- “Application for payment number” and “date” for the last payment received match Consultant and Owner records – confirm discrepancies with Owner
- Date of the contract, owner name, contractor name exactly match the Contract
- Seal (CCDC 9A 2018) is original and attached
- Signature and date of declaration is complete
- Approved Project Changes match Consultant Change Order Log as of the Period Ending Date

WSIB / WCB Review (required after construction starts)

- The Expiry Date of XXXX is beyond the end of the next invoice period
- Certificate number is included
- Form is signed (if applicable)

- 7.1.6 The Contractor is to provide all relevant back-up material to validate the work that is being claimed in the monthly progress payment. This includes, but is not limited to, daily timesheets for labour and equipment, material costs, back-up invoices, etc. For work completed on a time and materials basis where daily timesheets are produced, the Contractor must present timesheets to the City Representative at the end of each workday for review and approval.
- 7.1.7 The City shall reimburse Contractors for mark-ups from sub-contractors and/ or suppliers for parts, materials, and labour up to a maximum of 15%. Back-up invoices from sub-contractors and/ or suppliers/ vendors must be submitted as part of monthly application for payment. Monthly progress claims will be returned if back-up invoices are not provided.
- 7.1.8 No payment will be made for the cost of work incurred to remedy errors or omissions for which the Contractor is responsible.

- 7.1.9 Additional work that has been completed outside the scope of services identified in the contract, without written approval from the City Representative via the change order process, will not be paid. Contemplated changes must be presented to the City Representative for review. Should the contemplated change be endorsed, it will be presented to the City for approval via a change order. Once approved, the Contractor may proceed with the work in the field. Failure to comply with this requirement may result in no payment.
- 7.1.10 All progress payment claims are to be submitted to the City Representative; they are not to be submitted to the City's Finance Department.
- 7.1.11 The City will pay all invoices on a Net 30 basis, meaning payments will be made by the City within Thirty (30) calendar days of receipt and acceptance of the invoice, or the receipt and acceptance of the goods or services, whichever is later.

7.2 SCHEDULE OF VALUES

- 7.2.1 Make schedule of values out in such form and supported by such evidence as City Representative may reasonably direct and when accepted by City Representative, be used as basis for applications for payment.
- 7.2.2 Include statement based on schedule of values with each application for payment. Schedule of values to follow Terms of Reference sections outline.
- 7.2.3 Support claims for products delivered to Place of Work by not yet incorporated into Work by such evidence as City Representative may reasonably require establishing value and delivery of products.

7.3 APPLICATION FOR PAYMENT

- 7.3.1 Each month prepare a draft application for payment in the form of a progress payment claim for review and acceptance by the City Representative before submitting the monthly application for signature and payment.
- 7.3.2 Application for payment must show a schedule of values, for each item of approved breakdown of Contract Price established in the Contract, the following:
 - .1 Percentage and value of Work completed to date.
 - .2 Percentage and value of Work previously approved for payment.
 - .3 Percentage and value claimed this payment period.
 - .4 Percentage and value of Work remaining to be completed.
 - .5 Include separate line items for each approved Change Order executed, along with the information requested in 7.3.2.1, 7.3.2.2, 7.3.2.3, and 7.3.2.4.
- 7.3.3 Application for payment must include timesheets, back-up invoices from sub-contractors and/ or suppliers/ vendors, whichever applies. Where mark-ups apply per the Contract, ensure they are clearly shown.
- 7.3.4 Include an updated cash flow expenditure forecast with the application for payment.
- 7.3.5 Submit application for payment to the City Representative on the last business day of each month.
- 7.3.6 To assist the Contractor with preparation of application for payment, the City Representative is available to meet with the Contractor on an agreed date each month, on or prior to last day of month, to review progress of Work.

7.3.7 The Contractor and City Representative shall agree on quantity of Work performed and due for payment. Once quantity has been agreed upon, Contractor shall submit the final application for payment along with a corresponding invoice for the amount being claimed.

7.3.8 The following shall be included for the first application for payment:

- .1 Approved monthly progress claim.
- .2 Coinciding invoice.
- .3 A copy of Workers Safety Compensation Board Certificate of Clearance.
- .4 Updated construction schedule.
- .5 Updated cash flow projection.
- .6 The following shall be added to the Progress Claim:

Breakdown of Work Performed to Date

- Invoice number on breakdown matches the Invoice Number
- Period Ending Date on breakdown matches Period Ending Date on Invoice
- Percent complete on breakdown is appropriate given previous Invoice breakdown
- Values claimed on Invoice Breakdown are appropriate given observations in Consultant Site Report
- Cost elements where no draw was requested have been confirmed with Payment Certifier

Breakdown of Cash Allowances

- All reported cash allowances match the contract values plus any changes
- Previously approved release amounts match the Cost Tracking Log at Period Ending Date
- Value of work claimed for Cash Allowances is appropriate given Consultant Site Report
- Values add up correctly

Breakdown of Project Change Notices

- All approved changes are identified (even if not being drawn against)
- Sum of approved Changes matches sum on Cost Tracking Log for Period End Date
- Value of work on claimed on Changes is appropriate given Consultant Site Report
- Values add up correctly

Invoice

- Invoice Date is not before Period Ending Date
- Payment terms are as per the Contract
- PO# has been properly identified
- The Invoice Number is correct
- GST/PST/HST is properly identified
- Invoice Amount matches the sum of the Breakdown of work performed to date
- Period Ending Date is correct

Certificate for Payment

- Number on Certificate matches the Invoice Number
- Certificate Period Ending Date matches the Invoice Period Ending Date
- Date prepared is after Invoice Date
- Project name is correct
- Contract Amount is correct
- Approved Project Changes match Consultant Change Order Log as of the Period Ending Date
- Lien holdback percentage is correct
- Verify all calculations and Total Value of Work Performed to Date
- Payment Certifier has signed the CoP

WSIB / WCB Review (required after construction starts)

- The Expiry Date of XXXX is beyond the end of the next invoice period
- Certificate number is included
- Form is signed (if applicable)

7.3.9 The following shall be included for the second application for payment and onwards:

- .1 Approved monthly progress claim.
- .2 Coinciding invoice.
- .3 A copy of Workers Safety Compensation Board Certificate of Clearance. For the Final Application/Substantial Completion the Contractor must have received a final Clearance Certificate of Clearance from WSCC.
- .4 Statutory Declaration certifying that payment has actually been made in full to all subcontractors, suppliers, workmen, and others for labour, materials, and services required by Contract up to and including latest progress payment.
- .5 Updated construction schedule.
- .6 Updated cash flow projection.
- .7 The following shall be added to the Progress Claims:

Breakdown of Work Performed to Date

- Invoice number on breakdown matches the Invoice Number
- Period Ending Date on breakdown matches Period Ending Date on Invoice
- Percent complete on breakdown is appropriate given previous Invoice breakdown
- Values claimed on Invoice Breakdown are appropriate given observations in Consultant Site Report
- Cost elements where no draw was requested have been confirmed with Payment Certifier

Breakdown of Cash Allowances

- All reported cash allowances match the contract values plus any changes
- Previously approved release amounts match the Cost Tracking Log at Period Ending Date
- Value of work claimed for Cash Allowances is appropriate given Consultant Site Report
- Values add up correctly

Breakdown of Project Change Notices

- All approved changes are identified (even if not being drawn against)
- Sum of approved Changes matches sum on Cost Tracking Log for Period End Date
- Value of work on claimed on Changes is appropriate given Consultant Site Report
- Values add up correctly

Invoice

- Invoice Date is not before Period Ending Date
- Payment terms are as per the Contract
- PO# has been properly identified
- The Invoice Number is correct
- GST/PST/HST is properly identified
- Invoice Amount matches the sum of the Breakdown of work performed to date
- Period Ending Date is correct

Certificate for Payment

- Number on Certificate matches the Invoice Number
- Certificate Period Ending Date matches the Invoice Period Ending Date
- Date prepared is after Invoice Date
- Project name is correct
- Contract Amount is correct
- Approved Project Changes match Consultant Change Order Log as of the Period Ending Date
- Lien holdback percentage is correct
- Verify all calculations and Total Value of Work Performed to Date
- Payment Certifier has signed the CoP

Statutory Declaration (CCDC 9A – 2018)

- Statutory Declaration is provided with the Certificate for Payment
- “Application for payment number” and “date” for the last payment received match Consultant and Owner records – confirm discrepancies with Owner
- Date of the contract, owner name, contractor name exactly match the Contract
- Seal (CCDC 9A 2018) is original and attached
- Signature and date of declaration is complete
- Approved Project Changes match Consultant Change Order Log as of the Period Ending Date

WSIB / WCB Review (required after construction starts)

- The Expiry Date of XXXX is beyond the end of the next invoice period. Note: for the Final Application, a final Clearance Certificate is required.
- Certificate number is included
- Form is signed (if applicable)

- 7.3.10 The City shall not release monies for Payment Certificates until the Contractor has provided all of the supporting documentation, as specified herein.
- 7.3.11 Deviations from the above specified requirements or incomplete submissions shall require resubmission of the application for payment.

7.4 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

7.4.1 Payment will not be made for the following:

- .1 Loading, hauling, and disposing of rejected material.
- .2 Quantities of material wasted or disposed of in a manner not called for under Contract Documents.
- .3 Rejected loads of material, including material rejected after it has been placed by reason of failure of Contractor to conform to provisions of Contract Documents.
- .4 Material not unloaded from transporting vehicle.
- .5 Defective Work not accepted by Owner.
- .6 Material remaining on hand after completion of Work.

END OF SECTION

8. PROJECT MEETINGS

8.1 GENERAL

- 8.1.1 The City Representative will schedule the project meetings throughout progress of the Work.
- 8.1.2 The City Representative will prepare meeting agenda with regular participant input and distribute the written notice of each meeting, preside at meetings, record minutes to include significant proceedings and decisions, and reproduce and distribute copies of minutes within five (5) business days after each meeting to participants and parties affected by meeting decisions.
- 8.1.3 Representatives of Contractor, Subcontractor and suppliers attending meetings shall be qualified and authorized to act on behalf of the party each represents.

8.2 PRECONSTRUCTION MEETING

- 8.2.1 After award of Contract, the City Representative will request a meeting of parties in contract to discuss and resolve administrative, health and safety procedures and responsibilities.
- 8.2.2 Preconstruction meeting will be held via teleconference. Teleconference instructions will be provided by the City Representative.
- 8.2.3 Preconstruction meeting agenda may include the following, as a minimum:
 - .1 Introductions.
 - .2 Project Initiation:
 - a. Service Contract Review.
 - b. Securities/ Bonds.
 - c. Insurance.
 - d. WSCC Certificate of Clearance.
 - .3 Safety:
 - a. Site Safety Requirements.
 - b. WSCC “New Operations & High Hazard Work” Notice.
 - c. Joint Health and Safety Committee or Occupational Health and Safety Representative.
 - d. Site Audits, Inspections and Incident Reporting.
 - e. Training, Qualifications and Trade Certificates.
 - .4 Project Execution Requirements:
 - a. Summary of Work.
 - b. Working Hours, Working Days
 - c. Construction Sequencing/ Coordination.
 - d. Contractor's Use of Premises.
 - e. Authorities Having Jurisdiction (GN/ Federal permits and inspections).
 - f. Special Project Procedures (Work Permits, Traffic Control, etc.).

- g. Project Meetings.
- h. Submittals and Shop Drawings.
- i. Payment Procedures.
- j. Change Orders.
- k. Quality Control.
- l. Closeout Requirements.
- .5 Project Schedule:
 - a. Schedule Submission.
 - b. Key Milestone Dates.
 - c. Substantial Completion Submission Requirements.
 - d. Warranty (if applicable).
- .6 Communication Structure:
 - a. Stakeholder Representation
 - b. Communication Flow.
 - c. Communication of Changes in Scope, Schedule or Cost.
 - d. Site Communication Memos – RFI's, SI's, CCN's.
- .7 Document Control.
- .8 Other Business and Questions.
- 8.2.4 Attendees will include:
 - .1 Owner's representatives.
 - .2 City Representative.
 - .3 Contractor's project manager.
 - .4 Contractor's resident site superintendent.
 - .5 Contractor's quality control representative.
 - .6 Others as appropriate.

8.3 PROGRESS MEETINGS

- 8.3.1 City Representative will schedule regular progress meetings at site, conducted bi-weekly prior to mobilization and weekly during construction to review the Work progress, progress schedule, shop drawings and technical submittal schedule, application for payment, contract modifications, and other matters needing discussion and resolution.
- 8.3.2 Progress meetings will be held via teleconference. Teleconference instructions will be provided by the City Representative.
- 8.3.3 Project progress review meeting agenda may include the following, as a minimum:
 - .1 Introductions:
 - a. Confirm Acceptance of Previous Meeting Minutes.

- .2 Safety:
 - a. Safety Share.
 - b. Site Safety Audits, Inspections and Incident Reporting.
- .3 Submittals and Shop Drawings:
 - a. Status of Technical Submittal Submissions/ Reviews.
 - b. Status of Shop Drawing Submissions/ Reviews.
- .4 Site Communications:
 - a. Request for Information (RFI) – Status Update/ Outstanding Items.
 - b. Site Instructions (SI) – Status Update/ Outstanding Items.
 - c. Contemplated Change Notices (CCN) – Status Update/ Outstanding Items.
- .5 Financial:
 - a. Progress Claims – Status Update/ Outstanding Items.
 - b. Change Orders – Status Update/ Outstanding Items.
 - c. Service Contract Financial Review.
- .6 Work Progress:
 - a. Work Completed (Since Last Meeting).
 - b. Work Planned (Three-Week Look-ahead/ Schedule) Review.
 - c. Issues/ Concerns/ Risks and Mitigation Measures.
 - d. City/ Engineer Coordination Requirements.
- .7 Quality Control:
 - a. Contractor Activities.
 - b. Status of Permitting and Inspections.
- .8 Other Business and Questions.

8.3.4 Attendees will include:

- .1 Owner's representative.
- .2 City representative.
- .3 Contractor's project manager.
- .4 Contractor's site superintendent.
- .5 Others as appropriate.

8.4 OTHER MEETINGS

- 8.4.1 In accordance with Contract Documents and as may be required by the Owner and/or City Representative.
- 8.4.2 Brief meetings attended by the Contractor's key personnel, the City Representative and as required, the Owner's representative, may be coordinated in order to help assist with other project related discussions such as isolation requirements, critical path tasks,



CONSTRUCTION SERVICES
PART VI – GENERAL REQUIREMENTS



schedule, quality, commissioning, claims, deficiencies, etc. in order to help with the progress of the work. The Contractor is to accommodate other meetings at no additional cost to the contract.

- 8.4.3 Meetings will be held via teleconference. Teleconference instructions will be provided by the City Representative.

END OF SECTION

9. CONSTRUCTION PROGRESS SCHEDULE

9.1 CONTRACTOR'S RESPONSIBILITIES

- 9.1.1 Prepare and submit to the City Representative a Construction Progress Schedule including a comprehensive work breakdown schedule complete with sequencing or implementation of each work tasks and work packages within five (5) business days of award of Contract. The schedule must reflect working days/ hours as per the contract. The schedule must show the following as a minimum:
- .1 Mobilization and other preliminary activities such as installation of site fencing, trailer, signage, traffic control measures, etc.
 - .2 Submission of shop drawings, technical submittals, product data, material lists and samples.
 - .3 Delivery of any critical equipment and/or materials that will be key to the Works.
 - .4 Submission of key requests to the City such as isolation requests and City permit applications.
 - .5 Isolation and/or shutdown of City processes or systems by City Operations personnel, implementation of temporary by-pass systems, etc.
 - .6 Commencement and completion of work of each section of the terms of reference for each of the contract components as required by, and described in, the plans and terms and reference.
 - .7 Critical hold points which require the inspection and/or witness of the works by the City Representative, as described in the contract documents.
 - .8 Testing activities, commissioning, start-up and operating of the new equipment and/or systems.
 - .9 Substantial performance and final completion dates within time period required by the Contract Documents.
 - .10 Demobilization
- 9.1.2 Schedule shall represent a practical plan to complete the work within the Contract period and shall convey the plan to execute the work. Schedules as developed shall show the sequence and interdependencies of activities required for complete performance of the work.
- 9.1.3 Use extra forces and equipment, or revise method of operation when progress of work is not sufficient to meet Project Schedule.
- 9.1.4 Reviews of work progress based on Construction Schedule, will be conducted by the City Representative and schedule updated by Contractor in conjunction with and subject to approval of the City Representative.
- 9.1.5 Construction schedule shall be updated monthly with the payment schedule for the duration of the Contract.
- 9.1.6 Failure to include any element of work required for performance of the Contract or failure to properly sequence the work shall not excuse the Contractor from completing all work within the Contract Time.
- 9.1.7 All schedule submittals, excluding monthly progress reports, are subject to approval by the City Representative. The City Representative retains the right to withhold

appropriate monies (up to the full value of the current progress payment) from progress payments until the Contractor submits an acceptable construction progress schedule. Update schedule updates acceptable to the City Representative.

- 9.1.8 Certify in writing and have signed by major subcontractors that the construction progress schedule have been discussed in detail with all major subcontractors and major suppliers as it relates to their respective work and submit a copy of the certificate to the City Representative.
- 9.1.9 All schedules shall be developed utilizing industry standard “best practices” including, but not limited to:
- .1 No open-ended activities.
 - .2 No use of constraints other than those defined in the Contract Documents without the prior approval of the City Representative.
 - .3 No negative leads or lags.
 - .4 No excessive leads or lags without prior justification and approval from the City Representative.
 - .5 For individual schedule construction activities, do not exceed 14 calendar days in duration without prior approval of the City Representative. Subdivide activities exceeding 14 calendar days in duration to an appropriate level.
 - .6 Sufficiently describe schedule activities to include what is to be accomplished in each work area. Express activity durations in whole days. Clearly define work that is to be performed by subcontractors.
 - .7 Create the schedule in conformance with the work-hours, constraints, and Activity Code Structure, set forth in these Contract Documents.
 - .8 Activity Code Structure
 - a. Each activity shall be identified with codes including as a minimum:
 - i. The party responsible for performing the work.
 - ii. Where work is to be subcontracted, the subcontractor to be responsible for performing the work.

9.2 CONSTRUCTION SEQUENCING

- 9.2.1 Contractor is instructed to perform this work without disrupting current operating facilities, structures, and/or City services when applicable.
- 9.2.2 Contractor to prepare schedule and duration of all anticipated by-passes or shutdown of any existing facility. Schedule to be reviewed by the Owner for approval. Furthermore, the Contractor shall provide notice as described in Section 3 - Coordination to the Owner for each and every scheduled by-pass, tie-in to and shutdown of existing facilities, structures, processes, or systems. Required notice plus the Owner’s approval are required for all non-scheduled by-passes, tie-in to and shutdowns.
- 9.2.3 Any and all un-scheduled shutdown is the responsibility of the Contractor. Thus, all or any additional labour, testing, material and equipment required by the Owner to correct or assist in coordination and correction of deficiencies as a result of an un-scheduled shut down is at the Contractor’s costs.

9.3 MONTHLY CONSTRUCTION SCHEDULE UPDATE

- 9.3.1 Submit once per month, a monthly construction progress schedule update showing the progress of the work to date. The updated progress schedule must be submitted with the monthly progress payment application.
- 9.3.2 Include with the update an electronic back-up of the native schedule file.
- 9.3.3 Payment will not be made without an approved construction progress schedule, and monthly construction progress schedule update.
- 9.3.4 The monthly construction progress schedule update shall have a data date as of the last day of the corresponding month (i.e. for schedules submitted at the beginning of February the data date shall be January 31).
- 9.3.5 Incorporate actual progress, start dates, completion dates, and progress up to the data date in the schedule update. All changes and revision made in the monthly construction progress schedule update shall be addressed in the narrative accompanying the submittal.
- 9.3.6 Change Orders will be addressed in accordance with the General Conditions and incorporated into the Contract construction progress schedule as individual schedule activities.
- 9.3.7 Payment will not be made without current approved monthly construction progress schedule update.
- 9.3.8 Any changes made to the schedule shall also include changes to the cost loading/ expenditure forecast. All the remaining activities to be completed shall equate to the remaining cost of the Work. Any addition or deletions to activities to the schedule will require subsequent revisions to ensure that the schedule continues to correlate to the current Schedule of Values.
- 9.3.9 If, according to the current updated Contract construction progress schedule, the work is fourteen or more days behind the Contract completion date, or the schedule contains fourteen or more days of negative float, considering all granted time extensions, submit, prior to the next progress payment, a revised recovery schedule, showing a work plan to complete the work within the original schedule period. Include with the submittal a detailed narrative describing the means and methods proposed to achieve the work in the time period. The City Representative may withhold approximate progress payments until a revised schedule, acceptable to the City Representative, is submitted by the Contractor at no additional expense to the Owner.

9.4 RE-BASELINE CONTRACT CONSTRUCTION PROGRESS SCHEDULE

- 9.4.1 If, in the opinion of and at the request of the City Representative, the work has significantly fallen behind and/or the nature or plan of the work has changed from that which was originally portrayed in the Contract construction progress schedule, a Re-Baselined construction progress schedule shall be submitted that portrays the plan to complete the remaining Contract Work.
- 9.4.2 The Re-Baselined construction progress Contract Schedule shall be cost-loaded and be the basis for all subsequent monthly construction progress schedule updates.

9.5 THREE-WEEK LOOK-AHEAD

- 9.5.1 Submit a Gantt chart format depicting the intended work activities for the upcoming three-week period plus one-week retrospective look on a weekly basis.

- 9.5.2 All activities in the Three-Week Look-Ahead Schedule must correlate to an activity in the current monthly construction progress schedule update either as a one-to-one match, or as a subset of activities whose cumulative duration correlate to an activity in the monthly construction progress schedule update.
- 9.5.3 Note and explain in writing all deviations, including but not limited to sequences of work, timing, and durations or activities, from the Contract construction progress schedule or monthly construction progress schedule updates. These deviations must be addressed in the following monthly construction progress schedule update.
- 9.5.4 Portray all activities clearly and legibly on the schedule and include logical activity numbers.
- 9.5.5 Submit the schedule at the bi-weekly construction progress meeting.

9.6 MONTHLY EXPENDITURE/ CASH FLOW FORECAST

- 9.6.1 Submit, on a monthly basis, an update to the monthly expenditure/ cash flow forecast. The cash flow forecast is to be submitted as part of the Contractors monthly progress payment application.
- 9.6.2 The Monthly Expenditure/ Cash Flow Forecast shall be presented in a manner that best illustrates how the Contractor intends to invoice, on a monthly basis, based on the Contractor understanding of the Work, methodologies to be used, and the Contract construction progress schedule.

9.7 REVIEW, UPDATE AND REVISIONS

- 9.7.1 Allow for the City Representative's review and comments according to the following schedule from the date of receipt:
 - .1 Draft Contract construction progress Schedule: 7 calendar days
 - .2 Contract construction progress Schedule: 7 calendar days
 - .3 Monthly construction progress schedule Updates: 7 calendar days
 - .4 Three-Week Look-Ahead Schedule: 7 calendar days
- 9.7.2 Make all corrections to the schedule requested by the City Representative and resubmit the schedule for approval if requested. If the Contractor does not agree with the City Representative's comments, provide written notice of disagreement within five (5) business days from the receipt of City Representative comments for the Preliminary 60-day, Contract Construction Progress Schedule, Monthly Construction Progress Schedule Updates, and Three-Week Look-ahead Schedules. City Representative's comments for which the Contractor disagrees shall be resolved in a meeting held for that purpose, if necessary.

9.8 REQUESTS FOR TIME EXTENSIONS

- 9.8.1 Be responsible for submitting a written request for all extensions of Contract Time in accordance with the General Conditions. Requests not submitted in writing, without the required documentation and not submitted in a time consistent with the General Conditions, will not be considered.
- 9.8.2 Include in the request documentation and written justification for the extension of time, supporting evidence and specific references to the schedule.
- 9.8.3 Also include with request an analysis of a calendar time-scaled Construction Progress Schedule and reports depicting the time impact basis of the request with the affected

areas prominently highlighted. Use only the most current accepted schedule at the time the impact occurred when determining time extension request.

- 9.8.4 If the City Representative finds that the Contractor is entitled to an extension of time of any completion date under the provisions of the Contract, the City Representative's determination of the total number of days extension will be based upon the current analysis of the Contract Construction Progress Schedule and upon data relevant to the extension. Extensions of time for performance under all of the provisions of the Contract will be granted only to the extent that equitable time adjustments for the activity or activities affected exceed the total float along the paths involved of the accepted and current Contract Construction Progress Schedule.

END OF SECTION

10. SUBMITTAL PROCEDURES

10.1 SUMMARY

- 10.1.1 This section defines the submittals to the Owner, or their designate, necessary before, during and after construction, which include as a minimum:
- .1 Site-Specific Health and Safety Plan and the City of Iqaluit's Contractor Safety, Health and Environmental Minimum Performance Standard (MPS) and submittal of the associated MPS checklist.
 - .2 Construction Progress Schedule.
 - .3 Shop Drawings for permanent and temporary works.
 - .4 Product data and samples.
 - .5 QA/QC tests and reports.
 - .6 Concrete mix design.
 - .7 Erosion and Sediment Control Plan.
 - .8 Selective Demolition Plan and Schedule.
 - .9 Guaranties and Warranties.
 - .10 Traffic Control Plan.
 - .11 Temporary works plans (i.e. By-Pass Plan, Servicing Plan, Water Management Plan, Shoring/ Bracing Plan, Critical Lift Plan, etc.).
- 10.1.2 For submittals facsimile transmissions will not be acceptable.
- 10.1.3 Do not proceed with work until the City Representative reviews relevant submissions.
- 10.1.4 Refer to individual sections for other submission requirements.

10.2 ADMINISTRATIVE

- 10.2.1 Submit to the City Representative a list of all submittals and shop drawings for review within seven (7) calendar days of the Award of the Contract. Submit within reasonable promptness and in orderly sequence so as not to cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed. Submit an updated list with the submission or response of each submittal or shop drawing.
- 10.2.2 Work affected by submittals shall not proceed until review is complete.
- 10.2.3 Present shop drawings, technical submittals, product data and reports in SI Metric units.
- 10.2.4 Present shop drawings, technical submittals, product data and reports in the English language.
- 10.2.5 Where items or information is not produced SI Metric units, converted values are acceptable.
- 10.2.6 Review submittals prior to submission to City 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 shall be considered rejected.

- 10.2.7 Notify the City Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- 10.2.8 Verify that field measurements and affected adjacent work are coordinated.
- 10.2.9 Contractor's responsibility for errors and omissions in submission is not relieved by City Representative's review of submittals.
- 10.2.10 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by the City Representative's review.
- 10.2.11 Keep one reviewed copy of each submission on site for reference during the construction.
- 10.2.12 Refer to other individual sections for specific requirements on shop drawings submission.

10.3 PROCEDURES

- 10.3.1 Direct all submittals to the City Representative.
- 10.3.2 Unless indicated otherwise, submit one (1) electronic copy of all submittals.
- 10.3.3 Electronic Submittals:
 - .1 Each electronic submittal shall be searchable in Adobe Acrobat Portable Document Format (PDF).
 - .2 Electronic submittal that contains more than 10 pages in PDF format shall contain internal book marking from an index page to major sections of the document.
 - .3 PDF files shall be set to open "Bookmarks and Page" view.
 - .4 Include a copy of the Transmittal of Contractor's Submittal form with each electronic submittal.
 - .5 Submit new electronic files for each resubmittal.
 - .6 Detailed procedures for handling electronic submittals will be discussed at the preconstruction meeting.
 - .7 Submittals without electronic copies will be rejected by the City Representative.
- 10.3.4 List of Submittals:
 - .1 Within seven (7) working days of Contract Award, submit a complete list of anticipated submittals and shop drawings, as per the requirements of the contract.
 - .2 For each section of the general requirements and terms of reference, the Contractor shall provide a table listing all the submittals anticipated for that section of the Contract. The table shall include the following information:
 - a. General Requirements or Terms of Reference Section.
 - b. Total number of submittals for this Section.
 - c. Shop drawings associated with each submittal.
 - d. Revision and status for each submittal.

10.3.5 Transmittal of Submittal:

- .1 Accompany each submittal with a transmittal letter, containing:
 - a. Project title and number.
 - b. Date of submittal.
 - c. Names of Contractor, Subcontractor or Supplier, and manufacturer as appropriate.
 - d. Numbering and Tracking System:
 - i. Sequentially number each submittal.
 - ii. Resubmission of submittal shall have original number with sequential alphabetic suffix.
 - e. Name, tag No. and quantity of equipment/ system included in each submittal.
 - f. General Requirement and Terms of Reference Section and paragraph to which submittal applies.
 - g. Deviation or variation from Contract Documents.
 - h. Contractor's stamp, signature and statement to certify that the submittal has been reviewed, checked, and approved for compliance with Contract Documents.
 - i. Include the Contractor's written response to each of the City Representative's review comments with resubmission of submittals stamped "Revise and Resubmit".
 - j. Other pertinent data.

10.3.6 Processing Time:

- .1 Time for review shall commence on City Representative's receipt of submittal.
- .2 The City Representative will act upon the Contractor's submittal and transmit response to Contractor not later than five (5) working days after receipt, unless otherwise specified.
- .3 Resubmittals will have same review time unless otherwise specified.
- .4 No claims will be allowed that arise due to delays in re-submissions and review of shop drawings.

10.3.7 Resubmittals:

- .1 Clearly identify each correction or change made and include revision date.
- .2 Provide clear response to each itemized comment by the City Representative on the submittal, whether or not action has been taken, and description of action.
- .3 No adjustment of Contract Times or Price will be allowed due to delays in progress of Work caused by rejection and subsequent resubmittals.
- .4 The Contractor to note that the first two submission of each submittal (original submittal and subsequent resubmittal) will be reviewed at no charge to the Contractor. Any cost for processing/ reviewing submittals which have been

reviewed three times or more will be deducted from the contract amount owed to the Contractor.

10.3.8 Incomplete Submittals:

- .1 The City Representative will return entire submittal for the Contractor's revision if preliminary review deems it incomplete.
- .2 When any of the following are missing, submittal will be deemed incomplete:
 - a. Transmittal of Contractor's submittal, completed and signed.
 - b. Insufficient number of copies.
 - c. All requested information is not provided.
 - d. Submittals missing Professional Engineer's seal and signature, where it is required.

END OF SECTION

11. HEALTH AND SAFETY REQUIREMENTS

11.1 REFERENCES

- 11.1.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
- 11.1.2 Nunavut Safety Act, R.S.N.W.T. 1988, c-S-1 most recently amended and in force June 19, 2016.
- 11.1.3 Nunavut Occupational Health and Safety Regulations, R-003-2016, most recently amended and in force June 19, 2016.

11.2 GENERAL REQUIREMENTS

- 11.2.1 The Contractor shall hold the responsibility of Prime Contractor, as described in the Nunavut Safety Act, and shall be solely responsible for construction safety, ensuring compliance with the Safety Act and Regulations.
- 11.2.2 Perform site specific safety hazardous assessment related to project.
- 11.2.3 Develop written site-specific Health and Safety Plan based on hazard assessment prior to commencing any site Work and continue to implement, maintain, and enforce plan until final demobilization from site.
- 11.2.4 The Contractor shall file a New Operations & High Hazard Work notice for the Works with the Workers' Safety and Compensation Commission (WSCC) prior to commencement of Work. Submit relevant documents to City Representative, providing indication that notice has been submitted. The Contractor will not be allowed to commence construction activities until notice has been filed and acknowledged by WSCC. Failure to submit a notice and provide record of such communication to the City Representative prior to the start of Works will not be considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed. The New Operations & High Hazard Work notice must be posted at the construction site as per requirements of the Safety Act.
- 11.2.5 Meet or exceed the latest revision of all Local, Federal, Territorial laws, regulations, standards, and industry best practices relating to health and safety.
- 11.2.6 Be solely responsible for safety of the Work under this Contract and for complying with and ensuring that every person on the Site complies with the requirements contained within the Contract Documents and regulatory requirements.
- 11.2.7 Perform the Work, or ensure that it is performed, in a manner to avoid risk of injury, security or damage to persons or property, adjacent property, or environment.
- 11.2.8 Provide safe access, egress, and equipment in accordance with Occupational Health and Safety Regulations for entry into all areas by the employees, subcontractors, City, and Consultant. Where hazardous areas or confined space entry exists, implement procedures defined by the latest revision of the applicable Occupational Health and Safety Regulations or the Electrical Code.
- 11.2.9 Prior to the commencement of the Work, review and become fully familiarized with all Local, Territorial, and Federal regulatory requirements and the following documentation:
 - .1 Nunavut's Safety Act and applicable regulations.
 - .2 Nunavut's Workers' Compensation Act and applicable regulations.

- .3 Nunavut's Environmental Protection Act and application regulations.
 - .4 Canadian Electrical Code.
 - .5 Contract Documents.
- 11.2.10 The Contractor shall be solely responsible for construction safety for this Contract and for complying with and ensuring that every person on the Site complies with the measures and requirements contained in:
- .1 Nunavut's Safety Act and applicable regulations.
 - .2 Nunavut's Workers' Compensation Act and applicable regulations.
 - .3 Nunavut's Environmental Protection Act and application regulations.
 - .4 Canadian Electrical Code.
 - .5 Contract Documents.
- 11.2.11 In event of a conflict between any provisions of the above authorities, the most stringent provision shall govern.
- 11.2.12 Provide and maintain first aid, hygiene, washrooms, potable water, and fire protection equipment at the Site in accordance with the applicable regulatory requirements. The Contractor shall designate trained employees to be in charge of first aid on the Site.
- 11.2.13 Establish, maintain, and mark clear routes, paths and points for routine and emergency exit to, from and within the Site for personnel and vehicles.
- 11.2.14 The Contractor shall erect signs relating to safety on the Site, and signs or notices required by the applicable territorial and local regulations or by the Contract Documents.
- 11.2.15 Erect signage acceptable to the City at all entry points to the Site to advise personnel entering the Site of the requirements respecting the use and wearing of personal protective equipment. And the Contractor shall ensure compliance with these requirements.
- 11.2.16 Erect signage acceptable to the City at all entry points to the Site to advise the employees, Subcontractors and other individuals entering the Site that:
- .1 All personnel and employees on the Site are required to comply with safety policies, procedures and instructions of the Contractor.
 - .2 That any personnel failing to adhere to the safety policies, procedures and instructions of the Contractor may be removed from the Site and denied further access.
- 11.2.17 The Contractor shall post warning signs at hazardous areas or where hazardous materials are stored and install protective barriers. The Contractor shall instruct personnel of proper safety procedures.
- 11.2.18 The Contractor shall identify all areas which are considered to be hazardous locations and comply with requirements of the Government of Nunavut Labour Standards Office.
- 11.2.19 Smoking is not permitted in hazardous areas or other areas as designated by the City. The Contractor shall post "No Smoking" signs as required.

- 11.2.20 The Contractor shall inspect the physical condition of the workplace at least weekly, or as often as required by territorial health and safety regulatory requirements, in order to ensure that the Work is performed safely and that the Site is maintained in accordance with the territorial regulatory requirements and the Contract Documents. The Contractor shall prepare and maintain a documented record of each inspection describing the scope of inspection and findings. Copies of all safety inspections shall be kept on Site and available for review by the City Representative.
- 11.2.21 Safety equipment such as gas detection equipment for explosive or toxic gases or oxygen deficiency, fall protection devices, etc., shall be made available by the Contractor to the City Representative for access to the site when required. The Contractor shall be responsible for the coordination of the multiple-party access to the hazardous and confined space on the Site.
- 11.2.22 Ensure adequate coordination and communication between all parties on site in regard to safety.
- 11.2.23 In addition to Occupation Health and Safety Act and applicable Regulations reporting requirements, report all incidents, near misses, spills, environmental damage, and property damage to the City Representative immediately within four (4) hours of the event. An incident investigation must be conducted, and a copy of the complete report provided to the City Representative within 24 hours.
- 11.2.24 Ensure that all employees and subcontractors are competent, as prescribed by the applicable legislation, in performing the Work and have been trained on the Contractor's Site-Specific Health and Safety Plan and COVID-19 Mitigation Plan prior to starting Work on the Contract. The Contractor shall make available all training records for the City Representative's review.
- 11.2.25 The Contractor shall ensure all workers that perform work be certified under the Trades and Qualifications and Apprenticeship Act for their specific work activity. No worker shall perform a type of work unless he/ she is certified to do so.
- 11.2.26 The Contractor shall appoint a competent person, as defined by the Safety Act, as a supervisor.
- 11.2.27 The Contractor shall appoint a Joint Health and Safety Committee or Occupational Health and Safety Representative, as defined by the Safety Act, for the project.
- 11.2.28 The supervisor shall supervise the work at all times either personally or by having an identified assistant do so personally. The assistant must comply with all the same requirements that the supervisor is held to.
- 11.2.29 The supervisor shall inspect the work site and equipment associated with the project at least once a week. A copy of the inspection report must be provided to the City Representative.
- 11.2.30 The Contractor shall remove waste material and debris from the work site(s) to a disposal area at least once a day or more frequently if necessary, to prevent the creation of a hazardous condition.
- 11.2.31 The Contractor shall ensure that a First Aid kit is provided and maintained on site at all times, in accordance with relevant health and safety regulations.
- 11.2.32 The Contractor shall ensure that fire-extinguishing equipment is provided and maintained on site at all times, in accordance with relevant health and safety regulations.

- 11.2.33 The Contractor shall ensure that all vehicles, machinery, tools and equipment used on the work site are operated and maintained in accordance with relevant health and safety regulations.
- 11.2.34 The Contractor will be required to conduct weekly safety audits, in order to ensure compliance to the Site-Specific Health and Safety Plan. Safety Audit reports are to be submitted to the City Representative on a weekly basis.
- 11.2.35 City Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.
- 11.2.36 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Territory having jurisdiction, and in consultation with City Representative.

11.3 SUBMITTALS

- 11.3.1 Make submittals in accordance with Section 10 – Submittal Procedures.
- 11.3.2 The Contractor shall submit a Site-Specific Health and Safety Plan and the City of Iqaluit's Contractor Safety, Health and Environmental Minimum Performance Standard (MPS) and submittal of the associated MPS within seven (7) calendar days after the Award of the Contract, to address the requirements of the above referenced regulations and contract documents.
- 11.3.3 A Site-Specific Health and Safety Plan must be in place prior to the start of construction activities. If a Site-Specific Health and Safety Plan has not been submitted prior to the start of the Works, the City Representative may issue a stop work order, until one is presented which meets the requirements of the regulations and contract documents. Failure to submit a Site-Specific Health and Safety Plan within the required timelines, which meets the requirements of the contract, will not be sufficient reason for an extension of Contract Time or additional compensation, and no claim for extension or additional costs by reason of such default will be allowed.
- 11.3.4 The Contractor shall provide a health and safety plan which as a minimum will include:
 - .1 A Site-Specific Health and Safety Management Plan, includes:
 - a. Introduction, roles and responsibilities for:
 - I. Site Supervisor
 - II. Project Manager
 - III. Site Safety Coordinator
 - IV. Site Workers
 - V. Occupational Health and Safety Representative
 - VI. Joint Health and Safety Committee
 - b. Contractor Project/ Contract Organizational Chart
 - c. Training and certification of workers.
 - d. Orientation for new works or visitors to site.
 - e. Project hazard assessment and safety procedures.
 - f. Safety meetings format and schedule.

- g. Site safety audits, inspections, and incident reporting.
 - h. Workplace hazardous materials information.
 - i. Tagging and lock out procedures.
 - j. Confined space entry procedure.
 - k. Work on or near live apparatus.
 - l. Hot works procedures.
 - m. Posting of information.
 - n. Housekeeping.
- .2 A Hazardous Identification Plan, includes primary environmental hazards, personal conduct and hygiene, potential hazards which include:
- a. Survey work in traffic.
 - b. Physical.
 - c. Working at heights.
 - d. Fire and explosion.
 - e. Confined space entry.
 - f. Cranes, hoists, and rigging.
 - g. Crane suspended personnel platforms.
 - h. Biological.
 - i. Stress and fatigue.
 - j. Noise.
 - k. Cold Weather.
 - l. Wildlife
 - m. Personal security.
 - n. Adverse weather conditions.
 - o. Other site activities.
- .3 A Personal Protective Equipment Inventory, which includes:
- a. Requirements for all site personnel.
 - b. Selection, maintenance and continual assessment.
- .4 An Emergency Preparedness and Response Plan, which addresses at a minimum, all materials, tools and equipment stocked on site, emergency contacts, and detailed execution plans, for the following:
- a. First aid.
 - b. Fire protection.
 - c. Critical injury.
 - d. Accident or incident.

- e. Other emergencies that may be encountered as part of the Work.
- .5 A COVID-19 Mitigation Plan, which addresses:
 - a. Isolation and quarantine.
 - b. Social distancing.
 - c. Hand washing and hygiene.
 - d. Masks.
- .6 The plan shall be reviewed by all works prior to the start of Work. The Contractor must obtain sign-off from all workers providing acknowledgement that the plan has been reviewed.
- .7 The plan shall be posted in a visible location on the work site prior to the commencement of any work.

11.4 CHEMICALS

- 11.4.1 The Contractor must provide a list of all chemicals to be used on site and a copy of the Material Safety Data Sheet (MSDS) for each chemical to the City Representative prior to being brought onto the job site.
- 11.4.2 The Contractor must ensure each chemical container brought on site is clearly labelled with the identity of the chemical, information for the safe handling of the chemical and the location of the MSDS.
- 11.4.3 The Contractor must ensure adequate measures are taken to control the distribution, within the application area or throughout the building, of fumes/ vapours before applying flammable, noxious or volatile materials.
- 11.4.4 The Contractor may be required to schedule the application of hazardous materials which might affect the well-being of any workers or disrupt work of other contractors and cannot be adequately controlled to prevent such occurrences to evening or weekend periods.
- 11.4.5 The Contractor must ensure workers wear the required personal protective equipment (respiratory protection, protective clothing, hand protection, eye/face protection, etc.) when working with chemicals.
- 11.4.6 The Contractor must ensure the safe use and disposal of all chemicals that they are using. No chemicals and/or chemical waste product shall be disposed of on site without prior approval of City Representative.
- 11.4.7 The Contractor may not store chemicals and compressed gas cylinders on site without approval of the City Representative. If approved, the contractor must ensure incompatible chemicals are stored separately.

11.5 DESIGNATED SUBSTANCES / HAZARDOUS WASTE

- 11.5.1 The Contractor shall provide a work plan for the removal of designated substances, in accordance with all applicable legislation, for review and approval to the City Representative.
- 11.5.2 The Contractor shall provide evidence of competency with regards to the Environmental Protection Act and its regulations, a copy of safe handling work plan prior to commencing with work in the area.

- 11.5.3 The Contractor shall register the project as a waste generator site, if not already registered, for the waste that will be generated as a result of the work activities related to the project.
- 11.5.4 The Contractor shall ensure and provide evidence that all hazardous wastes removed from the sites is sent to a licensed waste disposal site by a licensed carrier and advise the responsible individual when necessary testing is to be carried out.
- 11.5.5 The Contractor shall retain copies of all hazardous waste manifests on file.
- 11.5.6 The Contractor shall inspect the project daily to monitor compliance with designated substances and hazardous waste regulations.
- 11.5.7 The Contractor shall provide access to the responsible individual for review of all inspection reports.

11.6 FALL PROTECTION

- 11.6.1 The Contractor shall comply with the requirements of Sections 57 to 59 of R.R.N.W.T. 1990, c.S-1.
- 11.6.2 The Contractor shall provide, upon request, proof of worker training in the use of their fall protection systems.
- 11.6.3 The Contractor shall be responsible for supplying and maintaining all equipment needed to perform this role.

11.7 CONFINED SPACE ENTRY

- 11.7.1 The Contractor shall comply with the requirements of Section 36 to 37 of R.R.N.W.T. 1990, c.S-1.
- 11.7.2 The Contractor shall comply with the requirements of the City's Confined Space Entry program.

11.8 LADDERS

- 11.8.1 The Contractor shall comply with the requirements of Sections 246 to 259 of R.R.N.W.T. 1990, c.S-1.
- 11.8.2 The Contractor shall be responsible for supplying and maintaining all equipment needed to perform this role.

11.9 WELDING/ CUTTING

- 11.9.1 The Contractor shall comply with the requirements of Sections 154 to 167 of R.R.N.W.T. 1990, c.S-1.
- 11.9.2 The Contractor shall be responsible for supplying and maintaining all equipment needed to perform this role.

11.10 SCAFFOLDING

- 11.10.1 The Contractor shall comply with the requirements of Sections 260 to 327 of R.R.N.W.T. 1990, c.S-1.
- 11.10.2 The Contractor shall design, erect, inspect, maintain and use scaffolding equipment materials, and components in accordance with CAN/CSA-S269.2-M87 (Access Scaffolding for Construction Purposes).
- 11.10.3 The Contractor shall be responsible for supply and maintenance of all equipment needed to perform this role.

11.11 MOBILE EQUIPMENT

- 11.11.1 The Contractor shall comply with the requirements of Sections 200 to 242 of R.R.N.W.T. 1990, c.S-1.
- 11.11.2 The Contractor shall be responsible for supplying and maintaining all equipment needed to perform this role.

11.12 CONSTRUCTION TOWERS AND HOISTS

- 11.12.1 The Contractor shall comply with the requirements of Sections 433 to 464 of R.R.N.W.T. 1990, c.S-1.
- 11.12.2 The Contractor shall provide, upon request, proof of worker training in the safe operation of the crane or similar hoisting device.
- 11.12.3 The Contractor shall make available all logbooks, inspection records and tests for cranes of similar hoisting devices, upon request.
- 11.12.4 The Contractor shall be responsible for supplying and maintaining all equipment needed to perform this role.

11.13 EXCAVATING AND TRENCHING

- 11.13.1 The Contractor shall ensure no person enters an excavation unless another worker is working above ground close to the excavation or to the means of access to it.
- 11.13.2 The Contractor shall arrange for the locating of buried services prior to commencing an excavation.
- 11.13.3 The Contractor shall comply with the requirements of Sections 396 to 432 of R.R.N.W.T. 1990, c.S-1.

11.14 UNFORESEEN HAZARDS

- 11.14.1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, and follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Territory having jurisdiction. Advise City Representative verbally and in writing.

11.15 CORRECTION OF NON-COMPLIANCE

- 11.15.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by City Representative.
- 11.15.2 Provide City Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- 11.15.3 City Representative may stop Work if non-compliance of health and safety regulations is not corrected. Delays due to a stop-work caused by non-compliance of health and safety regulations will not be considered sufficient reason for an extension of Contract Time and/or Price, and no claim for extension by reason of such default will be allowed.

11.16 CITY OF IQUALUIT CONTRACTOR SAFETY, HEALTH & ENVIRONMENTAL MINIMUM PERFORMANCE STANDARD (MPS)

- 11.16.1 The City of Iqaluit's Contractor Safety, Health and Environmental Minimum Performance Standard (MPS) and associated submittal requirements is provided by the City of Iqaluit and attached as a separate document.

END OF SECTION



CONSTRUCTION SERVICES
PART VI – GENERAL REQUIREMENTS



12. QUALITY CONTROL

12.1 CONTRACTOR'S RESPONSIBILITY

- 12.1.1 The Contractor is to implement their own field quality control system that will include, but is not limited to, the following activities:
- .1 Shop drawings, technical submittals, product data and sample reviews.
 - .2 Compaction of backfill and granular base courses.
 - .3 Concrete testing, aggregate testing and cement testing for both cast-in-place concrete, and precast concrete items.
 - .4 Concrete mix design.
 - .5 Welding of structural steel and pipe joints.
 - .6 Pressure testing of pipes.
 - .7 Torque of high-strength bolts.
 - .8 Load tests of structural items.
 - .9 Subgrade examination for load bearing capability if required.
 - .10 Instrumentation calibration and testing.
 - .11 Performance testing of equipment.
- 12.1.2 The Contractor is responsible to coordinate and execute the necessary quality control systems, as per the instructions stipulated in the contract documents, in order to validate that the work meets the requirements of the contract documents.
- 12.1.3 The Contractor is responsible for providing results obtained from the inspection of testing of works as per the relevant field quality control systems, in order to validate compliance with the instructions provided in the contract documents.
- 12.1.4 Failure to submit relevant inspection and testing results to validate work conformance to the contract documents may render the work non-conforming and may require the Contractor to reperform the work. Delays and additional costs due to rework and re-performance of tests will not be considered sufficient reason for an extension of Contract Time and/or Price, and no claim for extension by reason of such default will be allowed.

12.2 SUBMITTALS

- 12.2.1 Make submittals in accordance with Section 10 – Submittal Procedures.
- 12.2.2 The Contractor shall submit a Quality Assurance & Quality Control Plan within ten (10) business days after the Award of the Contract.
- 12.2.3 A Quality Assurance & Quality Control Plan must be in place prior to the start of construction activities in order to ensure that necessary quality control systems are in place for the works. The Quality Assurance & Quality Control Plan must be reviewed by all Contractor workers in the field.
- 12.2.4 The Quality Assurance & Quality Control Plan Inspection must include the following sections at a minimum:
- .1 Introduction and project description.
 - .2 Contractor key personnel

- .3 Roles and responsibilities of Contractor, City Representative, and Owner.
- .4 Submittals (shop drawings, technical submittals, product data, etc.).
 - a. Submittal schedule.
 - b. Process, review and acceptance.
- .5 Quality control systems.
- .6 Inspection and verification requirements.
- .7 Acceptance criteria.
- .8 Sample inspection and test forms.
- .9 Construction deficiencies.
- .10 Documentation process.

12.2.5 The Contractor shall include relevant inspection and testing milestones within the Construction Progress Schedule. Relevant milestones must also be captured in the Contractor's Three-Week Look-Ahead Schedule.

12.3 INSPECTION

- 12.3.1 Allow City Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- 12.3.2 Give timely notice requesting inspection if Work is designated for special test, inspections or approvals by City Representative instructions, or law of Place of Work.
- 12.3.3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- 12.3.4 City Representative may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Owner shall pay cost of examination and replacement.

12.4 INDEPENDENT INSPECTION AGENCIES

- 12.4.1 Unless indicated otherwise, independent Inspection/ Testing Agencies may be engaged by City Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Owner.
- 12.4.2 Employment of inspection/ testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- 12.4.3 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by City Representative at no cost to Owner. Pay costs for retesting and reinspection.

12.5 ACCESS TO WORK

- 12.5.1 Allow inspection/ testing agencies access to Work, off site manufacturing and fabrication plants.

- 12.5.2 Cooperate to provide reasonable facilities for such access.

12.6 PROCEDURES

- 12.6.1 Notify appropriate agency and City Representative in advance of requirement for tests, in order that attendance arrangements can be made.
- 12.6.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.
- 12.6.3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

12.7 REJECTED WORK

- 12.7.1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by City Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- 12.7.2 Make good other Contractor's work damaged by such removals or replacements promptly.
- 12.7.3 If in opinion of the City Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner may deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which shall be determined by City Representative.

12.8 REPORTS

- 12.8.1 Submit inspection and test reports to City Representative.
- 12.8.2 Provide copies to Subcontractor of work being inspected or tested.

12.9 SPECIAL INSTRUCTIONS

- 12.9.1 Compaction Testing:
- .1 Complete compaction tests as per the requirement of the Contract Documents, when performing trenching, bedding and backfilling work.
 - .2 All material testing (backfill densities and concrete testing) shall be performed by an accredited agency and certified by a Professional Engineer using equipment approved by the City. All test results shall be submitted to the City Representative with a report indicating any deficiencies and remediation.
- 12.9.2 Pressure Tests:
- .1 Complete pressure tests for new pipeline installations to verify installation meets required design and operating scenarios.
 - .2 Visual inspections of all lines are required prior to Substantial Certificate of Completion. Any deflections, sags obstructions and other defects affecting the performance of the line shall be corrected and the line re-inspected prior to Substantial Certificate of Completion.

END OF SECTION

13. TEMPORARY UTILITIES

13.1 INSTALLATION AND REMOVAL

- 13.1.1 Provide temporary utilities controls in order to execute work expeditiously.
- 13.1.2 Remove from site all such work after use.

13.2 DEWATERING

- 13.2.1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

13.3 WATER SUPPLY

- 13.3.1 Provide continuous supply of potable water for construction use.
- 13.3.2 Arrange for supply and appropriate utility company and pay all costs for installation, maintenance and removal.
- 13.3.3 Pay for utility charges at prevailing rates.

13.4 TEMPORARY HEATING AND VENTILATION

- 13.4.1 Provide temporary heating required during construction period, including attendance, maintenance and fuel.
- 13.4.2 Construction heaters used inside building must be vented to outside or be non-flameless type. Solid fuel salamanders are not permitted.
- 13.4.3 Provide temporary heat and ventilation in enclosed areas as required to:
 - .1 Facilitate progress of Work.
 - .2 Protect Work and products against dampness and cold.
 - .3 Prevent moisture condensation on surfaces.
 - .4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.
- 13.4.4 Provide adequate ventilation to meet health regulations for safe working environment.
- 13.4.5 Ventilating:
 - .1 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
 - .2 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
 - .3 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
 - .4 Ventilate storage spaces containing hazardous or volatile materials.
 - .5 Ventilate temporary sanitary facilities.
 - .6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- 13.4.6 Permanent heating system of building may be used when available. Be responsible for damage to heating system if use is permitted.

- 13.4.7 On completion of Work for which permanent heating system is used, replace filters, seals, etc. to ensure system is 'like-new' at substantial completion.
- 13.4.8 Pay costs for maintaining temporary heat, when using permanent heating system.
- 13.4.9 Maintain strict supervision of operation of temporary heating and ventilating equipment and be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

13.5 TEMPORARY POWER AND LIGHT

- 13.5.1 Pay for temporary power during construction for temporary lighting and operating of power tools.
- 13.5.2 Arrange for connection with appropriate utility company. Pay all costs for installation, maintenance and removal.
- 13.5.3 Temporary power for electric cranes and other equipment requiring in excess of above is responsibility of Contractor.
- 13.5.4 Provide and maintain temporary lighting throughout project. Ensure level of illumination on all floors and stairs is not less than 162 lx.
- 13.5.5 Connect to power supply in accordance with Canadian Electrical Code and provide meters and switching.
- 13.5.6 Electrical power and lighting systems installed under this Contract may be used for construction requirements only with prior approval of City Representative provided that guarantees are not affected. Make good damage to electrical system caused by use under this Contract. Replace lamps which have been used for more than 3 months.

13.6 TEMPORARY COMMUNICATION FACILITIES

- 13.6.1 Provide and pay for cell phone usage for own use. Provide and pay for connection to Internet for own use.

13.7 FIRE PROTECTION

- 13.7.1 Provide and maintain temporary fire protection equipment during performance of Work required by governing codes, regulations and bylaws.
- 13.7.2 Burning rubbish and construction waste materials is not permitted on site.

END OF SECTION

14. PRESERVATION AND PROTECTION

14.1 DESCRIPTION

- 14.1.1 This Section specifies requirements for preservation and protection of existing and new utilities, services, buildings and structures.

14.2 GENERAL

- 14.2.1 Comply with all requirements and regulations of the City of Iqaluit and Utility Companies, especially those pertaining to protective work, inspection and safety.

14.3 MAINTENANCE AND PROTECTION OF EXISTING UTILITIES, SERVICE, STRUCTURES AND PROPERTIES

- 14.3.1 The Contractor will be held fully responsible by the Owner for any damage to utilities, services, properties, buildings, or structures adjacent to or in the general area of the work, through settlement of ground, vibration or shock resulting from any cause relating to the work carried out under this Contract. Make good and repair all such damage at own expense.
- 14.3.2 The Contractor shall supply and install the shoring, bracing and support system at his own judgment and at his own cost to protect the existing utilities, services, buildings and structures from damage for the duration of the construction. The cost for this item shall be included in the tender price and the contractor shall not make any claim against the Owner for extra work on this item.
- 14.3.3 Confirm all underground services to locate, stake and clearly mark in the field all services which are located on or near the line of the proposed work.
- 14.3.4 Sustain in their places and protect from direct or indirect injury, all water and gas mains, sewers and drains, conduits, cables, service pipes, poles, sidewalks, curbs, embankments, structures, equipment and other property in the vicinity of the work.
- 14.3.5 Sustain and support structures that are uncovered, weakened, endangered or threatened.
- 14.3.6 Notify the City Representative immediately (and follow up in writing) if and when any damage to such facilities occur during the planned execution of work. Provide all necessary written documentation such as incident reports, accident reports, investigative reports and preventative measures to be implemented within 48 hours of any incident taking place, in a format that clearly identifies details such as the report author, his/her role in the project, the company the author represents, date, signature, etc., all on Company letterhead.
- 14.3.7 Repair immediately all items that are damaged during construction, at no cost to the Owner.
- 14.3.8 Immediately report all damages occurred on the plant's property, existing services and structure during construction to the City Representative.
- 14.3.9 Prevent dust and dirt from entering existing buildings or areas where equipment is stored or is operating.
- 14.3.10 Prevent dust, water or other deleterious substances from entering areas with existing electrical, heating, ventilating, pumping and other equipment. The Contractor will be held responsible for any damage caused by work carried out under this Contract.

- 14.3.11 Where existing wall sections are removed or where pipes are installed through existing walls or where any dust-generating operation is necessary, provide a suitable temporary wall or enclosure suitably reinforced and sealed to prevent dust or water entering the area. When work is completed, remove temporary dust control device and thoroughly clean all areas affected by the work.
- 14.3.12 Control groundwater level to prevent damage to any pipe or structure due to water pressure during and after construction and until the completed works are accepted.
- 14.3.13 Control vibration levels to prevent damage to concrete work during construction, existing structures, equipment, and utilities. Control use of vibration producing construction techniques or equipment.

14.4 PROTECTION, SOUNDNESS AND REPAIR OF NEW CONSTRUCTION

- 14.4.1 Protect all newly constructed work from damage. Prevent heavy loading of newly constructed work and repair all damage. Construct all works watertight and correct all imperfect work.
- 14.4.2 If, in the final inspection, any deficiencies are found, repair or replace the defective work. Be responsible for satisfactory maintenance and repair of all work undertaken for the specified guaranteed maintenance period. Protect and store all equipment supplied under this Contract.

14.5 PROTECTION AGAINST FREEZING

- 14.5.1 Furnish all necessary temporary hoarding, heating equipment and fuel for heated workspaces where required, in order to ensure installation of equipment and materials are performed per the specifications and guidelines of manufacturer.

14.6 SURVEY MONUMENTS

- 14.6.1 Maintain survey monuments, iron bars, round iron pipes and stakes for marking property boundaries and locations.
- 14.6.2 Where monuments, pipes or stakes are located on the line of the trench or within the limits of the work, the Contractor shall report to the City Representative.
- 14.6.3 Do not remove survey monuments without receiving prior approval. Pay for or replace monuments which were removed without approval.

END OF SECTION

15. MATERIALS AND EQUIPMENT

15.1 GENERAL

- 15.1.1 Provide all materials and equipment new. Reconditioned equipment is not acceptable.
- 15.1.2 Co-operate with other trades prior to installation of work under the contract. Should the Contractor fail to do so, such works, if required, shall be removed, relocated and/or modified as directed by the City Representative, without additional cost to the Owner.
- 15.1.3 Should the Contractor fail to correspond with requests, or should they misdirect other trades, such corrections and/or additional work, as directed by the City Representative, shall be at the Contractor's expense.
- 15.1.4 Work shall be performed in accordance with the Safety Act and Regulations.

15.2 SUBMITTALS

- 15.2.1 Make submittals in accordance with Section 10 – Submittal Procedures.
- 15.2.2 Submit shop drawings and product data sheets, as described in the Contract Documents, for all civil, structural, architectural, building mechanical, process mechanical, electrical, instrumentation and communication installations.

15.3 EQUIPMENT DELIVERY AND INSPECTION

- 15.3.1 Deliver products in accordance with accepted current progress schedule and coordinate to avoid conflict with the Work and conditions at site. Coordinate the delivery of materials and equipment in advance of the work in order to ensure there are no impacts to downstream installation activities.
- 15.3.2 Deliver products in undamaged condition, in manufacturer's original container or packaging, with identifying labels intact and legible. Include on label, date of manufacture and shelf life, where applicable.
- 15.3.3 Unload products in accordance with manufacturer's instructions for unloading or as specified. Record receipt of products delivered to the site. Inspect for completeness and evidence of damage during shipment.
- 15.3.4 Remove damaged products from site and expedite delivery of identical new undamaged products, and remedy incomplete or lost products to provide that specified, so as not to delay progress of the Work.
- 15.3.5 Allow for the City Representative to inspect materials delivered to site as requested by the City.

15.4 HANDLING, STORAGE, AND PROTECTION

- 15.4.1 Handle and store products in accordance with manufacturer's written instructions and in a manner to prevent damage. Provide manufacturer's recommended maintenance during storage, installation, and until products are accepted for use by Owner.
- 15.4.2 Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to ensure that products are maintained under specified conditions, and free from damage or deterioration. Keep running account of products in storage to facilitate inspection and to estimate progress payments for products delivered, but not installed in the Work.
- 15.4.3 Store electrical, instrumentation, and control products, and equipment with bearings in weather-tight structures as per manufacturer's instructions. Protect electrical,



CONSTRUCTION SERVICES
PART VI – GENERAL REQUIREMENTS



instrumentation, and control products, and insulation against moisture, water, and dust damage. Connect and operate continuously all space heaters furnished in electrical equipment.

- 15.4.4 Store fabricated products above ground on blocking or skids and prevent soiling or staining. Store loose granular materials in well-drained area on solid surface to prevent mixing with foreign matter. Cover products that are subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.
- 15.4.5 Store finished products that are ready for installation in dry and well-ventilated areas. Do not subject to extreme changes in temperature or humidity.
- 15.4.6 Hazardous Materials: Prevent contamination of personnel, storage building, and site. Meet requirements of product specification, codes, and manufacturer's instructions.

END OF SECTION

16. CONSTRUCTION FACILITIES

16.1 MOBILIZATION

16.1.1 Mobilization shall include, but not be limited to, the following items:

- .1 Obtaining required permits.
- .2 Filing necessary notices with WSCC.
- .3 Moving in the Contractor's field offices and equipment required within the first month after issuance of the Commence Work Order.
- .4 Providing temporary construction fencing to prevent unauthorized access to the work area before starting construction on site.
- .5 Providing temporary construction roads and signage if required.
- .6 Providing temporary construction power, wiring, and lighting facilities.
- .7 Providing onsite communication facilities, including telephones and internet services.
- .8 Providing onsite sanitary facilities and potable water facilities as specified and as required by Laws and Regulations, and governing agencies.
- .9 Arranging for and erection of Contractor's work and storage yard including temporary fencing.
- .10 Posting required notices and establishing safety programs and procedures.
- .11 Coordinate safety programs and procedures with the Owner.
- .12 Having Contractor's superintendent at site full time.
- .13 Removing debris and trash, etc. as needed for Contractor to gain access to do the Work.

16.1.2 Use area designated for Contractor's temporary facilities as shown in the Contract Documents.

16.2 INSTALLATION AND REMOVAL

16.2.1 Provide construction facilities in order to execute work expeditiously.

16.2.2 Remove from site all such work after use.

16.3 SCAFFOLDING

16.3.1 Provide and maintain scaffolding, ramps, ladders, platforms and temporary stairs.

16.4 HOISTING

16.4.1 Provide, operate and maintain hoists cranes required for moving of materials and equipment. Make financial arrangements with Subcontractors for use thereof.

16.4.2 Hoists cranes shall be operated by qualified operator.

16.5 STAGING AREA

16.5.1 The staging area (the Contractor's laydown area) as shown within the contractor documents.

16.6 SITE STORAGE/ LOADING

- 16.6.1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- 16.6.2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.
- 16.6.3 Ensure that any aerosol or gas products are stored according to manufacturer's written instructions in a securely locked facility.

16.7 CONSTRUCTION PARKING

- 16.7.1 Parking will be permitted on site provided it does not disrupt performance of Work or interfere with access, egress and parking for neighboring sites, or local traffic.
- 16.7.2 Provide and maintain adequate access to project site.
- 16.7.3 Build and maintain temporary roads where indicated or required and provide snow removal during period of Work.

16.8 SECURITY

- 16.8.1 Provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays.

16.9 OFFICES

- 16.9.1 Provide office heated to 22°C, lighted 750 lx and ventilated, of sufficient size to accommodate site office, eating area for workers, and furnished with drawings laydown table. Furnish site trailer as required.
- 16.9.2 Provide a clearly marked and fully stocked first-aid case in a readily available location.
- 16.9.3 Subcontractors may provide their own offices as necessary. Direct location of these offices to be approved by the City Representative.

16.10 EQUIPMENT, TOOL AND MATERIALS STORAGE

- 16.10.1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- 16.10.2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.
- 16.10.3 Stored materials and debris on site must be secured and contained within the construction site, so not to disturb the general public.

16.11 SANITARY FACILITIES

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

16.12 CONSTRUCTION SIGNAGE

- 16.12.1 Provide and erect, within 5 working days prior to construction mobilization, a project sign in a location designated by the City Representative.
- 16.12.2 Provide a construction sign 1220 x 2440mm, of plywood construction painted with exhibit lettering produced by a professional sign painter. Details of sign message to be

provided to City Representative for review/ approval prior to fabrication. Wording shall in in Inuktitut, English and French official languages.

- 16.12.3 Provide site sign temporary mounting comprising foundation, framing, and supports.
- 16.12.4 Direct requests for approval to erect a Contractor signboard to City Representative. For consideration general appearance of Contractor signboard must conform to project identification site sign. Wording shall in in Inuktitut, English and French official languages.
- 16.12.5 Signs and notices for safety and instruction shall be in all Nunavut official languages graphic symbols.
- 16.12.6 Maintain approved signs and notices in good condition for duration of project, and dispose of off-site on completion of project, or earlier if directed by City Representative.

16.13 CLEAN-UP

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

END OF SECTION

17. TEMPORARY BARRIERS AND ENCLOSURES

17.1 INSTALLATION AND REMOVAL

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

17.2 GUARD RAILS AND BARRICADES

- 17.2.1 Provide secure, rigid guard rails and barricades around deep excavations, open shafts, open stair wells, open edges of floors and roofs.
- 17.2.2 Provide concrete jersey barriers for use as barricades around deep excavation sites, and as a means to separate vehicular traffic, or in any other circumstances at the City's request.
- 17.2.3 Provide as required by governing authorities.

17.3 WEATHER ENCLOSURES

- 17.3.1 Provide weather tight enclosures to unfinished door and window openings, tops of shafts and other openings in floors, walls, and roofs.
- 17.3.2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.
- 17.3.3 Design enclosures to withstand wind pressure and snow loading.

17.4 DUST TIGHT SCREENS

- 17.4.1 Provide dust tight screens or insulated partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
- 17.4.2 Maintain and relocate protection until such work is complete.

17.5 ACCESS TO SITE

- 17.5.1 Provide and maintain access roads, crossings, ramps and construction access routes as may be required for access to Work.
- 17.5.2 Provide temporary fencing around perimeter of Work site, in order to delineate construction site from the public.

17.6 PUBLIC TRAFFIC FLOW

- 17.6.1 Provide and maintain competent signal flag operators, barricades and lights as required to perform Work and protect the public.
- 17.6.2 Refer to Section 5 – Special Project Procedures (Traffic Control).

17.7 FIRE ROUTES

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

17.8 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

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

17.9 PROTECTION OF BUILDING FINISHES

- 17.9.1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
- 17.9.2 Provide necessary screens, covers, and hoardings.
- 17.9.3 Be responsible for damage incurred due to lack of or improper protection.

END OF SECTION

18. CLOSEOUT PROCEDURES

18.1 SECTION INCLUDES

- 18.1.1 Administrative procedures preceding preliminary and final inspections of Work.

18.2 INSPECTION AND DECLARATION

- 18.2.1 Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents:

- .1 Notify City Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
- .2 Request City Representative's Inspection.

- 18.2.2 City Representative's Inspection: City Representative and Contractor will perform inspection of work to identify obvious defects or deficiencies. Contractor shall correct Work accordingly.

- 18.2.3 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.
- .3 Equipment and systems have been tested, adjusted and are fully operational.
- .4 Certificates required by other Regulatory Agencies have been submitted.
- .5 Operation of systems have been demonstrated to Owner's personnel.
- .6 Work is complete and ready for final inspection.

- 18.2.4 Final Inspection: when items noted above are completed, request final inspection of Work by Owner, City Representative, and Contractor. If Work is deemed incomplete, complete outstanding items and request reinspection.

- 18.2.5 Declaration of Substantial Performance: when Owner and City Representative consider deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance. No later than 21 calendar days after receipt of application, City Representative will review Work to verify validity of application, and no later than 7 calendar days after completing review, will notify Contractor if Work or designated portion of Work is substantially performed.

- 18.2.6 Commencement of Lien and Warranty Periods: date of Owner'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.

- 18.2.7 Final Payment: when Owner and City Representative consider 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 Owner and City Representative, complete outstanding items and request reinspection. City Representative will, no later than 21 calendar days after receipt of an application for final payment, review Work to verify validity of application. City Representative will give



CONSTRUCTION SERVICES
PART VI – GENERAL REQUIREMENTS



notification that application is valid or give reasons why it is not valid, no later than 7 calendar days after reviewing Work

- 18.2.8 Payment of Holdback: after issuance of certificate of Substantial Performance of Work, submit an application for payment of holdback amount in accordance with terms of payment.

END OF SECTION

19. CLOSEOUT SUBMITTALS

19.1 SECTION INCLUDES

- 19.1.1 As-built, samples, and terms of reference.
- 19.1.2 Equipment and systems.
- 19.1.3 Product data, materials and finishes, and related information.
- 19.1.4 Operations and maintenance data.
- 19.1.5 Spare parts, special tools and maintenance materials.
- 19.1.6 Warranties and bonds.
- 19.1.7 Final site survey.

19.2 SUBMISSION

- 19.2.1 Make submittals in accordance with Section 10 – Submittal Procedures.
- 19.2.2 Prepare inspections and data using personnel experience in maintenance and operation of described products.
- 19.2.3 Copy will be returned after final inspection, with City Representative's comments.
- 19.2.4 Revise content of documents as required prior to final submittal.
- 19.2.5 Provide evidence as to type, source and quality of products provided as part of the Work.
- 19.2.6 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- 19.2.7 Pay costs of transportation.

19.3 AS-BUILTS AND SAMPLES

- 19.3.1 In addition to requirements in General Conditions, maintain at the site on record copy of:
 - .1 Contract Drawings.
 - .2 Terms of Reference.
 - .3 Addenda.
 - .4 Change Orders and other modifications to Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test reports.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates.
- 19.3.2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.
- 19.3.3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.
- 19.3.4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.

- 19.3.5 Keep record documents and samples available for inspection by City Representative.

19.4 RECORDING ACTUAL SITE CONDITIONS

- 19.4.1 Record information on set of blue line opaque drawings.
- 19.4.2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- 19.4.3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- 19.4.4 Contract Drawings and shop drawings: legibly mark each item to record actual construction.

19.5 EQUIPMENT AND SYSTEMS

- 19.5.1 Each Item of Equipment and Each System: include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
- 19.5.2 Panel board circuit directories: provide electrical service characteristics, controls, and communications.
- 19.5.3 Include installed colour coded wiring diagrams.
- 19.5.4 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- 19.5.5 Maintenance Requirements: include routine procedures and guide for troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- 19.5.6 Providing servicing and lubrication schedule, and list of lubricants required.
- 19.5.7 Include manufacturer's printed operation and maintenance instructions.
- 19.5.8 Include sequence of operation by controls manufacturer.
- 19.5.9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- 19.5.10 Provide installed control diagrams by controls manufacturer.
- 19.5.11 Provide Contractor's coordination drawings, with installed colour coded piping drawings.
- 19.5.12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagram.
- 19.5.13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- 19.5.14 Include test and balancing reports as specified in Section 10 – Quality Control.
- 19.5.15 Additional requirements: as specified in individual terms of reference sections.

19.6 MATERIALS AND FINISHES

- 19.6.1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for re-ordering products.
- 19.6.2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- 19.6.3 Moisture-protection and Weather-exposed products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- 19.6.4 Additional Requirements: as specified in individual terms of reference sections.

19.7 SPARE PARTS

- 19.7.1 Provide spare parts, in quantities specified in individual terms of reference sections.
- 19.7.2 Provide items of same manufacturer and quality as items in Work.
- 19.7.3 Deliver to site; place and store in location designated by City Representative.
- 19.7.4 Receive and catalogue all items. Submit inventory listing to City Representative. Include approved listings in Maintenance Manual.
- 19.7.5 Obtain receipt for delivered products and submit prior to final payment.

19.8 MAINTENANCE MATERIALS

- 19.8.1 Provide maintenance and extra materials, in quantities specified in individual terms of reference sections.
- 19.8.2 Provide items of same manufacturer and quality as items in Work.
- 19.8.3 Deliver to site; place and store in location designated by City Representative.
- 19.8.4 Receive and catalogue all items. Submit inventory listing to City Representative. Include approved listings in Maintenance Manual.
- 19.8.5 Obtain receipt for delivered products and submit prior to final payment.

19.9 STORAGE, HANDLING AND PROTECTION

- 19.9.1 Store spare parts, maintenance materials, and special tools in manger to prevent damage or deterioration.
- 19.9.2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- 19.9.3 Store components subject to damage from weather in weatherproof enclosures.
- 19.9.4 Store paints and freezable materials in a heated and ventilated room.
- 19.9.5 Remove and replace damaged products at own expense and to satisfaction of City Representative.

19.10 PRE-WARRANTY CONFERENCE

- 19.10.1 Meet with City Representative, to develop understanding of requirements of this section. Schedule meeting prior to contract completion, and at time designated by City Representative.
- 19.10.2 City Representative will establish communication procedures for:

- .1 Notification of construction warranty defects.
 - .2 Determine priorities for type of defect.
 - .3 Determine reasonable time for response.
- 19.10.3 Provide name, telephone number and address of licensed and bonded company that is authorized to initiate and pursue construction warranty work action.
- 19.10.4 Ensure contact is located within local service area and warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

19.11 WARRANTIES AND BONDS

- 19.11.1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
- 19.11.2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- 19.11.3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten (10) working days after completion of the applicable item of work.
- 19.11.4 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.
- 19.11.5 Verify that documents are in proper form, contain full information, and are notarized.
- 19.11.6 Co-execute submittals when required.
- 19.11.7 Retain warranties and bonds until time specified for submittal.

END OF SECTION

GEOTECHNICAL INVESTIGATION

WEST 40 SUBDIVISION DEVELOPMENT

IQALUIT, NU

DRAFT REPORT

PREPARED FOR:

Stantec Consulting Limited
1331 Clyde Avenue, Suite 400
Ottawa, ON K2C 3G4

PREPARED BY:

Adaptive Baseline Geotechnical Limited
17 Industrial Way
Elmsdale, NS B2S 2L6
(867) 222-0184

PROJECT NUMBER:

IQA-G2322

SUBMITTED:

January 21, 2024





Table of Contents

	Page
1.0 Introduction	1
2.0 Project Background and Understanding	1
3.0 Scope of Services	1
4.0 Available Information	2
5.0 Field Program Methodology	2
6.0 Historical Climate and Permafrost Conditions.....	3
7.0 Site and Subsurface Conditions	3
7.1 Site Soils	5
7.2 Bedrock	6
7.3 Groundwater.....	6
7.4 Porewater Salinity	6
7.5 Soil Bearing	6
8.0 Climate Change in Foundation Design	7
9.0 Discussion and Recommendations	8
9.1 New Roadway Embankment, Site Grading and Drainage	8
10.0 Site Classification for Seismic Site Response.....	11
11.0 Requirement for Qualified Geotechnical Monitoring.....	11
12.0 Closure.....	12



List of Attachments

Photographs

Figures

Test Pit Logs

Dynamic Cone Penetration Test Results

Laboratory Test Results

Statement of General Conditions



1.0 Introduction

Adaptive Baseline Geotechnical Limited (ABG) has carried out the following geotechnical investigation for the West 40 Subdivision Development in Iqaluit, NU. The geotechnical investigation presented herein has been carried out in general accordance with the most recent editions of the National Standard of Canada CAN/BNQ 2501-500/2017 *Geotechnical Site Investigations for Building Foundations in Permafrost* and Canada Standards Association (CSA) PLUS 4011:19 *TECHNICAL GUIDE Infrastructure in permafrost: A guide for climate change adaptation*. ABG's geotechnical personnel conducted a site-specific geotechnical test pit excavation program as part of this investigation. All third-party information reviewed by ABG has been taken at face value.

It is noted that available information throughout a community, as well as the design standards associated with climate change and foundation design in the north are constantly evolving and changing. For this reason, the findings and recommendations presented herein should only be considered relevant and applicable for a maximum of two years. After two years, ABG should be provided an opportunity to review and update this report prior to the findings or recommendations being used in support of design or construction at the site.

2.0 Project Background and Understanding

It is currently understood that a new subdivision will be developed at the site. The site location is shown on Figure 1. The purpose of the geotechnical investigation presented herein is to assess the surface/subsurface conditions at the site and provide geotechnical recommendations to support the design and construction of the new subdivision roadway and general site grading.

3.0 Scope of Services

Based on our current understanding of the project requirements, the following scope of services was completed for this portion of the project:

- **Compilation and Review of Available Information:** ABG compiled and reviewed available information related to climate, site topography, surface drainage features and subsurface conditions.
- **Geotechnical Field Program:** A field engineer from ABG visited the site and conducted Phase 1 of our geotechnical field program, which included using an excavator to evaluate the shallow subsurface soils and water accumulation (test pits) and Dynamic Cone Penetrometer (DCP) testing along the understood proposed roadway alignment.
- **Laboratory Testing:** ABG conducted a laboratory testing program sufficient to classify the soils encountered, verify in-situ moisture/ice contents, gradations and porewater salinity.
- **Geotechnical Reporting:** ABG prepared this draft geotechnical report summarizing the observations and findings from Phase 1 with recommendations to support the design and construction of the new roadway and general site grading required.



4.0 Available Information

ABG has reviewed the following available information as part of this geotechnical investigation:

1. (CGD, 2020a). Geotechnical Investigation, Kenn Borek Air Building Relocation, Iqaluit, NU;
2. (CGD, 2020b). Geotechnical Investigation, Canadian North Facility, Iqaluit, NU;
3. (CGD, 2019). Piling Installation Summary Report, Lot 76, Plan 3677, Iqaluit, NU;
4. (exp, 2016). Geotechnical Investigation, Correctional Center, Iqaluit, NU;
5. (exp, 2014). Geotechnical Investigation, Inuit Owned Lands, Iqaluit, NU;
6. (exp, 2012). Geotechnical Investigation, Proposed BCC Men's Rapid Development Temporary Housing Structure, Site #2, Ungaliqpaat Crescent, Iqaluit, NU;
7. Available satellite imagery, Google Earth (2003 to 2023);
8. Available LIDAR survey data for the community;
9. Environment Canada website, historical weather data for the community of Iqaluit, NU; and
10. Studies and literature related to the distribution of saline permafrost and ground temperature data throughout Nunavut (i.e. Canadian Geotechnical Journals).

5.0 Field Program Methodology

Phase 1 of the geotechnical field program was carried out in two stages; the DCP tests were carried out on October 7, 2023 and the test pits were excavated on November 2 and 3, 2023. A total of thirty-five test pits were excavated throughout the area of interest and DCP testing was completed at ??? locations along the proposed alignment. The test pit locations are shown on Figure 2 and the DCP test locations are shown on Figure 3.

Test pits were excavated to practical refusal at depths ranging from 0.2 to 1.4 meter below grade (mbg) using a local excavator. The field program was supervised on a full-time basis by one of ABG's field engineers experienced with northern excavation and permafrost soils. Soil samples were collected at regular intervals from test pit side walls and visually examined and logged in accordance with ASTM D2487 (Standard Practice for Classification of Soils for Engineering Purposes, Unified Soil Classification System), ASTM D 2488 (Standard Practice for Description and Identification of Soils, Visual-Manual Procedure) and ASTM D 4083-8 (Standard Practice for Description of Frozen Soils, Visual-Manual Procedure).

Collected soil samples were stored in moisture tight containers and transported to a southern laboratory for further classification and testing. Prior to sample shipment, the initial weights were obtained for all samples to ensure that the moisture contents obtained were representative. Laboratory testing included the determination of natural moisture contents, salinity and grain-size analyses on select samples.

Test pit and DCP testing locations were determined in the field using a commercial grade handheld GPS unit (reported accuracy of ± 3 m). All depths reported herein are referenced to mbg.



6.0 Historical Climate and Permafrost Conditions

Iqaluit is located at 63° 76' N and 68° 54' W on the southeastern coast of Baffin Island, in the Qikiqtaaluk Region of Nunavut. Based on current permafrost mapping, the community is located within the zone of continuous permafrost.

Mean Annual Air Temperature (MAAT) and Indices: A review of Environment Canada climate records for the community revealed a relatively complete set of historical monthly air temperatures spanning the period from 1994 to 2023. The data indicates the MAAT over this time-period was -8.1°C and the average thawing and freezing indices were approximately 693°C-days and 3643°C-days respectively.

Active Layer Thickness: Based on the above-noted historical air temperature data, simplified empirical methods and active layer thickness measurements, it is estimated that the active layer currently varies between approximately 1.5 and 2.3 m, depending on site-specific variables (such as surficial cover, site drainage, sun exposure and in-situ moisture content). Based on our current site-specific information (test pit refusal depths), we have assumed a current maximum active layer thickness of 1.5 m at the site.

Mean Annual Ground Temperature (MAGT): Based on nearby thermistor data and a review of available ground temperature data for the community, we have assumed a MAGT of -4.5°C at the site.

7.0 Site and Subsurface Conditions

The West 40 subdivision site is located near the southwest edge of the current community footprint. Available survey data indicates that the site is relatively flat and low lying, having elevations between approximately 18 and 21 meter above sea level (masl) through most of the site. There is a steeply sloping bedrock ridge adjacent the west to southwest side of the site, existing roadways/developments adjacent the north side of the site and existing above-grade pipeline adjacent the east side of the site. To the south is relatively undeveloped similar (low lying and wet) terrain that extends between two bedrock ridges. The site is dominated by several ponds (small to large and interconnected by drainage courses) and boggy terrain.

In general, the 35 test pits advanced at the site encountered a surficial organic layer/boggy ground underlain by sand and/or silty sand to practical refusal within our test pits. It is not known if practical refusal was met on permafrost or bedrock. The principal strata encountered at the site are outlined in the following table and subsections. Further details are provided within the attached test pit logs.

TABLE 1 - Test Pit Summary

Location	Total Depth to Refusal (mbg)	Soil Stratigraphy Thickness (m)		
		ROOTMAT/TOPSOIL	GRAVEL with sand to SAND with silt	Silty SAND
TP01	1.3	0.0 – 0.2	0.2 – 1.4	–
TP02	1.4	–	0.0 – 1.4	–
TP03	0.9	0.0 – 0.1	0.1 – 0.9	–
TP04	0.7	0.0 – 0.1	0.1 – 0.7	–
TP05	1.3	–	0.0 – 1.3	–



TABLE 1 - Test Pit Summary

Location	Total Depth to Refusal (mbg)	Soil Stratigraphy Thickness (m)		
		ROOTMAT/TOPSOIL	GRAVEL with sand to SAND with silt	Silty SAND
TP06	0.9	–	0.0 – 0.9	–
TP07	0.6	0.0 – 0.1	–	0.1 – 0.6
TP08	0.6	0.0 – 0.1	0.1 – 0.6	–
TP09	0.6	0.0 – 0.1	0.1 – 0.6	–
TP10	1.0	0.0 – 0.1	0.1 – 1.0	–
TP11	0.6	0.0 – 0.1	–	0.1 – 0.6
TP12	0.5	0.0 – 0.1	0.1 – 0.5	–
TP13	0.4	0.0 – 0.2	0.2 – 0.4	–
TP14	0.7	0.0 – 0.1	0.1 – 0.7	–
TP15	0.5	0.0 – 0.2	0.2 – 0.5	–
TP16	1.0	–	0.0 – 1.0	–
TP17	1.2	0.0 – 0.4	0.4 – 1.2	–
TP18	1.4	0.0 – 0.1	0.1 – 0.5	0.5 – 1.4
TP19	0.7	0.0 – 0.2	0.2 – 0.7	–
TP20	0.7	0.0 – 0.2	0.2 – 0.7	–
TP21	0.5	0.0 – 0.3	0.3 – 0.5	–
TP22	1.3	–	0.0 – 1.3	–
TP23	0.3	0.0 – 0.3	–	0.3 – 0.5
TP24	0.5	0.0 – 0.3	–	0.3 – 0.5
TP25	1.1	–	0.0 – 1.0	–
TP26	0.7	0.0 – 0.2	–	0.2 – 0.7
TP27	0.7	0.0 – 0.2	0.2 – 0.7	–
TP28	0.4	0.0 – 0.2	–	0.2 – 0.4
TP29	0.8	0.0 – 0.2	–	0.2 – 0.8
TP30	1.0	0.0 – 0.3	–	0.3 – 1.0
TP31	0.9	0.0 – 0.3	–	0.3 – 0.9
TP32	0.7	0.0 – 0.3	0.3 – 0.7	–
TP33	0.7	0.0 – 0.3	–	0.3 – 0.7
TP34	0.8	0.0 – 0.2	0.2 – 0.8	–
TP35	1.2	–	0.0 – 1.2	–

The presented information depicts subsurface conditions only at specific locations and the identified soil boundaries are intended to reflect approximate transition zones for geotechnical design and should not be interpreted as exact planes of geological change for estimation or construction purposes. It is recommended that the subsurface conditions be further evaluated/confirmed at the time of construction by a geotechnical engineer experienced with northern construction and registered with Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (NAPEG), or their representative.



7.1 Site Soils

The soils throughout the explored areas of the site consisted primarily of surficial organics (where present) underlain by a brown sand and/or brown to grey silty sand. The moisture content for thirty-seven samples obtained throughout the site soils ranged from 4.9 to 179.7%, with an average of 24.6%. Gradation and moisture content test results for the samples tested from the soil at the site are summarized in the following table and shown in greater detail on the attached laboratory test results.

TABLE 2 - Soils Gradation and Moisture Content Summary

Location	Sample	Depth (mbg)	Soil Fraction (%)			Moisture Content (%)	Soil Description
			Gravel	Sand	Silt		
TP01	S1	0.3	3	92	5	17.6	Poorly graded SAND
TP01	S2	1.3	2	94	4	19.7	Poorly graded SAND
TP02	S1	0.1	35	64	1	4.9	Poorly graded SAND with gravel
TP02	S2	0.4	18	75	7	8.2	Well-graded SAND with silt and gravel
TP02	S3	1.3	6	89	5	14.2	Poorly graded SAND
TP04	S2	0.5	4	89	7	30.5	Poorly graded SAND with silt
TP06	S1	0.2	4	86	10	17.2	Well-graded SAND with silt
TP06	S2	0.9	1	95	4	20.4	Poorly graded SAND
TP08	S1	0.3	1	87	12	22.2	Well-graded SAND with silt
TP10	S1	0.2	7	82	11	37.3	Well-graded SAND with silt
TP10	S2	0.9	9	82	9	20.2	Well-graded SAND with silt
TP12	S1	0.5	14	76	10	7.0	Well-graded SAND with silt
TP14	S1	0.7	12	79	9	13.1	Well-graded SAND with silt
TP16	S1	0.4	10	86	4	14.5	Poorly graded SAND
TP16	S2	1.0	6	91	3	19.9	Poorly graded SAND
TP18	S1	0.3	48	47	5	8.7	Poorly graded GRAVEL with sand
TP18	S2	1.4	2	85	13	16.6	Silty SAND
TP20	S2	0.7	6	88	6	30.7	Poorly graded SAND with silt
TP22	S1	0.3	5	88	7	13.5	Well-graded SAND with silt
TP22	S2	1.3	5	91	4	17.1	Poorly graded SAND
TP24	S1	0.4	5	81	14	14.7	Silty SAND
TP26	S1	0.3	10	63	27	14.5	Silty SAND
TP26	S2	0.7	11	75	14	14.5	Silty SAND
TP28	S2	0.4	7	70	23	23.3	Silty SAND
TP30	S1	0.4	15	72	13	13.7	Silty SAND with gravel
TP30	S2	1.0	30	56	14	16.7	Silty SAND with gravel
TP32	S1	0.4	4	84	12	17.3	Well-graded SAND with silt
TP32	S2	0.7	14	75	11	17.0	Well-graded SAND with silt
TP34	S1	0.4	1	89	10	18.3	Poorly graded SAND with silt
TP34	S2	0.8	1	92	7	15.2	Poorly graded SAND with silt
TP35	S1	0.1	19	80	1	14.2	Well-graded SAND with gravel
TP35	S2	0.4	7	91	2	13.2	Poorly graded SAND



TABLE 2 - Soils Gradation and Moisture Content Summary

Location	Sample	Depth (mbg)	Soil Fraction (%)			Moisture Content (%)	Soil Description
			Gravel	Sand	Silt		
TP35	S3	1.0	6	90	4	13.3	Well-graded SAND

7.2 Bedrock

Based on available geological maps for the area, it is anticipated that bedrock throughout the community consists of gneiss and granite bedrock. Bedrock throughout Iqaluit can be highly variable and change by several meters over a short distance, with the upper 0.5 to 2.0 m or more being highly frost shattered and very severely fractured. Bedrock was not identified during the excavation of any test pits at the site but was observed along the west side of the site.

7.3 Groundwater

Groundwater seepage was observed during the excavation of TP01, TP16, TP20, TP22 and TP35. It is noted that test pitting was done after freeze back began and several ponds were observed on site. Groundwater flow through the site is anticipated to be moderate to heavy during the spring freshet and likely ponded below grade, travelling along the bottom of the active layer during thaw or top of sound bedrock. It is anticipated that any excavation work may have to contend with higher than average amounts of groundwater flow at the site during thaw. It is also anticipated that groundwater levels will fluctuate with seasonal weather trends, during precipitation events, and with significant site disturbance and construction activities.

7.4 Porewater Salinity

A total of thirty-seven samples from this investigation were tested for salinity in general accordance with ASTM D 4542-95 (Pore Water Extraction and Determination of the Soluble Salt Content of Soils by Refractometer) and standard methodologies. The salinity test results ranged from 0.0 to 2.5 parts per thousand (ppt), with an average of 0.2 ppt (negligible), which is common for active layer samples.

7.5 Soil Bearing

Dynamic cone penetration testing was done at 28 locations along the proposed roadway alignment. The results are summarized in the following table and shown in greater detail on the attached dynamic cone penetration test results.

TABLE 3 - Dynamic Cone Penetration Test Summary

Location	Material Type	Depth Range (mm)	Weighted Average CBR %	Equivalent Resilient Modulus ¹ (MPa)
1	Thick vegetation over native soil	0 – 1104	4.0	34.1
2	Thin vegetation over native soil	0 – 863	7.1	50.5
3	Thick vegetation over native soil	8 – 83	18.0	95.6
4	Thick vegetation over native soil	0 – 380	3.2	29.6

TABLE 3 - Dynamic Cone Penetration Test Summary

Location	Material Type	Depth Range (mm)	Weighted Average CBR %	Equivalent Resilient Modulus ¹ (MPa)
5	Thick vegetation over native soil	0 – 353	4.5	37.0
6	Thin vegetation over native soil	0 – 430	6.3	46.5
7	Thin vegetation over native soil	0 – 578	4.5	37.0
8	Thin vegetation over native soil	153 – 315	22.7	112.0
9	Native soil	0 – 910	8.9	59.1
10	Native soil	83 – 365	10.4	65.7
11	Thick vegetation over native soil	0 – 624	2.0	21.5
12	Thick vegetation over native soil	96 – 270	23.5	114.7
13	Thick vegetation over native soil	265 – 330	40.9	167.8
14	Thick vegetation over native soil	10 – 450	6.7	48.7
15	Thin vegetation over native soil	0 – 507	8.5	57.2
16	Thin vegetation over native soil	0 – 335	7.6	53.0
17	Thick vegetation over native soil	30 – 290	10.9	68.0
18	Thick vegetation over native soil	30 – 240	12.7	75.2
19	Thick vegetation over native soil	122 – 385	10.4	65.7
20	Thick vegetation over native soil	0 – 460	5.7	43.7
21	Thick vegetation over native soil	220 – 755	9.6	62.2
22	Thin vegetation over native soil	0 – 822	7.5	52.4
23	Thick vegetation over native soil	363 – 515	16.9	91.7
24	Thick vegetation over native soil	200 – 495	4.6	37.5
25	Thick vegetation over native soil	0 – 465	2.4	24.2
26	Thick vegetation over native soil	2 – 500	6.7	48.5
27	Thick vegetation over native soil	340 – 420	35.3	151.5
28	Thick vegetation over native soil	0 – 608	3.0	28.1

Notes: 1) Equivalent Resilient Modulus determined from Huang, 1993.

8.0 Climate Change in Foundation Design

ABG anticipates that the current maximum active layer thickness throughout the site is approximately 1.5 m and the current MAGT is approximately -4.5°C. Changes to the active layer thickness and MAGT throughout the life of the structure will depend on many variables, possibly including but not limited to actual current values, changes to MAAT, snow cover, precipitation, surface/groundwater flow, material gradation and in-situ ice content.

CSA PLUS 4011:19 provides that under a high green house gas scenario the MAAT in Iqaluit is estimated to increase by approximately 2.2°C over the next 30 years (by 2054) compared to the historic temperature trends which were available up to 2023. It is noted however, that recent research infers that greenhouse gas emissions over the next 30 years and beyond may be even higher than previously anticipated and new scenarios continue to be produced by global experts. Therefore, accurately estimating what the active layer thickness and MAGT will be 30 years from now is well beyond the scope of this assessment.



To support the current project, we have adjusted the historical temperature data to incorporate the above-noted changes to the MAAT and utilized the same simplified empirical methods from Section 6.0 to generate an estimated maximum active layer thickness 30 years from now. We have also assumed (conservatively) that the MAGT will change in step with the MAAT over this period. The process results in future estimated values for the maximum active layer thickness and MAGT of 1.8 m and -2.3°C respectively.

Given the inherent uncertainties surrounding the effects that climate change and site development will have on active layer thickness and MAGT at the site, we recommend introducing some additional conservatism by the way of engineering judgement. For this reason, we have used a design active layer thickness of 2.2 m and a design MAGT of -2.2°C for design at the site.

It is noted that CSA PLUS 4011:19 states *“The requirement for monitoring, reporting, and reacting to any changes that are noted must be recognized early in the project. The responsibilities need to be defined at the project outset and budgets allocated to collect and summarize the data. An annual review by the geotechnical engineer is recommended with more frequent reviews if undesirable trends appear. Monitoring is pointless unless the data collected are evaluated”*. This speaks to the importance of implementing a proper and consistent ground temperature monitoring program that includes review and input from qualified geotechnical personnel as part of responsibly addressing climate change in relation to foundation design and maintenance.

9.0 Discussion and Recommendations

Based on the above, it is anticipated that the proposed roadway will be constructed atop currently soft and saturated (boggy) terrain or existing ponded water along much of the alignment, with only select areas founded on silty sand with gravel soil. It is further anticipated that construction will be carried out in accordance with the City of Iqaluit design standards and specifications. General site-specific recommendations related to the design and construction of the proposed roadway embankment are provided below. Additional project-specific recommendations can be provided upon request, to support any project-specific considerations not anticipated herein.

It is understood that the subdivision will not include buried utility services and water/sanitary services will be stored and trucked away from each building; therefore, general recommendations pertaining to site-specific considerations for watermain and sanitary line installations are not included herein (available upon request, if required).

9.1 New Roadway Embankment, Site Grading and Drainage

In general, it is anticipated that some level of subgrade improvement will be required along most of the new road alignment given the presence of boggy terrain and standing/ponded water as outlined herein. The following subgrade improvement techniques can be considered as outlined below, with discussion from our perspective provided for consideration:

- **Option 1: Excavation and Replacement** – Any soft subgrade can be excavated and replaced with engineered fill. It would be expected that all excavated material will be saturated and deemed to be unsuitable, requiring that the contractor either truck the material away or store it within a dedicated landscape area onsite. Due to the low lying wet nature of the site, the over-excavations would need



to be backfilled to original grade (or higher) with coarse rock fill. Partial over-excavation will likely not be possible; therefore, full excavation to permafrost or bedrock should be expected. Overall, it is our opinion that this option would result in the most solid subgrade for construction and allow full compaction of each subsequent lift of embankment fill along the alignment; however, the costs associated with this option would be substantial and should be avoided if possible.

- **Option 2: Thick Roadway Embankment to Freeze the Native Soils In-Place** – Given the location of the site, there is an option to provide enough cover material over the native soils such that seasonal thaw will not penetrate during the design life of the roads. ABG has carried out preliminary modelling based on the actual site conditions encountered to evaluate how much embankment fill may be required to achieve this outcome across the current site. Based on our analysis, it appears that at least 2.5 m of cover material would be required to freeze the softer native soils in place; therefore, the costs associated with this option would also be substantial and likely not practical, especially considering overall ramifications to site development adjacent the roadways. The use of horizontal insulation could be incorporated beneath the embankment to minimize the fill thickness; however, this would also be very costly. Additional geothermal modelling and evaluation of this option can be provided upon request.
- **Option 3: Initial Lift of Coarse Rock Fill and Staged Construction** – Given that most of the softer zones encountered were observed to experience reduced seasonal thaw (0.5 to 0.7 m) and many areas of standing/ponded water need infilled as part of site development, it is our opinion that a layer of very coarse blasted rock fill spread along the road alignments (potentially the entire site) and staged construction, will help avoid costs associated with over-excavation as outlined above. Although some of the rock fill should be expected to penetrate and embed/found itself immediately upon shallow bedrock or permafrost, much of the alignment may require some time for the native soils to drain and gain strength under load before this initial lift can be more thoroughly compacted. Therefore, it should be anticipated that some staged construction may be required, depending on actual performance of the initial lift and qualified geotechnical personnel would be required onsite throughout the work to more properly evaluate this.

Where the initial lift is observed to be rebounding under load (spongy subgrade), the areas should be covered with the initial lift of rock fill to approximately 0.3 or 0.5 m above current grade, the lift compacted only as much as possible without working the native soils up further and the lift left to sit for the remainder of the construction season/winter. The following construction season this initial lift could be compacted further and regraded, then topped with either filter fabric or properly graded filter material (300 mm thick lift of properly graded material, as required to transition from any gap graded rock fill to well-graded select subgrade fill). The roadway embankment could then be raised to final subgrade or sub-base elevation (compacting each lift as much as possible) and as required, let this still partially completed embankment sit for another season. In this way any seasonally active native soils beneath the embankment will experience additional loading prior to finishing the road. Most ideally, the entire roadway is taken up to top of subgrade elevation (maybe sub-base elevation) and used as a construction road during development of the adjacent lots, prior to being final graded and finished with the more expensive finishing materials.

It should be expected that the initial lift of rock fill will penetrate well into the native subgrade, likely our full dept to refusal in softer zones and the actual volume of rock fill required is unknown; therefore, proper unit rates and methodologies for assessing final volumes/payments will need to be established with the contractor (i.e. scaled truck loads and equivalent volumes).



- **Option 4: Woven Geotextile (or Geogrid), Processed Rock Fill and Staged Construction** – It can also be considered to place a layer of woven geotextile over the tundra and cover it with select subgrade or processed rock fill (i.e. 100 to 200 mm minus), with softer areas possibly receiving geogrid. The geotextile will limit loss of material within the softer subgrade and help the embankment “float” atop the native subgrade. The general methodology would be to place the fabric, cover it with up to 0.5 m of engineered fill, roll the lift without vibration and if the lift is observed to be deflecting/rebounding beneath the roller, the lift would be thickened up to 1.0 m with very little compaction. This initial lift would be left to sit for the remainder of the construction season/winter and further compacted and regraded the following construction season similar to Option 3 above. If areas remained soft and spongy during that second construction season, additional time would be recommended and further material placement delayed into the third construction season such that the underlying soils can gain additional strength (continue to drain). The use of a geogrid over the wetter/softer terrain could help span the softer soils and allow construction to proceed more quickly if desired.

In general, the thick vegetative mat and saturated soils are currently limiting seasonal thaw throughout much of the site and it is not yet known how deep bedrock below our test pit refusals (borehole program will be carried out over the coming months). Therefore, it is recommended that the existing vegetative mat be maintained wherever it is present throughout the site and cuts into the native soils should be avoided wherever possible, with design grades achieved by building atop the native grades of the site. Priority should always be given to maintaining the native organic mat wherever possible, even if some short-term regrading may be required as this material settles under use.

If it is determined that excavation and replacement is warranted to improve the native subgrade, the excavation should conform to the requirements of the Occupational Health and Safety Act (OSHA) and consider the potential for underlying permafrost soils to thaw/soften during excavation creating an increasingly worse situation. Excavations should be limited to only those areas deemed necessary and carried out in stages such that excavation and replacement back to current grade or higher occurs within hours (dependant on the observed rate of thaw and native soil behaviour).

It is recommended that the gravel surface roadway receive at least 200 mm of Type 1 material (surface/base course), underlain by at least 300 mm of Type 2 material (sub-base), placed and compacted atop an approved subgrade. Any heavy-duty traffic areas should receive an additional 300 mm of compacted Type 2 material (600 mm Type 2 sub-base material total) unless the subgrade is bedrock. Areas of bedrock subgrade should receive at least 200 mm of compacted Type 2 sub-base material beneath the 200 mm of compacted Type 1 base material to reduce the potential of the bedrock surface profile being reflected throughout the surface of the roadway. The satisfactory performance of the roadway will depend on the provision of adequate surface/subsurface drainage via professionally designed ditches, swales and culverts at the site.

All roadway fill material should be placed in maximum 300 mm thick lifts and compacted to 98% of the SPMDD within 300 mm of the subgrade surface and 95% of the SPMDD below this depth. The Type 1/Type 2 granular materials should be compacted to 100% of the SPMDD. Density testing is recommended to confirm each lift receives an adequate level of compaction prior to subsequent lifts. All permanent slopes prepared as outlined herein shall be 2.5 horizontal:1 vertical (2.5H:1V) or gentler, unless approved by the geotechnical engineer of record for the project. If an asphalt surface roadway is desired, ABG can provide additional recommendations upon request.



TABLE 3 - Recommended Gradation for Type 1, Type 2 and Select Subgrade Materials

Property	ASTM Test Method	Type 2 (Sub-Base)	Type 1 (Base)	Select Subgrade
Gradation (sieve/% passing)	–	–	–	–
150 mm	C136	–	–	100
75.0 mm	C136	100	–	–
37.5 mm	C136	–	–	–
25.0 mm	C136	50 – 100	100	50 – 100
19.0 mm	C136	–	75 – 100	–
9.5 mm	C136	–	50 – 85	–
4.75 mm	C136	20 – 55	35 – 65	20 – 60
2.0 mm	C136	–	25 – 50	–
0.425 mm	C136	5 – 35	15 – 30	–
0.300 mm	C136	–	–	5 – 40
0.150 mm	C136	–	–	2 – 30
0.075 mm	C117	0 – 8	5 – 8	0 – 20

10.0 Site Classification for Seismic Site Response

Based on the anticipated subsurface conditions, the site can be classified as “Class X_c” for seismic site response in accordance with the requirements of Section 4.1.8.4 of the National Building Code of Canada (NBCC), 2020. In addition, the overburden soils are also considered to be non-liquefiable.

11.0 Requirement for Qualified Geotechnical Monitoring

As noted above, inspection and monitoring are an important component of the design process. Qualified geotechnical personnel should be onsite throughout the site preparation to assure the native subgrade preparation and material placement/compaction meets the project requirements and performs as expected. It is noted that ABG can provide a suitably qualified field engineer onsite to work under the direction and guidance of the undersigned and your project team as required, upon request.



12.0 Closure

The use of this report is subject to the attached statement of general conditions. It is the responsibility of Stantec Consulting Limited, who is identified as “the Client” within the statement of general conditions and its agents to review the conditions and to notify Adaptive Baseline Geotechnical Limited should any of these not be satisfied. The statement of general conditions addresses; use of the report, basis of the report, standard of care, interpretation of site conditions, varying or unexpected site conditions, planning, design and construction.

We trust the information contained herein is adequate for your present purposes. Should you have any questions about the contents of this report, or if we can be of any further assistance, please do not hesitate to contact the undersigned at your convenience.

Sincerely,

Adaptive Baseline Geotechnical Ltd.

Matthew Shillington, P.Eng. (NT/NU)
Intermediate Geotechnical Engineer
mshillington@adaptivegeotechnical.com

Jason A. Smith, P.Eng. (NT/NU, NS)
Senior Geotechnical & Permafrost Engineer
jsmith@adaptivegeotechnical.com

*DRAFT Geotechnical Investigation
West 40 Subdivision Development
Iqaluit, NU
IQA-G2322*



ATTACHMENTS



Photograph 1
TP01.



Photograph 2
TP03.



Photograph 3
TP05.



Photograph 4
TP06.



Photograph 5
TP07.



Photograph 6
TP08.



Photograph 7
TP10.



Photograph 8
TP14.



Photograph 9
TP16.



Photograph 10
Ripping frozen surface at TP18.



Photograph 11
Water accumulation in TP20.



Photograph 12
TP21.



Photograph 13
TP25.



Photograph 14
TP30.



Photograph 15
Excavating TP31.



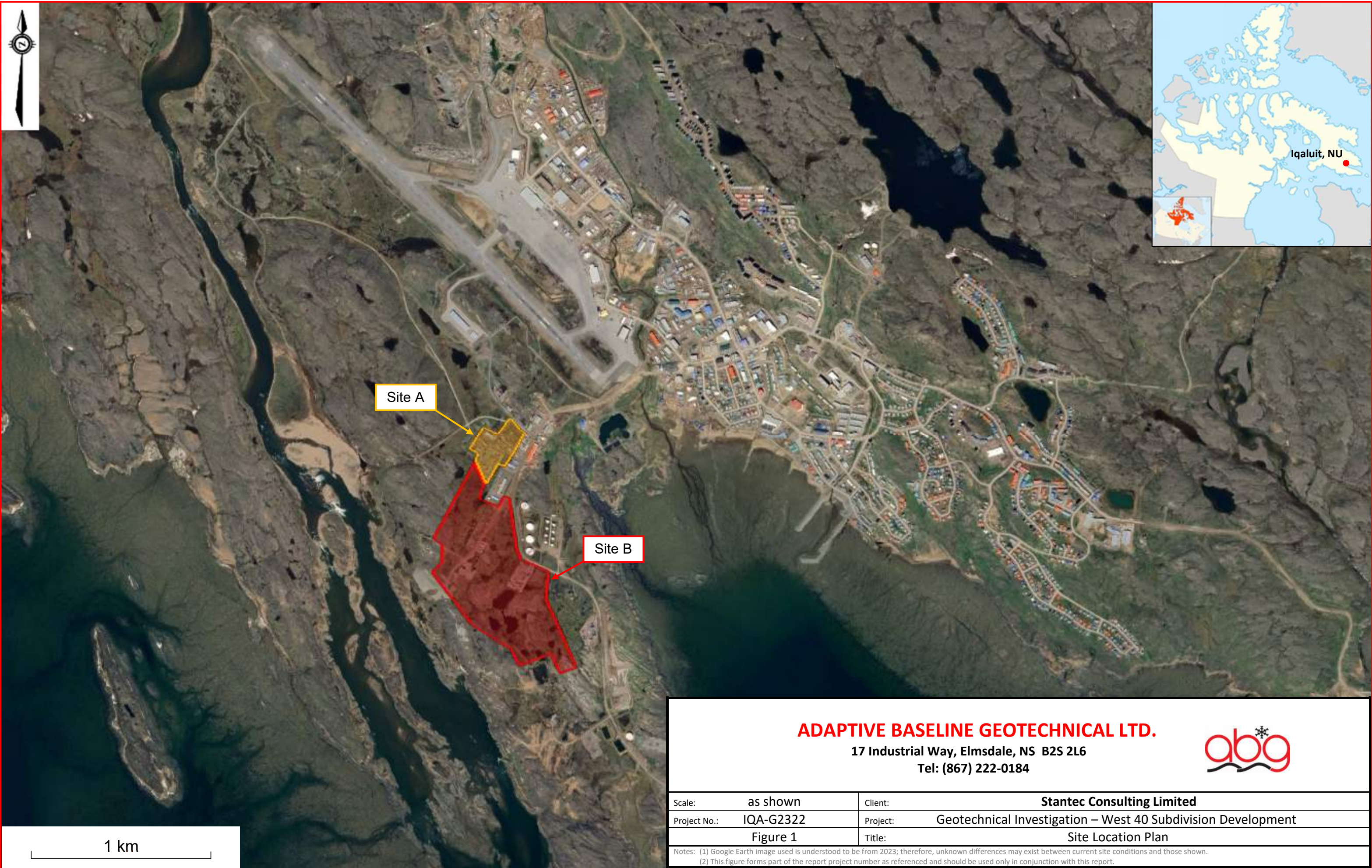
Photograph 16
TP35.



Photograph 17
Dynamic Cone Penetration Test – Point 2



Photograph 18
Dynamic Cone Penetration Test – Point 10



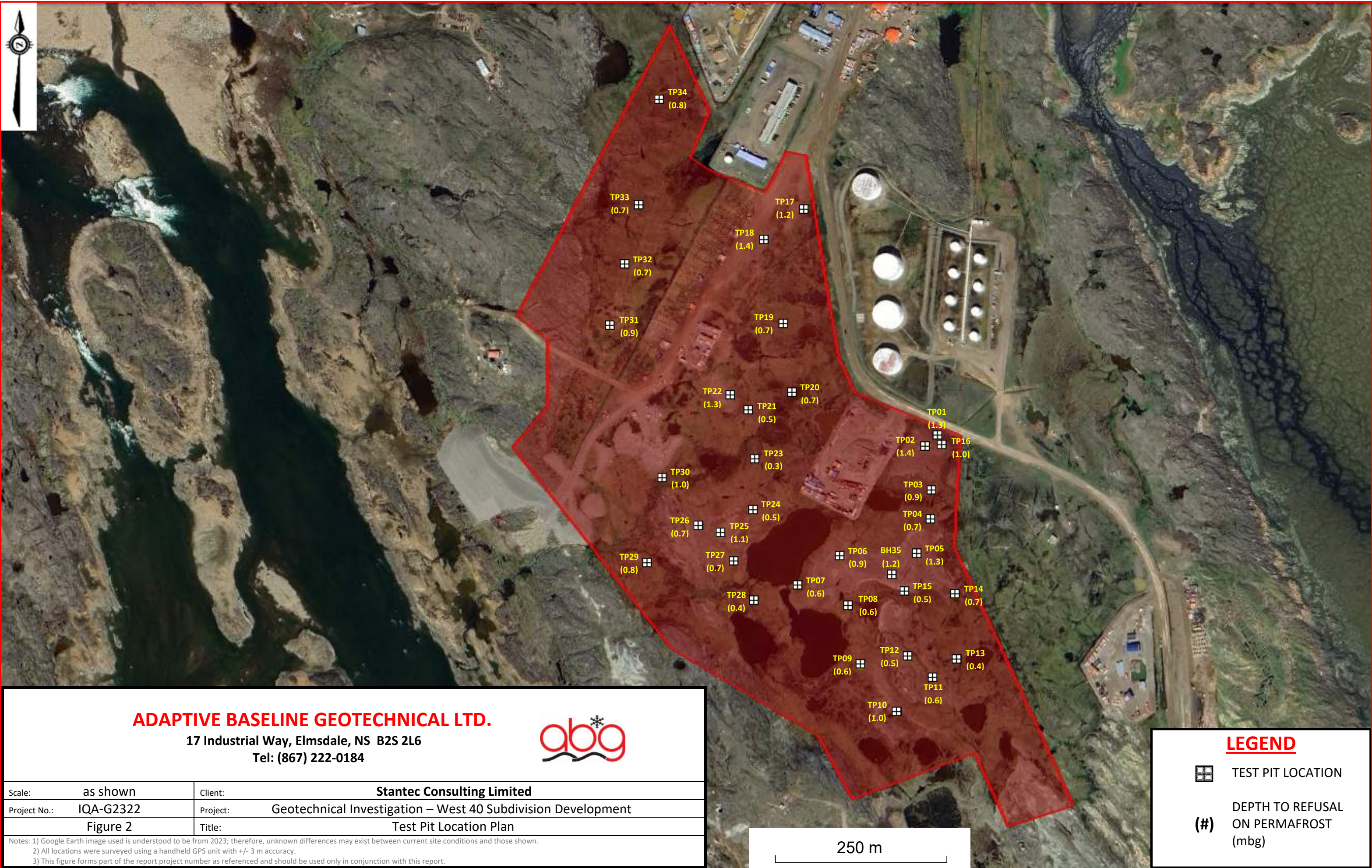
ADAPTIVE BASELINE GEOTECHNICAL LTD.

17 Industrial Way, Elmsdale, NS B2S 2L6
Tel: (867) 222-0184



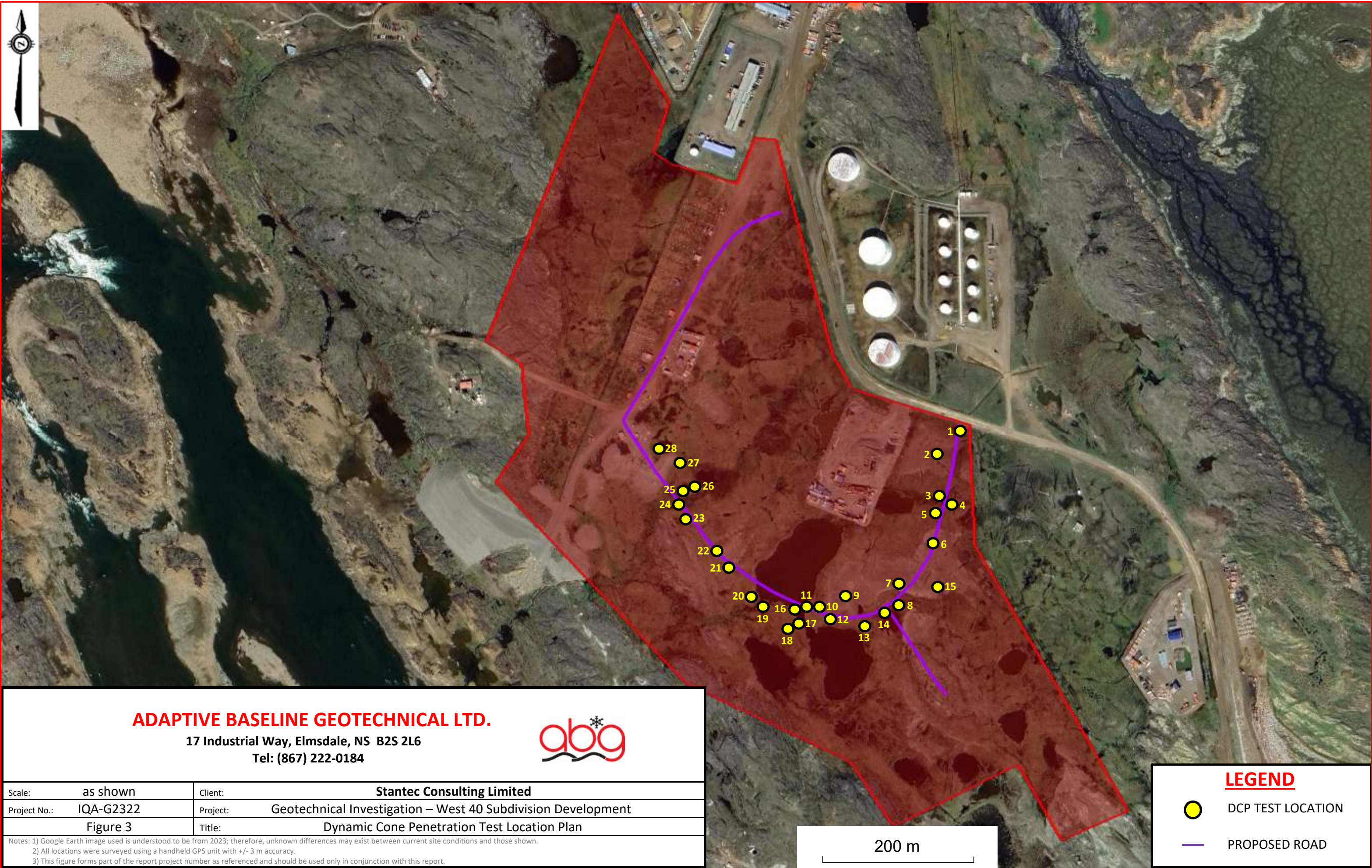
Scale:	as shown	Client:	Stantec Consulting Limited
Project No.:	IQA-G2322	Project:	Geotechnical Investigation – West 40 Subdivision Development
	Figure 1	Title:	Site Location Plan

Notes: (1) Google Earth image used is understood to be from 2023; therefore, unknown differences may exist between current site conditions and those shown.
(2) This figure forms part of the report project number as referenced and should be used only in conjunction with this report.



Scale:	as shown	Client:	Stantec Consulting Limited
Project No.:	IQA-G2322	Project:	Geotechnical Investigation – West 40 Subdivision Development
Figure 2		Title:	Test Pit Location Plan

Notes: 1) Google Earth image used is understood to be from 2023; therefore, unknown differences may exist between current site conditions and those shown.
2) All locations were surveyed using a handheld GPS unit with +/- 3 m accuracy.
3) This figure forms part of the report project number as referenced and should be used only in conjunction with this report.



ADAPTIVE BASELINE GEOTECHNICAL LTD.

17 Industrial Way, Elmsdale, NS B2S 2L6
Tel: (867) 222-0184



Scale:	as shown	Client:	Stantec Consulting Limited
Project No.:	IQA-G2322	Project:	Geotechnical Investigation – West 40 Subdivision Development
	Figure 3	Title:	Dynamic Cone Penetration Test Location Plan

Notes: 1) Google Earth image used is understood to be from 2023; therefore, unknown differences may exist between current site conditions and those shown.
2) All locations were surveyed using a handheld GPS unit with +/- 3 m accuracy.
3) This figure forms part of the report project number as referenced and should be used only in conjunction with this report.

LEGEND

- DCP TEST LOCATION
- PROPOSED ROAD



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP02

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.03 COMPLETED 2023.11.03
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522506 m E 7067929 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
	Brown poorly graded SAND with gravel to well-graded SAND with silt and gravel		SP		S1	0	35	64	1	4.9		20 40 60 80			
												20 40 60 80			
					S2	0	18	75	7	8.2		20 40 60 80			
												20 40 60 80			
0.80	Brown poorly graded SAND											20 40 60 80			
1												20 40 60 80			
					S3	0	6	89	5	14.2		20 40 60 80			
												20 40 60 80			
1.40												20 40 60 80			
	Test Pit Terminated at 1.4 m - Permafrost														



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP04

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.03 COMPLETED 2023.11.03
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522513 m E 7067823 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
	Black ROOTMAT/Topsoil											20 40 60 80			
0.10	Black poorly graded SAND with silt				S1	0	-	-	-	179.7		20 40 60 80			
												20 40 60 80			
					S2	0	4	89	7	30.5		20 40 60 80			
	-Frozen from 0.5 mbg		SP-SM									20 40 60 80			
0.70												20 40 60 80			
	Test Pit Terminated at 0.7 m - Permafrost											20 40 60 80			
1												20 40 60 80			



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP05

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.03 COMPLETED 2023.11.03
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522494 m E 7067771 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
	Brown SAND -Trace organics		SP		S1	-	-	-	-	-		20 40 60 80			
0.50	Brown SAND											20 40 60 80			
1	-Water encountered at 1.1 mbg		SP		S2	-	-	-	-	-		20 40 60 80			
1.30	Test Pit Terminated at 1.3 m - Permafrost											20 40 60 80			

TEST PIT LOG

TP07

PAGE 1 OF 1

CLIENT Stantec Consulting Limited

PROJECT NUMBER IQA-G2322

DATE STARTED 2023.11.03 **COMPLETED** 2023.11.03

EXCAVATION CONTRACTOR Nunavut Excavating

EXCAVATION METHOD Excavator

LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development

PROJECT LOCATION Iqaluit, NU

GROUND ELEVATION n/a

NOTES UTM: 19V 522323 m E 7067725 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲	
							GRAVEL	SAND	FINES			20 40 60 80	
												PL	MC
												20 40 60 80	



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP08

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.03 COMPLETED 2023.11.03
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522393 m E 7067694 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
	Black ROOTMAT/Topsoil											PL MC LL			
0.10	Black well-graded SAND with silt											20 40 60 80			
					S1	0	1	87	12	22.2		□ FINES (%) □			
	-Frozen from 0.4 mbg		SW-SM												
0.60					S2	1	-	-	-	31.4					
	Test Pit Terminated at 0.6 m - Permafrost														
1															



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP09

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.03 COMPLETED 2023.11.03
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522411 m E 7067605 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
	Black ROOTMAT/Topsoil											PL MC LL			
0.10	Black SAND with silt											20 40 60 80			
	-Frozen from 0.4 mbg		SP-SM		S1	-	-	-	-	-		□ FINES (%) □			
0.60	Test Pit Terminated at 0.6 m - Permafrost											20 40 60 80			
1															



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP11

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.03 COMPLETED 2023.11.03
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522516 m E 7067588 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲							
							GRAVEL	SAND	FINES			20 40 60 80							
	Brown ROOTMAT/Topsoil											PL MC LL							
0.10	Brown SAND with silt to silty SAND											20 40 60 80							
					S1	-	-	-	-	-									
0.60					S2	-	-	-	-	-									
	Test Pit Terminated at 0.6 m - Permafrost																		
1																			



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP12

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.03 COMPLETED 2023.11.03
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522480 m E 7067618 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
0.10	Brown ROOTMAT/Topsoil											PL MC LL			
	Brown well-graded SAND with silt											20 40 60 80			
			SW-SM									□ FINES (%) □			
0.50					S1	3	14	76	10	7.0		20 40 60 80			
	Test Pit Terminated at 0.5 m - Permafrost														
1															



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP13

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.03 COMPLETED 2023.11.03
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522550 m E 7067614 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
												PL	MC	LL	
												20	40	60	80
												20	40	60	80
												□ FINES (%) □			
												20	40	60	80
0.20	Black ROOTMAT/Topsoil -Strong organic smell		SP-SM		S1	-	-	-	-	-					
	Black SAND with silt														
0.40					S2	-	-	-	-	-					
Test Pit Terminated at 0.4 m - Permafrost															
1															

TEST PIT LOG

TP14

PAGE 1 OF 1

CLIENT Stantec Consulting Limited

PROJECT NUMBER IQA-G2322

DATE STARTED 2023.11.03 **COMPLETED** 2023.11.03

EXCAVATION CONTRACTOR Nunavut Excavating

EXCAVATION METHOD Excavator

LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development

PROJECT LOCATION Iqaluit, NU

GROUND ELEVATION n/a

NOTES UTM: 19V 522547 m E 7067709 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲	
							GRAVEL	SAND	FINES			20 40 60 80	
												PL 20 40 60 80 LL	MC
												□ FINES (%) □	
												20 40 60 80	
0.10	Black ROOTMAT/Topsoil		SW-SM										
	Brown well-graded SAND with silt												
0.70					S1	0	12	79	9	13.1			
1	Test Pit Terminated at 0.7 m - Permafrost												



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP15

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.03 COMPLETED 2023.11.03
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522474 m E 7067713 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
							GRAVEL	SAND	FINES			20 40 60 80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
												PL MC LL 20 40 60 80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
												□ FINES (%) □ 20 40 60 80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
0.20	Black ROOTMAT/Topsoil -Strong organic smell		SP-SM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP16

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.03 COMPLETED 2023.11.03
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522530 m E 7067931 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
												PL MC LL			
												20 40 60 80			
												□ FINES (%) □			
												20 40 60 80			
	Brown poorly graded SAND		SP		S1	0	10	86	4	14.5		☐	●		
	-Water encountered at 0.8 mbg														
1	1.00				S2	1	6	91	3	19.9		☐	●		
	Test Pit Terminated at 1 m - Permafrost														



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP17

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522336 m E 7068278 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
	Brown ROOTMAT/Topsoil											PL MC LL			
0.40	Brown/grey SAND to SAND with silt				S1	-	-	-	-	-		20 40 60 80			
1			SP												
1.20					S2	-	-	-	-	-					
	Test Pit Terminated at 1.2 m - Permafrost														



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP18

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522277 m E 7068234 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲	
							GRAVEL	SAND	FINES			20 40 60 80	20 40 60 80
	Brown ROOTMAT/Topsoil												
0.10	Brown poorly graded GRAVEL with sand		GP		S1	0	48	47	5	8.7			
0.50	Brown silty SAND												
1			SM										
1.40					S2	0	2	85	13	16.6			
	Test Pit Terminated at 1.4 m - Permafrost												



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP19

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522302 m E 7068110 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
	Brown ROOTMAT/Topsoil											PL MC LL			
0.20	Brown SAND with silt				S1	-	-	-	-	-		20 40 60 80			
	-Frozen from 0.3 mbg		SP-SM									□ FINES (%) □			
												20 40 60 80			
0.70					S2	-	-	-	-	-					
	Test Pit Terminated at 0.7 m - Permafrost														
1															



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP20

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522315 m E 7068008 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲								
							GRAVEL	SAND	FINES			20 40 60 80								
	Black ROOTMAT/Topsoil											20 40 60 80								
0.20	Grey poorly graded SAND with silt		SP-SM		S1	0	-	-	-	55.7		20 40 60 80								
												20 40 60 80								
0.70	-Water encountered at bottom				S2	0	6	88	6	30.7	☐	20 40 60 80								
	Test Pit Terminated at 0.7 m - Permafrost																			
1																				



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP21

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522252 m E 7067983 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
	Black ROOTMAT/Topsoil -Strong organic smell											PL MC LL			
0.30	Light brown/grey SAND with silt											20 40 60 80			
			SP-SM									□ FINES (%) □			
0.50					S1	-	-	-	-	-		20 40 60 80			
Test Pit Terminated at 0.5 m - Permafrost															
1															



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

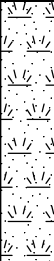
TEST PIT LOG

TP23

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522262 m E 7067910 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
												PL MC LL 20 40 60 80			
												□ FINES (%) □ 20 40 60 80			
0.30	Black ROOTMAT/Topsoil -Strong organic smell														
		S1			-	-	-	-	-						
0.50	Light brown/grey silty SAND		SM												
1	Test Pit Terminated at 0.5 m - Permafrost														



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP24

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522259 m E 7067835 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
							GRAVEL	SAND	FINES			20 40 60 80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
												PL	MC	LL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
												20	40	60	80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
												20	40	60	80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
												□ FINES (%) □																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
												20	40	60	80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
0.30	Black ROOTMAT/Topsoil		SM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

TEST PIT LOG

TP25

PAGE 1 OF 1

CLIENT Stantec Consulting Limited

PROJECT NUMBER IQA-G2322

DATE STARTED 2023.11.04 **COMPLETED** 2023.11.04

EXCAVATION CONTRACTOR Nunavut Excavating

EXCAVATION METHOD Excavator

LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development

PROJECT LOCATION Iqaluit, NU

GROUND ELEVATION n/a

NOTES UTM: 19V 522212 m E 7067803 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	ROD (%)	▲ SPT N VALUE ▲	
							GRAVEL	SAND	FINES			20 40 60 80	
												PL	MC
												20 40 60 80	



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP26

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522181 m E 7067813 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲					
							GRAVEL	SAND	FINES			20 40 60 80					
												PL MC LL 20 40 60 80					
												□ FINES (%) □					
												20 40 60 80					
0.20	Black ROOTMAT/Topsoil		SM														
	Brown silty SAND				S1	0	10	63	27	14.5							
0.70					S2	0	11	75	14	14.5							
1	Test Pit Terminated at 0.7 m - Permafrost																



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP27

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522231 m E 7067762 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
												PL MC LL 20 40 60 80			
												□ FINES (%) □ 20 40 60 80			
0.20	Black ROOTMAT/Topsoil		SP												
	Light brown/grey SAND to SAND with silt														
		S1			-	-	-	-	-						
		S2			-	-	-	-	-						
0.70	Test Pit Terminated at 0.7 m - Permafrost														
1															



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP28

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522260 m E 7067702 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲	
							GRAVEL	SAND	FINES			20 40 60 80	20 40 60 80
0.20	Black ROOTMAT/Topsoil				S1	0	-	-	-	82.5			
	Dark brown/grey silty SAND												
0.40			SM		S2	0	7	70	23	23.3			
Test Pit Terminated at 0.4 m - Permafrost													
1													



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP29

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522108 m E 7067760 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
												PL	MC	LL	
												20	40	60	80
												20	40	60	80



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP30

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522130 m E 7067883 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
												PL MC LL 20 40 60 80			
												□ FINES (%) □ 20 40 60 80			
0.30	Black ROOTMAT/Topsoil		SM												
	Brown/grey silty SAND with gravel				S1	0	15	72	13	13.7					
1	1.00				S2	0	30	56	14	16.7					
Test Pit Terminated at 1 m - Permafrost															



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP31

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522054 m E 7068109 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
												PL MC LL 20 40 60 80			
												□ FINES (%) □ 20 40 60 80			
0.30	Black ROOTMAT/Topsoil		SM												
	Brown/grey silty SAND				S1	-	-	-	-	-					
0.90					S2	-	-	-	-	-					
1	Test Pit Terminated at 0.9 m - Permafrost														



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP32

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522078 m E 7068198 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
	Black ROOTMAT/Topsoil											PL MC LL			
0.20	Brown/grey well-graded SAND with silt											20 40 60 80			
			SW-SM		S1	0	4	84	12	17.3		☐ FINES (%) ☐			
					S2	0	14	75	11	17.0					
0.70															
	Test Pit Terminated at 0.7 m - Permafrost														
1															



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP33

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522096 m E 7068285 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
							GRAVEL	SAND	FINES			20 40 60 80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
												PL MC LL 20 40 60 80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
												□ FINES (%) □ 20 40 60 80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
0.20	Black ROOTMAT/Topsoil		SM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP34

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522126 m E 7068441 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80 □ FINES (%) □ 20 40 60 80
							GRAVEL	SAND	FINES			
	Brown ROOTMAT/Topsoil											
0.20	Brown poorly graded SAND with silt											
					S1	0	1	89	10	18.3		□ ●
					S2	0	1	92	7	15.2		□ ●
0.80												
	Test Pit Terminated at 0.8 m - Permafrost											
1												



Adaptive Baseline Geotechnical Ltd.
17 Industrial Way
Elmsdale, NS B2S 2L6
Telephone: 867.222.0184

TEST PIT LOG

TP35

PAGE 1 OF 1

CLIENT Stantec Consulting Limited
PROJECT NUMBER IQA-G2322
DATE STARTED 2023.11.04 COMPLETED 2023.11.04
EXCAVATION CONTRACTOR Nunavut Excavating
EXCAVATION METHOD Excavator
LOGGED BY JB CHECKED BY MS

PROJECT NAME West 40 Subdivision Development
PROJECT LOCATION Iqaluit, NU
GROUND ELEVATION n/a
NOTES UTM: 19V 522457 m E 7067740 m N

DEPTH (m)	MATERIAL DESCRIPTION	GRAPHIC LOG	USCS	GROUND ICE DESCRIPTION	SAMPLE NUMBER	SALINITY (ppt)	SOIL FRACTION (%)			MOISTURE CONTENT (%)	RQD (%)	▲ SPT N VALUE ▲			
							GRAVEL	SAND	FINES			20 40 60 80			
	Brown well-graded SAND with gravel		SW		S1	0	19	80	1	14.2	☐				
0.40	Brown SAND				S2	0	7	91	2	13.2					
			SP								☐				
1	-Water encountered at 1.0 mbg				S3	0	6	90	4	13.3					
1.20	Test Pit Terminated at 1.2 m - Permafrost														

Location			1			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	143	143	143	1	143	1.1
1	193	50	50	1	50	3.7
2	287	94	47	1	47	3.9
2	382	95	48	1	48	3.8
2	467	85	43	1	43	4.3
2	523	56	28	1	28	7
2	562	39	20	1	20	10
2	597	35	18	1	18	11
2	697	100	50	1	50	3.7
4	867	170	43	1	43	4.3
2	982	115	58	1	58	3.1
2	1104	122	61	1	61	2.9

Location			2			
Grade Surface			Thin Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	78	78	78	1	78	2.2
1	141	63	63	1	63	2.8
1	196	55	55	1	55	3.3
1	241	45	45	1	45	4.1
1	282	41	41	1	41	4.6
2	348	66	33	1	33	6
2	418	70	35	1	35	5
2	473	55	28	1	28	7
10	683	210	21	1	21	10
10	863	180	18	1	18	11

Location			3			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			8			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	12	12	12	1	12	18
5	75	63	13	1	13	16

Location			4			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	308	308	308	1	308	0.5
5	380	72	14	1	14	15

Location			5			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	86	86	86	1	86	2
2	224	138	69	1	69	2.5
1	338	114	114	1	114	1.5
4	353	15	4	1	4	60

Location			6			
Grade Surface			Thin Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	143	143	143	1	143	1.1
1	281	138	138	1	138	1.2
1	395	114	114	1	114	1.5
1	410	15	15	1	15	14
5	420	10	2	1	2	100
5	430	10	2	1	2	100

Location			7			
Grade Surface			Thin Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	93	93	93	1	93	1.8
1	172	79	79	1	79	2.2
1	235	63	63	1	63	2.8
1	320	85	85	1	85	2
5	500	180	36	1	36	5
5	578	78	16	1	16	13

Location			8			
Grade Surface			Thin Vegetation			
Test Start Depth (mm)			153			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	103	103	103	1	103	1.6
1	117	14	14	1	14	15
5	141	24	5	1	5	50
5	152	11	2	1	2	100
5	162	10	2	1	2	100

Location			9			
Grade Surface			No Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	78	78	78	1	78	2.2
1	123	45	45	1	45	4.1
1	153	30	30	1	30	6
1	210	57	57	1	57	3.2
1	254	44	44	1	44	4.2
2	333	79	40	1	40	4.7
4	491	158	40	1	40	4.7
10	628	137	14	1	14	15
10	753	125	13	1	13	16
10	910	157	16	1	16	13

Location			10			
Grade Surface			No Vegetation			
Test Start Depth (mm)			83			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	177	177	177	1	177	0.9
1	242	65	65	1	65	2.7
1	252	10	10	1	10	20
10	282	30	3	1	3	80

Location			11			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	175	175	175	1	175	0.9
1	209	34	34	1	34	6
1	294	85	85	1	85	2
1	579	285	285	1	285	0.5
1	604	25	25	1	25	8
2	624	20	10	1	10	20

Location		12				
Grade Surface		Thick Vegetation				
Test Start Depth (mm)		96				
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	76	76	76	1	76	2.3
1	124	48	48	1	48	3.8
1	129	5	5	1	5	50
3	140	11	4	1	4	60
10	169	29	3	1	3	80
6	174	5	1	1	1	100

Location		13				
Grade Surface		Thick Vegetation				
Test Start Depth (mm)		265				
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	20	20	20	1	20	10
1	28	8	8	1	8	30
10	65	37	4	1	4	60

Location		14				
Grade Surface		Thick Vegetation				
Test Start Depth (mm)		10				
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	130	130	130	1	130	1.3
1	285	155	155	1	155	1
1	380	95	95	1	95	1.8
1	395	15	15	1	15	14
10	440	45	5	1	5	50

Location			15			
Grade Surface			Thin Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	142	142	142	1	142	1.1
1	212	70	70	1	70	2.5
1	262	50	50	1	50	3.7
1	302	40	40	1	40	4.7
1	337	35	35	1	35	5
1	372	35	35	1	35	5
2	412	40	20	1	20	10
2	452	40	20	1	20	10
5	477	25	5	1	5	50
5	507	30	6	1	6	40

Location			16			
Grade Surface			Thin Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	295	295	295	1	295	0.5
10	335	40	4	1	4	60

Location			17			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			30			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	160	160	160	1	160	1
1	210	50	50	1	50	3.7
10	260	50	5	1	5	50

Location			18			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			30			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	160	160	160	1	160	1
10	210	50	5	1	5	50

Location			19			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			122			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	193	193	193	1	193	0.8
1	223	30	30	1	30	6
10	263	40	4	1	4	60

Location			20			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	350	350	350	1	350	<0.5
1	390	40	40	1	40	4.7
10	460	70	7	1	7	35

Location		21				
Grade Surface		Thick Vegetation				
Test Start Depth (mm)		220				
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	50	50	50	1	50	3.7
5	200	150	30	1	30	6
10	395	195	20	1	20	10
10	535	140	14	1	14	15

Location		22				
Grade Surface		Thin Vegetation				
Test Start Depth (mm)		0				
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	82	82	82	1	82	2.1
2	167	85	43	1	43	4.3
2	247	80	40	1	40	4.7
5	522	275	55	1	55	3.3
10	762	240	24	1	24	8
10	822	60	6	1	6	40

Location		23				
Grade Surface		Thick Vegetation				
Test Start Depth (mm)		363				
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	72	72	72	1	72	2.4
10	152	80	8	1	8	30

Location			24			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			200			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	255	255	255	1	255	0.6
5	295	40	8	1	8	30

Location			25			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	420	420	420	1	420	<0.5
5	465	45	9	1	9	25

Location			26			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			2			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	183	183	183	1	183	0.9
1	298	115	115	1	115	1.4
1	348	50	50	1	50	3.7
1	398	50	50	1	50	3.7
1	428	30	30	1	30	6
10	498	70	7	1	7	35



Dynamic Cone Penetrometer Test

07-Oct-23

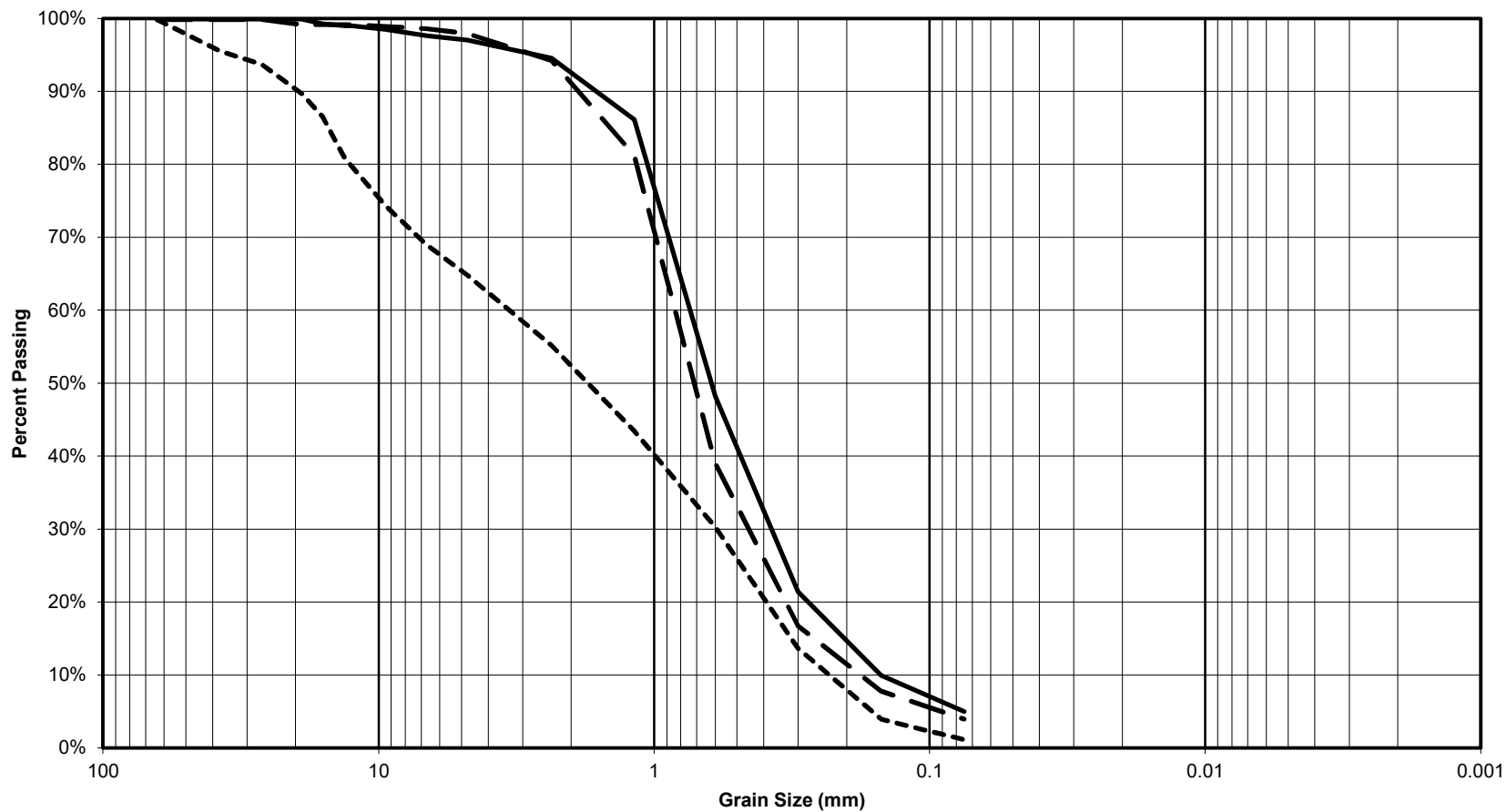
Location			27			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			340			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	36	36	36	1	36	5
10	80	44	4	1	4	60

Location			28			
Grade Surface			Thick Vegetation			
Test Start Depth (mm)			0			
Number of blows	Cumulative penetration (mm)	Penetration between readings (mm)	Pentration per blow (mm)	Hammer Factor	DCP Index mm/blow	CBR %
0	0	-	-	-	-	-
1	58	58	58	1	58	3.1
1	105	47	47	1	47	3.9
1	155	50	50	1	50	3.7
1	196	41	41	1	41	4.6
1	230	34	34	1	34	6
1	326	96	96	1	96	1.8
1	428	102	102	1	102	1.6
1	528	100	100	1	100	1.7
1	553	25	25	1	25	8
1	608	55	55	1	55	3.3



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

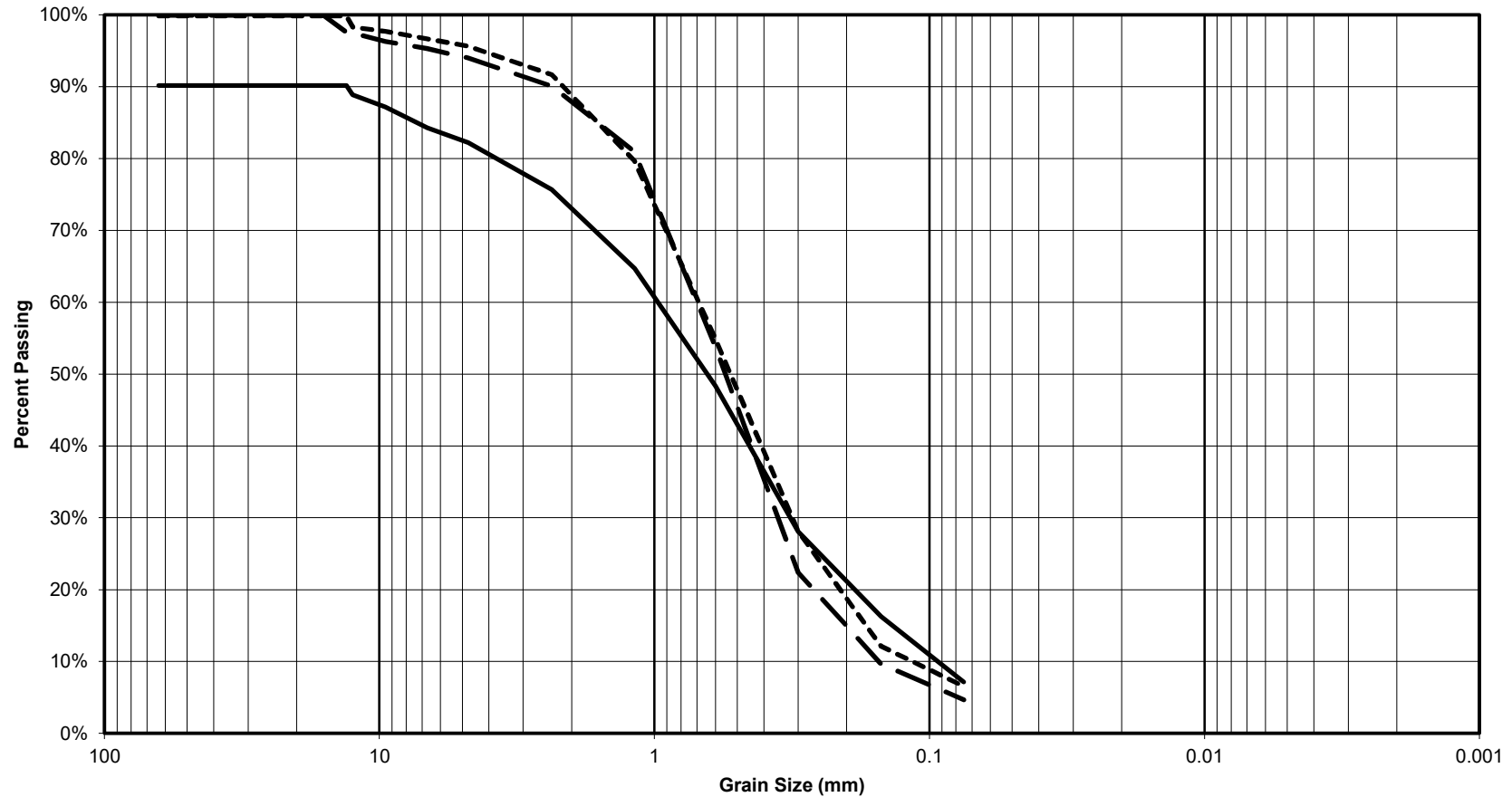
Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP01	S1	0.3	3%	92%	5%	17.6%	Poorly graded SAND
- -	TP01	S2	1.3	2%	94%	4%	19.7%	Poorly graded SAND
- . - .	TP02	S1	0.1	35%	64%	1%	4.9%	Poorly graded SAND with gravel



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

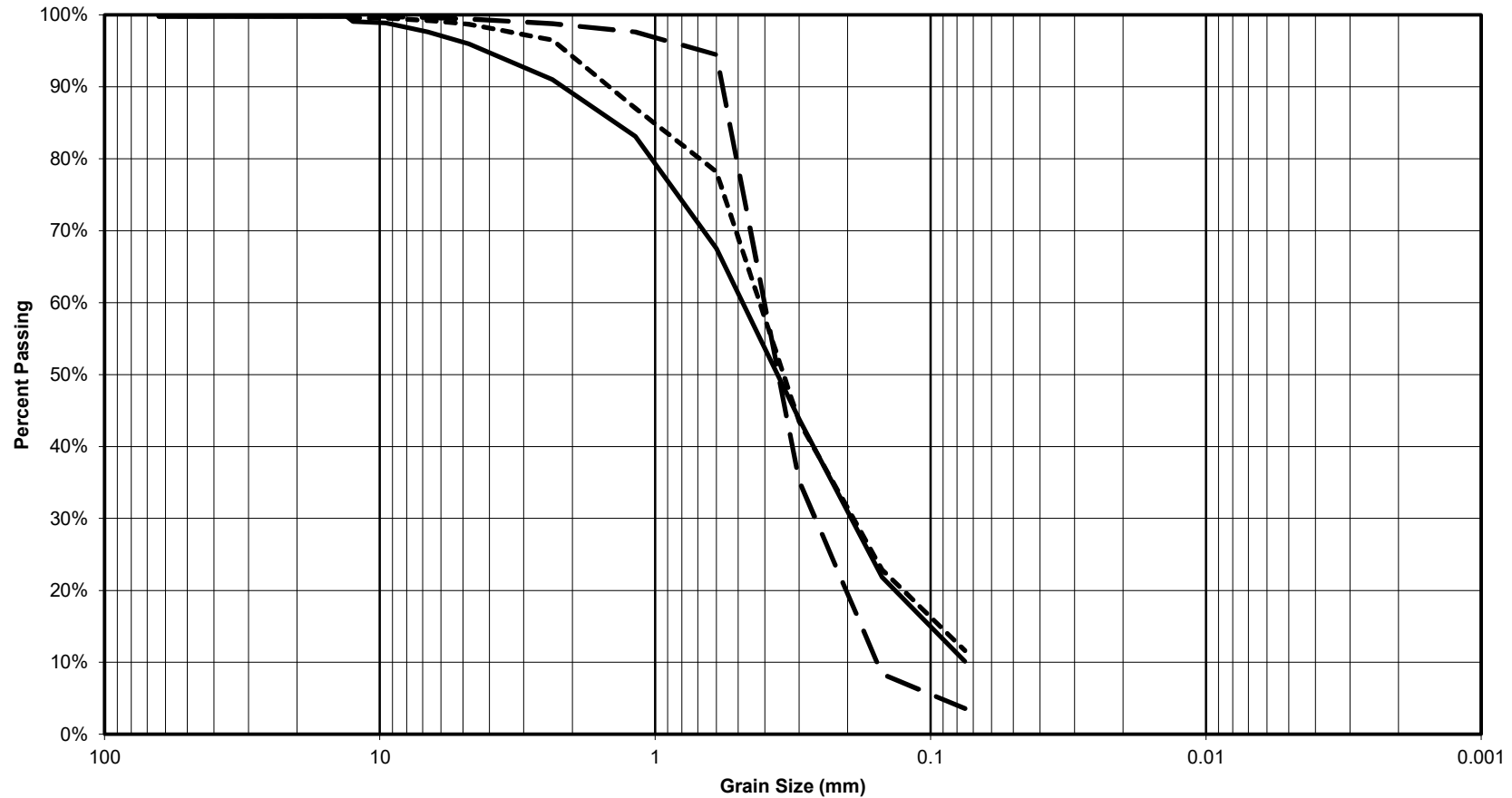
Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP02	S2	0.4	18%	75%	7%	8.2%	Well-graded SAND with silt and gravel
- -	TP02	S3	1.3	6%	89%	5%	14.2%	Poorly graded SAND
----	TP04	S2	0.5	4%	89%	7%	30.5%	Poorly graded SAND with silt



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

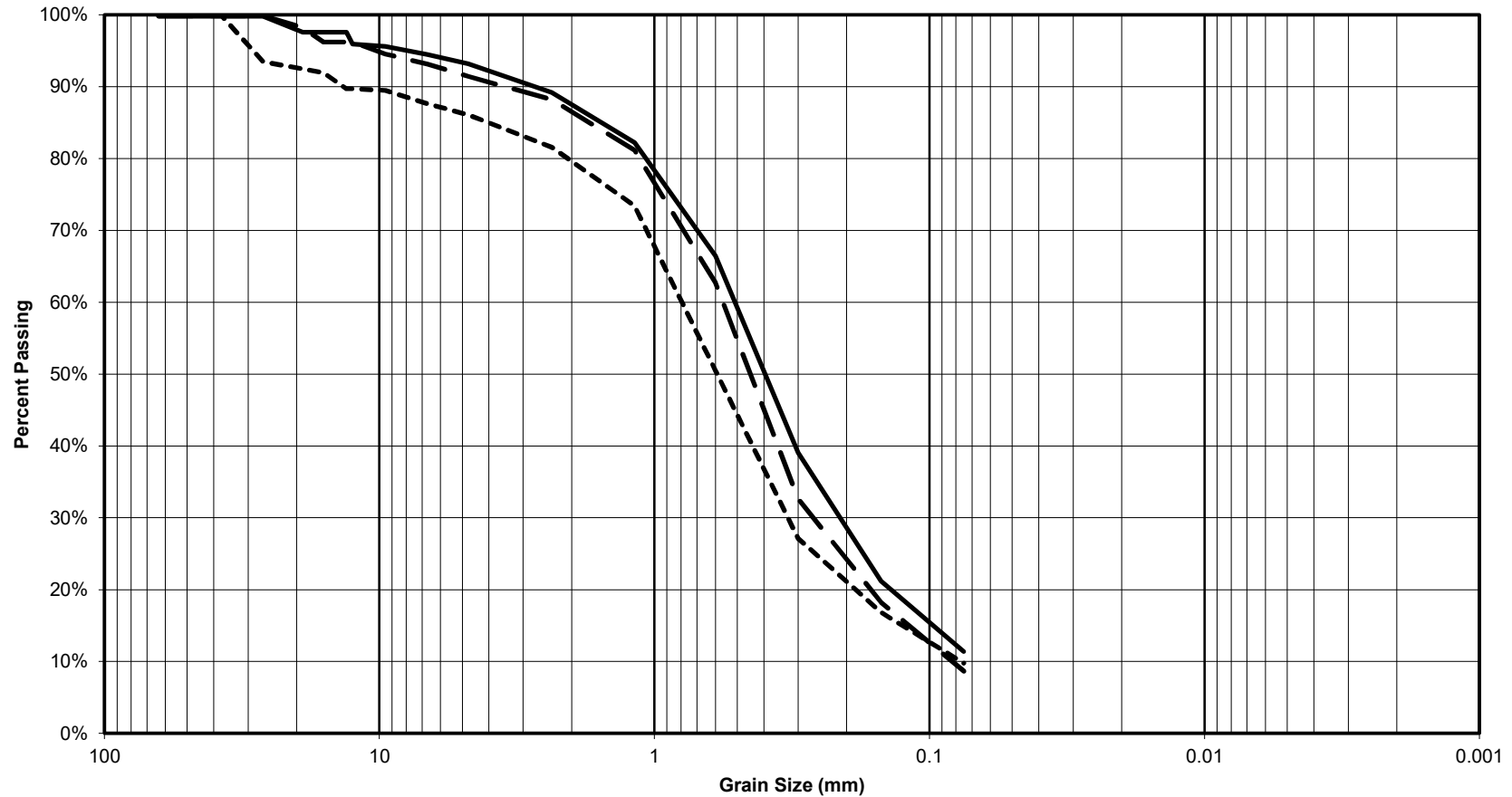
Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP06	S1	0.2	4%	86%	10%	17.2%	Well-graded SAND with silt
- -	TP06	S2	0.9	1%	95%	4%	20.4%	Poorly graded SAND
----	TP08	S1	0.3	1%	87%	12%	22.2%	Well-graded SAND with silt



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

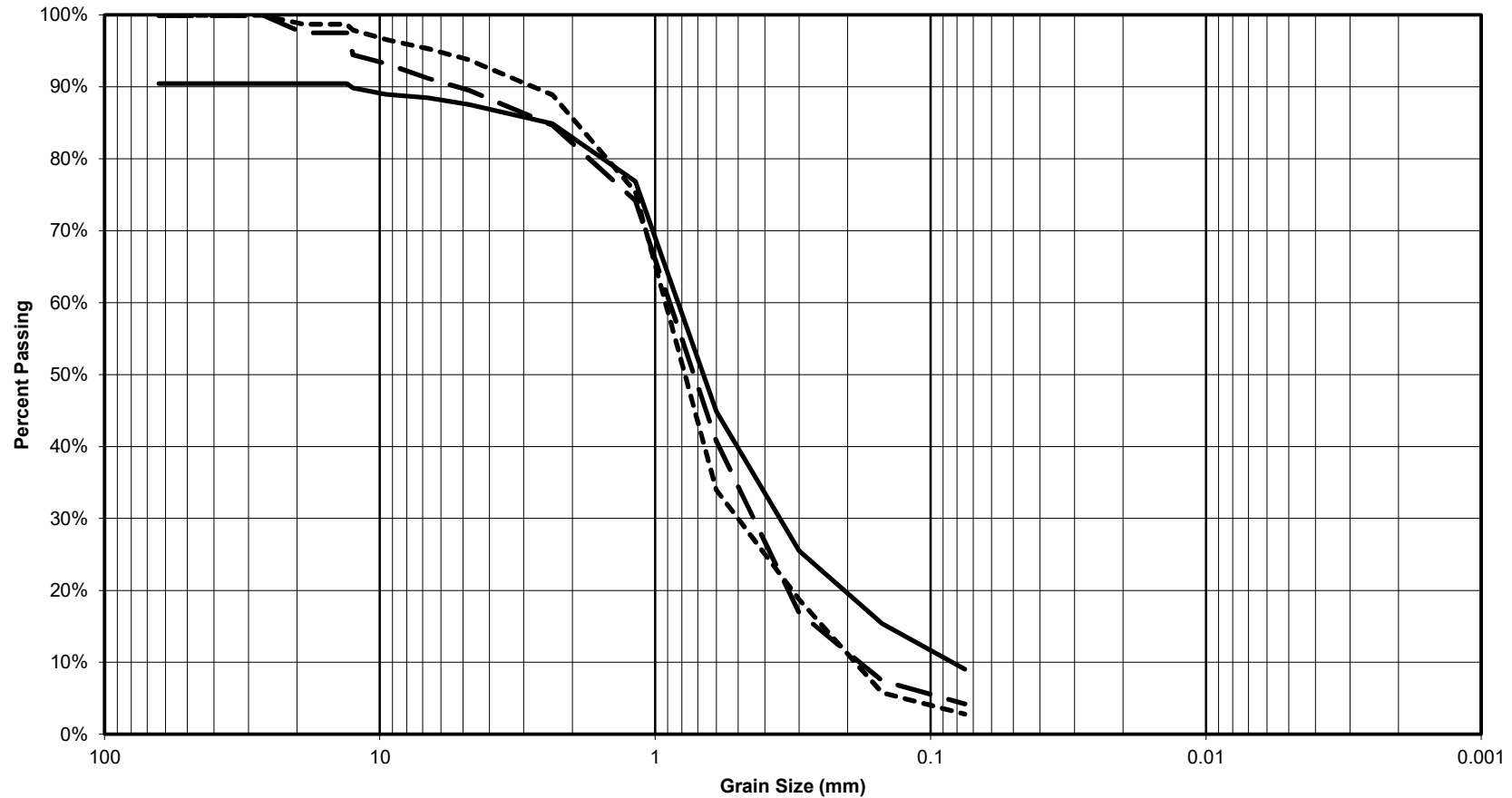
Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP10	S1	0.2	7%	82%	11%	37.3%	Well-graded SAND with silt
- -	TP10	S2	0.9	9%	82%	9%	20.2%	Well-graded SAND with silt
----	TP12	S1	0.5	14%	76%	10%	7.0%	Well-graded SAND with silt



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

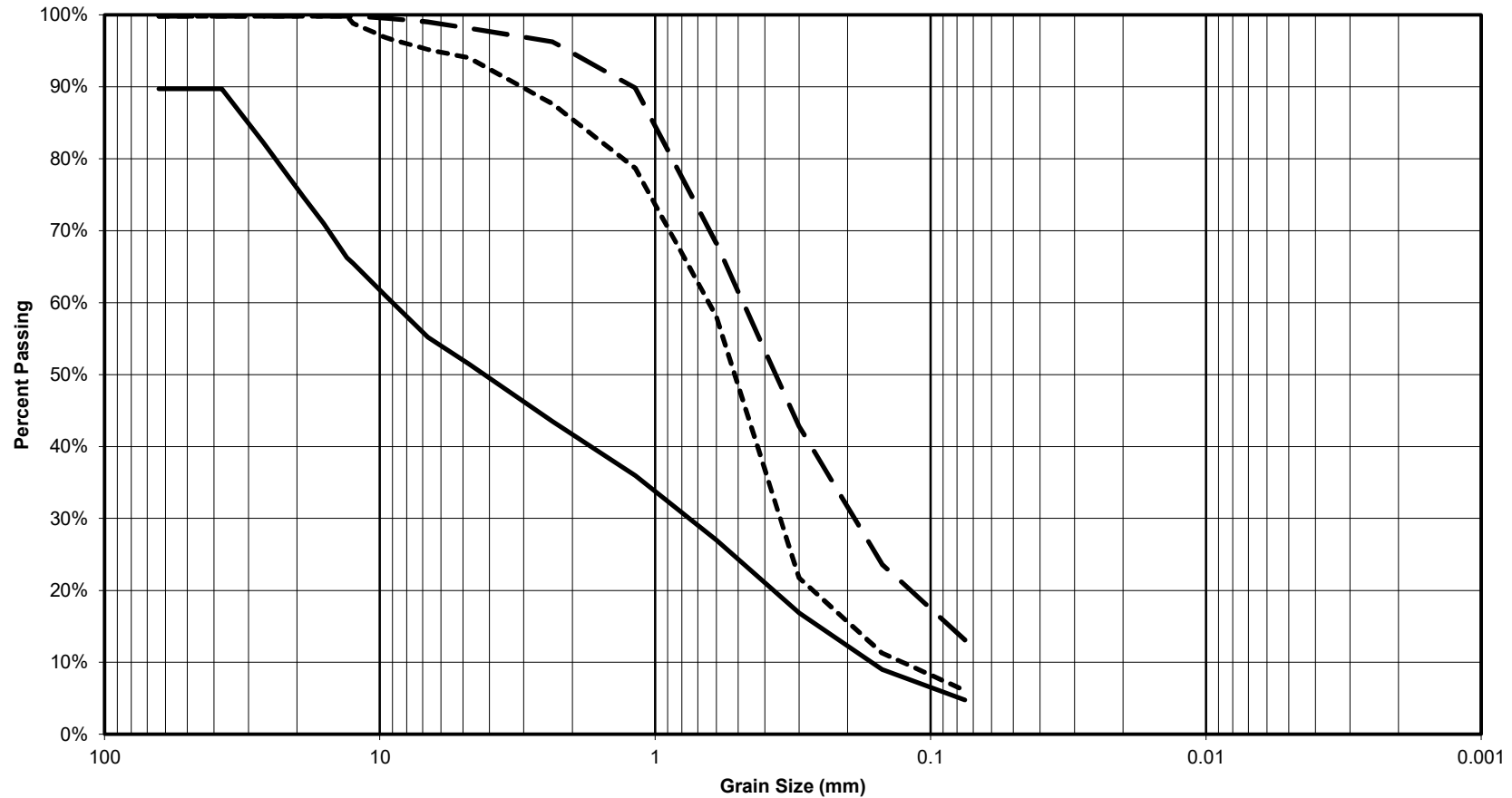
Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP14	S1	0.7	12%	79%	9%	13.1%	Well-graded SAND with silt
- -	TP16	S1	0.4	10%	86%	4%	14.5%	Poorly graded SAND
----	TP16	S2	1.0	6%	91%	3%	19.9%	Poorly graded SAND



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

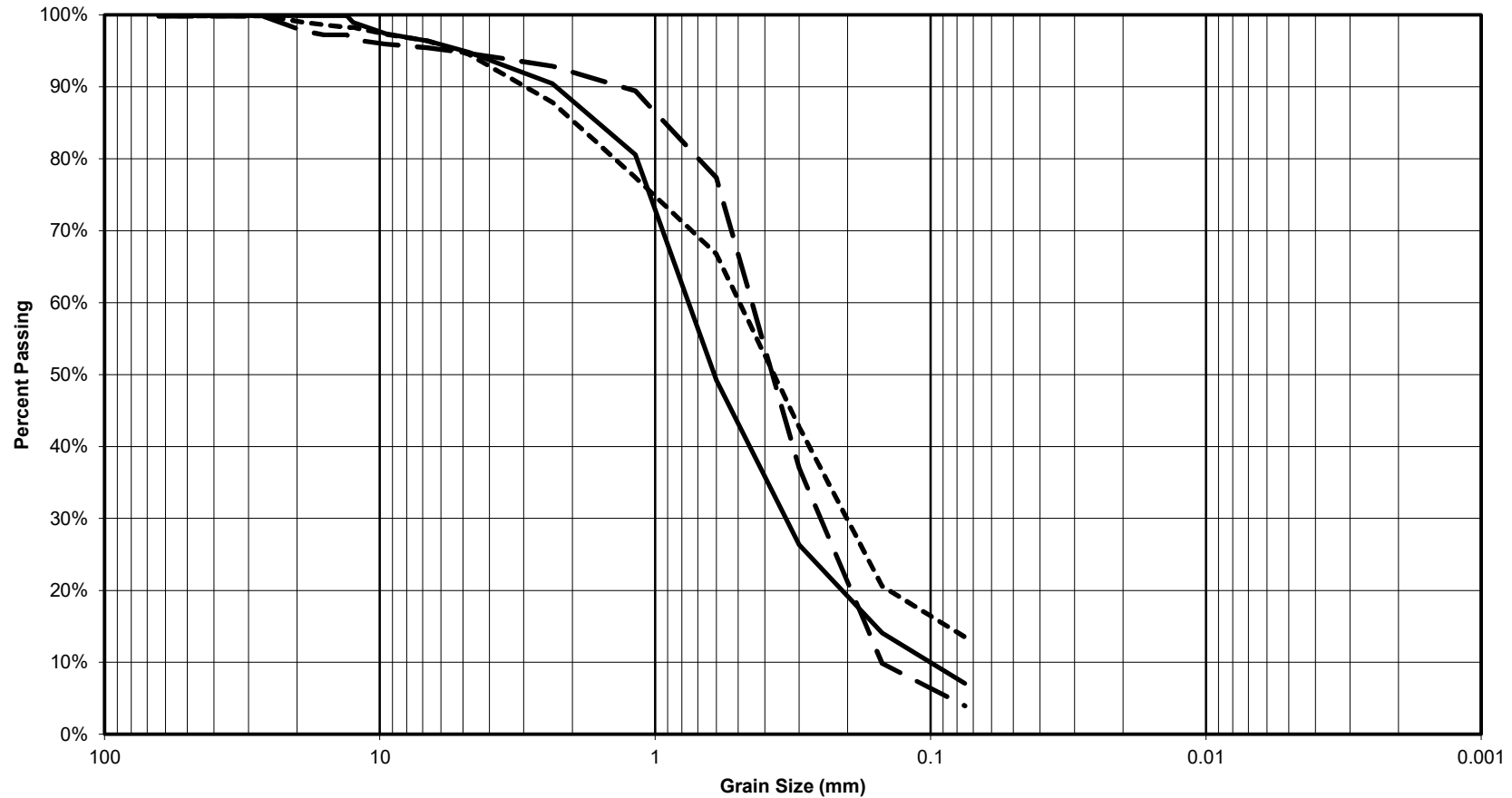
Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP18	S1	0.3	48%	47%	5%	8.7%	Poorly graded GRAVEL with sand
- -	TP18	S2	1.4	2%	85%	13%	16.6%	Silty SAND
----	TP20	S2	0.7	6%	88%	6%	30.7%	Poorly graded SAND with silt



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

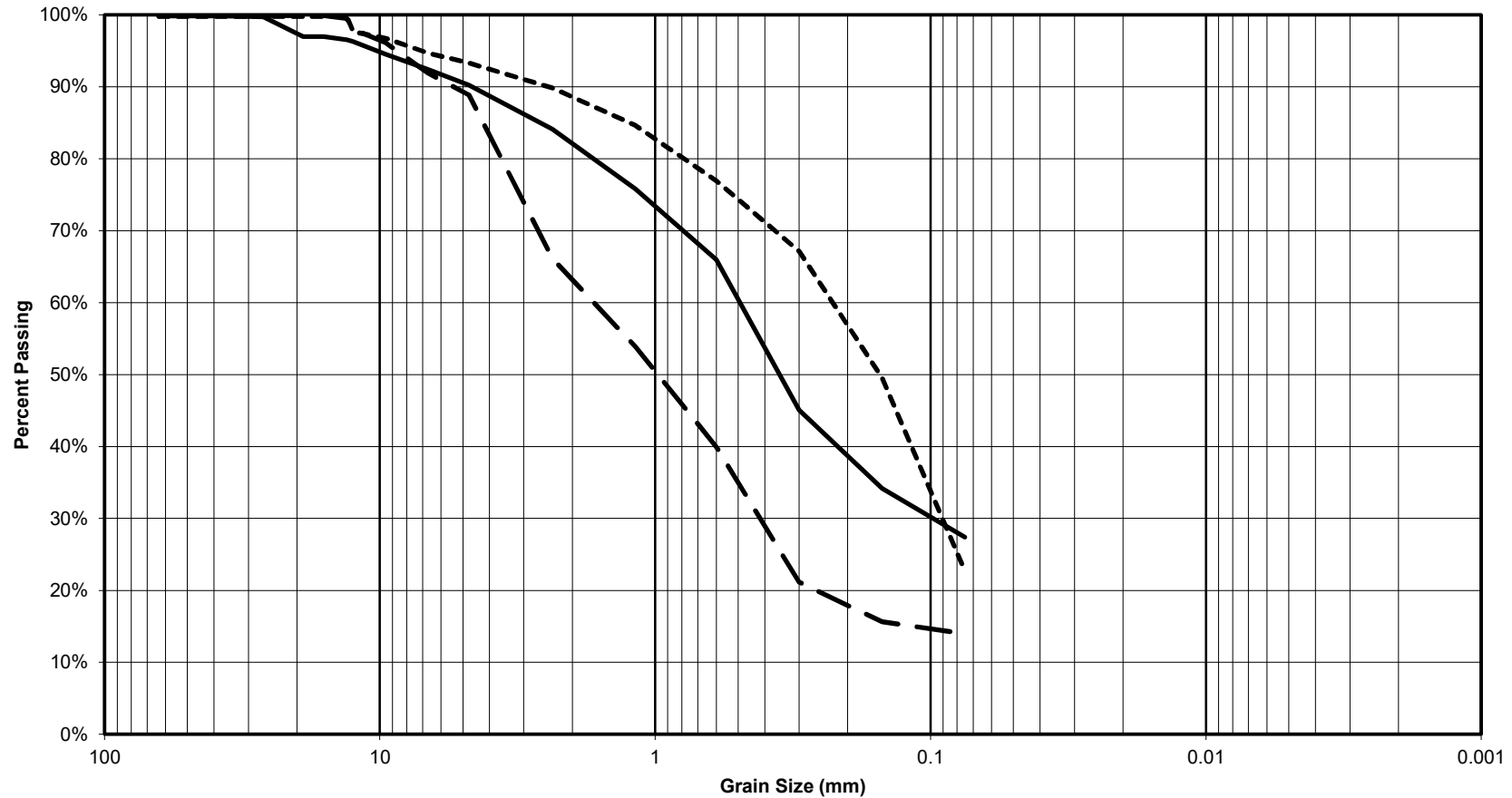
Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP22	S1	0.3	5%	88%	7%	13.5%	Well-graded SAND with silt
- -	TP22	S2	1.3	5%	91%	4%	17.1%	Poorly graded SAND
----	TP24	S1	0.4	5%	81%	14%	14.7%	Silty SAND



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

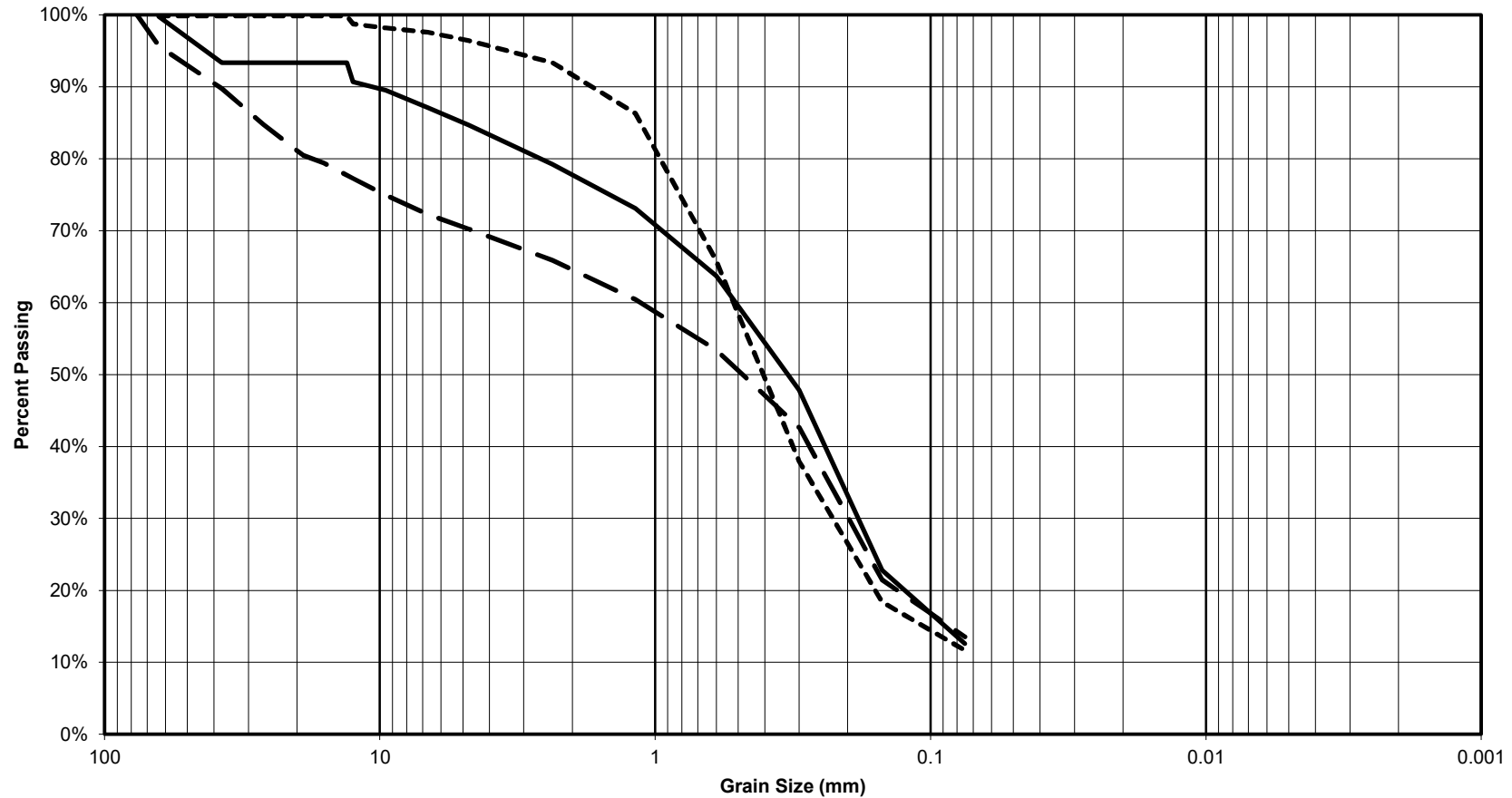
Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP26	S1	0.3	10%	63%	27%	14.5%	Silty SAND
- -	TP26	S2	0.7	11%	75%	14%	14.5%	Silty SAND
----	TP28	S2	0.4	7%	70%	23%	23.3%	Silty SAND



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

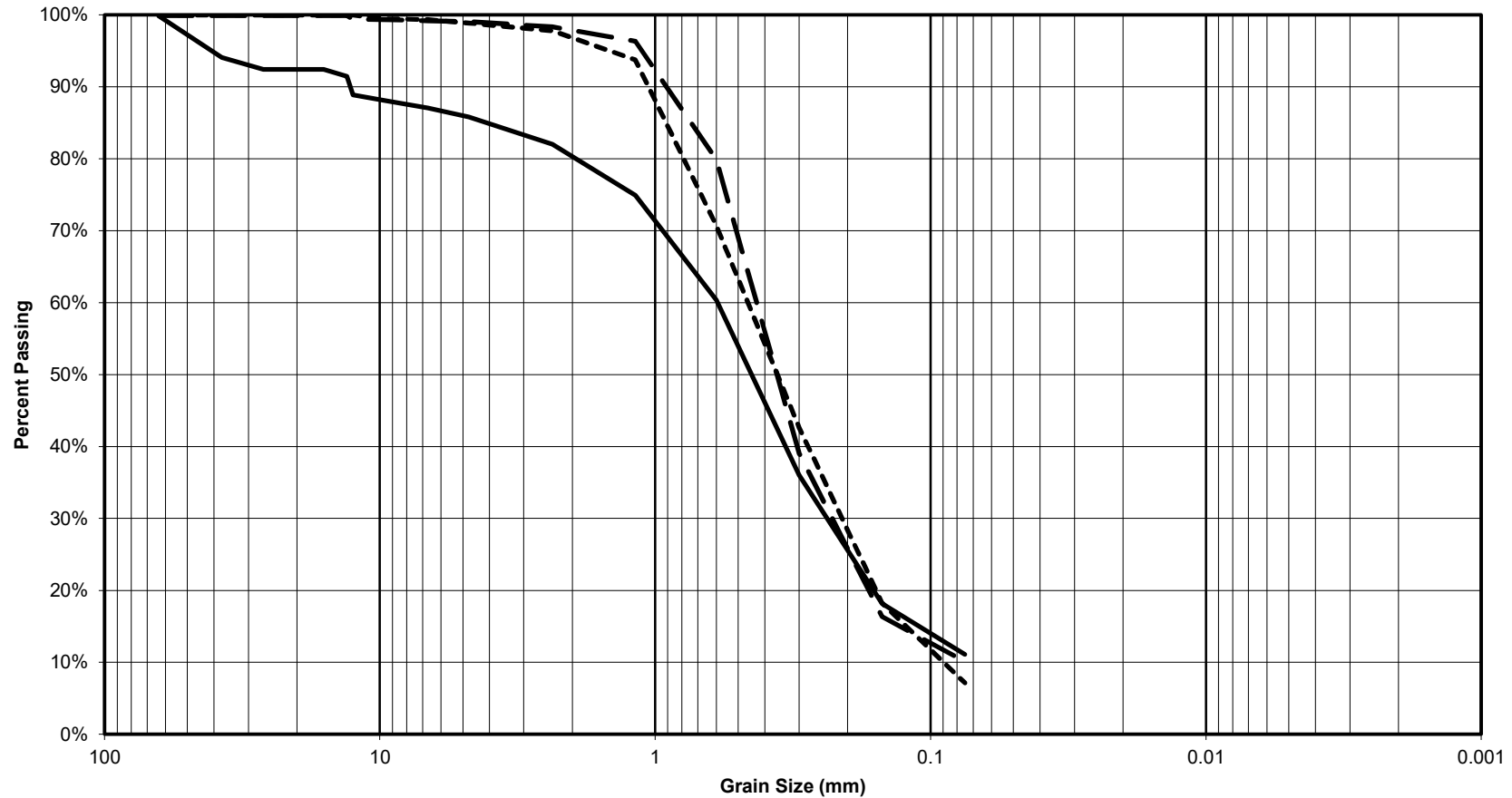
Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP30	S1	0.4	15%	72%	13%	13.7%	Silty SAND with gravel
- -	TP30	S2	1.0	30%	56%	14%	16.7%	Silty SAND with gravel
----	TP32	S1	0.4	4%	84%	12%	17.3%	Well-graded SAND with silt



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

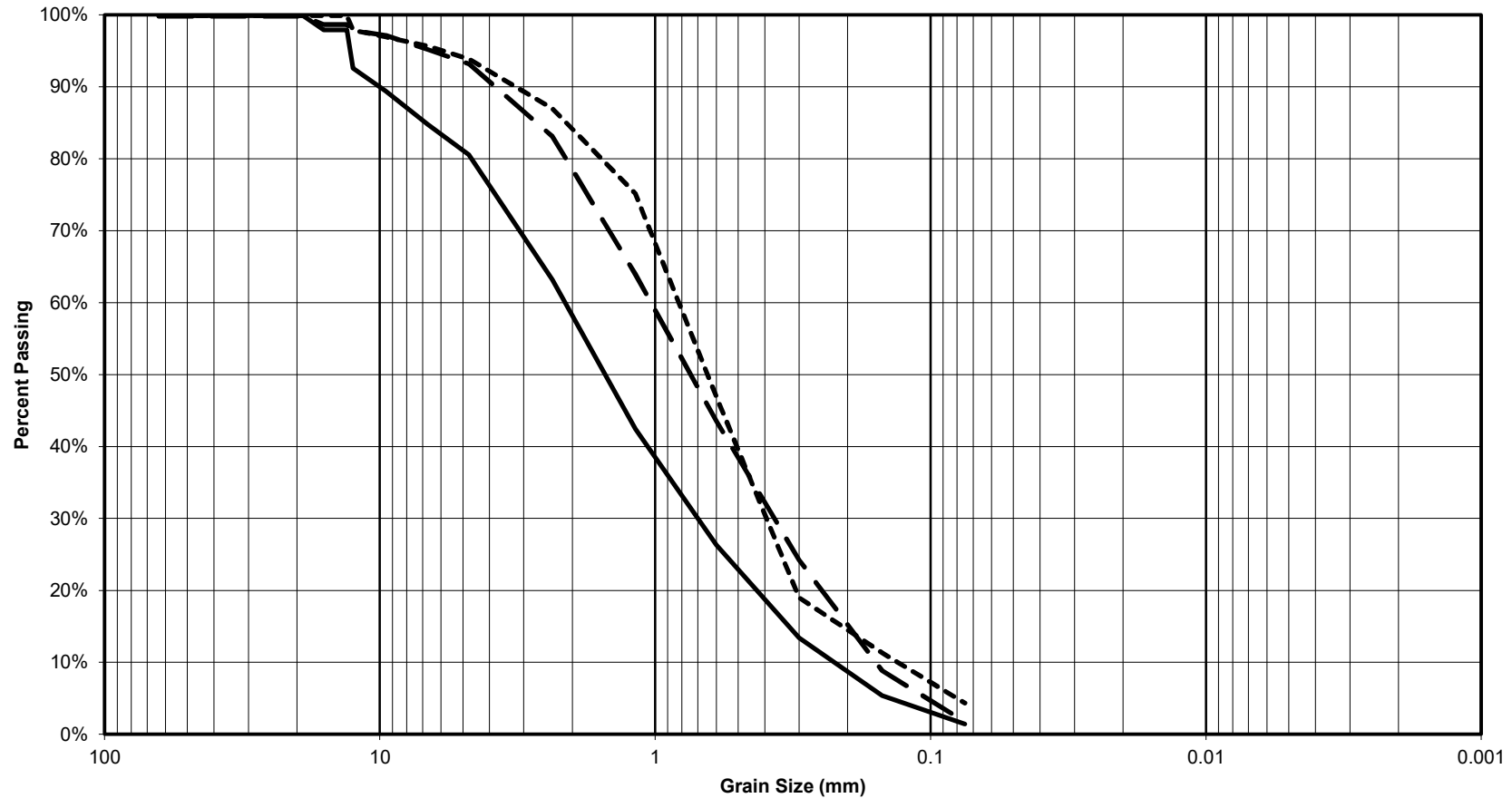
Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP32	S2	0.7	14%	75%	11%	17.0%	Well-graded SAND with silt
- -	TP34	S1	0.4	1%	89%	10%	18.3%	Poorly graded SAND with silt
----	TP34	S2	0.8	1%	92%	7%	15.2%	Poorly graded SAND with silt



Grain Size Analysis

Project: IQA-G2322



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Unified Soil Classification System ASTM D 2487/2488

Curve	Borehole/Testpit	Sample	Depth (mbg)	Soil Fractions			Moisture Content	Soil Description
				Gravel	Sand	Silt/Clay		
—	TP35	S1	0.1	19%	80%	1%	14.2%	Well-graded SAND with gravel
- -	TP35	S2	0.4	7%	91%	2%	13.2%	Poorly graded SAND
----	TP35	S3	1.0	6%	90%	4%	13.3%	Well-graded SAND



STATEMENT OF GENERAL CONDITIONS

Use of this Report: This report has been prepared for the sole benefit of the Client or its agent and may not be used by any third party without the express written consent of Adaptive Baseline Geotechnical Limited (ABG Ltd.) and the Client. Any use which a third party makes of this report is the responsibility of such third party.

Basis of the Report: The information, opinions, and/or recommendations made in this report are in accordance with ABG Ltd.'s present understanding of the site-specific project as described by the Client. The applicability of these is restricted to the site conditions encountered at the time of the investigation or study. If the proposed site-specific project differs or is modified from what is described in this report, or if the site conditions are altered, this report is no longer valid unless ABG Ltd. is requested by the Client to review and revise the report to reflect the differing or modified project specifics and/or the altered site conditions.

Standard of Care: Preparation of this report and all associated work was carried out in accordance with the normally accepted standard of care in the province or territory of execution for the specific professional service provided to the Client. No other warranty is made.

Interpretation of Site Conditions: Where ABG Ltd. has carried out a test pit or borehole field program, the soil, rock or other material descriptions and statements regarding their condition made in this report are based on site conditions encountered by ABG Ltd. at the time of the work and at the specified testing and/or sampling locations. Classifications and statements of condition have been made in accordance with normally accepted practices which are judgement in nature; no specific description should be considered exact, but rather reflective of the anticipated material behavior. Extrapolation of in-situ conditions can only be made to some limited extent beyond the sampling or test points. The extent depends on variability of the soil, rock and groundwater conditions as influenced by geological processes, construction activity and site use. In the case of a desktop assessment the previous reports and information prepared by other parties has been taken at face value.

Varying or Unexpected Conditions: Should any site or subsurface conditions be encountered that are different from those described in this report or encountered at the test locations, ABG Ltd. must be notified immediately to assess if the varying or unexpected conditions are substantial and if reassessments of the report conclusions or recommendations are required. ABG Ltd. will not be responsible to any party for damages incurred as a result of failing to notify us that differing site or sub-surface conditions are present upon becoming aware of such conditions.

Planning, Design or Construction: Development or design plans and specifications should be reviewed by ABG Ltd. sufficiently ahead of initiating the next project stage (property acquisition, tender, construction, etc.) to confirm that this report completely addresses the elaborated project specifics and that the contents of this report have been properly interpreted. Specialty quality assurance services (field observations and testing) during construction are a necessary part of the evaluation of sub-surface conditions and site preparation works. Site work relating to the recommendations included in this report should only be carried out in the presence of a qualified geotechnical engineer; ABG Ltd. cannot be responsible for site work carried out without being present.