FIELD ENGINEERING

1. GENERAL

1.1 Requirements Included

.1 Field engineering survey services to be provided by the Contractor, to measure and stake the site, verify existing conditions, to lay out the Work for construction, obtain as-built information and for measurement of quantities (if required).

.2 Contractor is responsible to establish the subsurface conditions based both on site investigation and reference to available literature. If conditions are found to vary substantially from those expected, notify the Engineer.

1.2 Related Requirements

.1 Record Documents: Section 01720.

.2 Owner's identification of existing survey control points and property limits.

1.3 Qualifications of Surveyor

.1 Capable of performing the Work to the satisfaction of the Engineer.

.2 A registered member of the Association of Canada Lands Surveyors (ACLS) is required to perform the layout for the pumphouse building footprint.

1.4 Survey Reference Points

.1 Existing base horizontal and vertical control points are designated on drawings and/or an electronic copy of the original survey data will be provided.

.2 Locate, confirm and protect control points. Preserve permanent reference points during construction.

.3 Make no changes or relocations without prior written notice to the Engineer.

.4 Report to Engineer when a reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

.5 Require Surveyor to replace control points in accordance with the original survey control.

1.5 Survey by Contractor

.1 Layout and staking will be performed by the Contractor.

.2 Establish one permanent benchmark on site, referenced to established benchmarks or survey control points. Record locations with horizontal and vertical data in the Project Record Documents.

.3 Establish lines and levels; locate and lay out by instrumentation.

.4 Provide staff to assist Engineer with checking of all layout, if requested.

1.6 Records

.1 Maintain a complete, accurate log of control and survey work as it progresses.

.2 On completion of foundations and major site improvements, prepare a survey plan showing dimensions, locations, angles and elevations of the Work.

.1 Survey plan shall be sealed by a registered member of ACLS.

1.7 Submittals

.1 On request of the Engineer, submit documentation to verify accuracy of field engineering work.

.2 Submit certificate signed by Contractor certifying that elevations and locations of completed work are in conformance or non-conformance with Contract Documents.

1.8 Subsurface Conditions

.1 Promptly notify the Engineer, in writing, if subsurface conditions at the place of the Work differ materially from those indicated, or a reasonable assumption of probable conditions based thereon.

.2 After investigation, should the Engineer determine that the conditions do differ materially, instructions will be issued for changes in the Work as provided in General Conditions (GC).

2. PRODUCTS – NOT USED

3. EXECUTION – NOT USED

END OF SECTION

REGULATORY REQUIREMENTS

1. GENERAL

1.1 Permits / Inspections

.1 The Contractor shall obtain and pay for the building permit.

.2 The Contractor shall obtain and pay for all permits, licences, certificates and governmental inspections required for the performance of the Work in force at the Tender closing date.

.3 Give all required notices and comply with all local, provincial and federal laws, ordinances, rules, regulations, codes and orders relating to the Work, which are or become in force during the performance of the Work.

1.2 Applicable Codes / Standards

.1 The NBC-1995 was used as a basis for designing the Work.

.2 Where specified codes/standards are not dated, conform to latest issue of specified codes/standards as amended and revised to the Tender closing date.

.3 Confine apparatus, the storage of Products and the operations of workers to limits indicated by laws, ordinances, permits and by directions of the Engineer. Do not unreasonably encumber the premises with products.

1.3 Safety

.1 Observe and enforce all construction safety measures required by code, Workers' Compensation Board, and all applicable statutes. Appoint a suitably qualified employee who has sole responsibility on site on behalf of the Contractor, for compliance with the requirements and so advise the Owner in writing with copy to the Engineer.

.2 In the event of discrepancy between such provisions, the most stringent provision shall apply.

.3 Employ a qualified specialty Engineer for the design of all shoring and falsework for the temporary supports of all structural elements, earth banks, roads, etc.

.4 Make available two (2) "Visitor safety helmets" for authorized visitors.

.5 Where refuse burning is permitted by the Engineer, prevent staining or smoke damage to structure or materials. Replace stained or damaged work.

.6 If "NO SMOKING" regulations are in effect in areas of the Work, ensure that all workers comply with the regulations.

.7 Ensure that all workers comply with the Owner's safety regulations where such regulations are in effect.

.8 Do not load or permit to be loaded any part of the Work with a weight, load or force that will exceed the design load and/or endanger its safety.

1.4 Cleaning of Streets

.1 Conform to local ordinances and by-laws relating to littering of streets.

.2 Take precautions to prevent depositing mud or debris on public or private roadways adjacent to the Work. Clean up immediately, otherwise the Engineer will direct necessary cleanup with all costs back charged to the Contractor.

1.5 Working Limits / Temporary Easements

.1 Confine all operations within the Owner's property limits.

.2 Arrange for encroachment on areas beyond property lines separately with the property owners.

.3 Obtain consent of adjoining property owners regarding need for any temporary easements or any other encroachments. Upon completion of Contract, make good any damage to adjacent property.

1.6 Taxes / Duties / Patents

.1 Customs Duties

.1 Include customs duties in the Tender Price.

.2 Exemption Certificates or other such documents which would permit purchase of goods exempt of customs duties will be considered by Owner if they apply, only after award of Contract.

.2 Patent Fees

.1 The following sections apply to the Contractor with respect to the furnishing of goods and services under this Contract:

.1 Pay all royalties and patent licence fees required for the performance of the Contract. Hold the Owner harmless from and against all claims, demands, losses, costs, damages, actions, suits or proceedings arising out of the performance of the Contract which are attributable to an infringement or an alleged infringement of any patent or invention by the Contractor or anyone for whose acts the Contractor may be liable.

2 The Owner shall hold the Contractor harmless against all claims, demands, losses, costs, damages, actions, suits or proceedings arising out of the performance of the Contract which are attributable to an infringement or an alleged infringement of any patent or invention in executing anything for the purpose of the Contract, the model, plan or design of which was supplied by the Owner.

.2 The following section applies to the Contractor with respect to the purchase of Equipment from Third Party Suppliers under this Contract

1 The Contractor will ensure that all Suppliers have fully investigated all specifications, including any furnished by Owner and Engineer, in connection with the goods, and based on such investigation and its past experience and superior knowledge with respect to the goods, has determined the production, sale or use thereof will not infringe any patent, patent pending, trademark, trade secret, proprietary information, know-how, copyright, or unpatented invention (hereinafter in this Article referred to separately and collectively as "Intellectual Property Interest"). Suppliers warrant to the Owner and Engineer and their successors in interest that Owner's use of the goods, whether manufactured in accordance with Owner's and Engineer's specification, if any, or otherwise, do not and will not infringe upon any Intellectual Property Interest and Supplier shall defend, indemnify and hold Owner and Engineer and their successors in interest free and harmless from and against any and all claims, demands, costs and liabilities, including legal expenses, arising out of any such infringement or claim of infringement. Owner and Engineer may be represented by and actively participate through its own counsel in any suit or proceeding if it so desires, and the costs of such representation shall be paid by Supplier. Owner and Engineer are relying upon the experience, skill and superior knowledge of Supplier with respect to the goods and makes no representation that Supplier will be safe in manufacturing or preparing the goods as required under this Contract. In no event shall Owner and Engineer or their successors in interest be liable to Supplier for infringement of any Intellectual Property Interest or claim thereof. In the event Owner and Engineer and/or their successors in interest is or are enjoined from the use and/or sale of the goods or any part thereof, then, in addition to any other rights or remedies Owner and Engineer may have under the circumstances, Supplier shall (at its sole expense) take all reasonable steps to procure for Owner and Engineer and their successors in interest the right to use and sell the goods, or any part thereof or, if Supplier cannot so procure the aforesaid right within a reasonable time, Supplier shall then promptly (at Supplier's sole expense):

.1 Modify the goods or any part thereof so as to avoid infringement of any Intellectual Property Interest, or

.2 Replace the goods or any part thereof with goods which do not infringe any Intellectual Property Interest, or

.3 Remove the goods or any part thereof and refund any compensation theretofore paid to Seller and pay to Owner any transportation costs and expenses that may have been paid or incurred by Owner in connection with the goods or any part thereof so removed.

.3 Changes in Taxes/Duties/Fees

.1 The Contract Price shall include all taxes, duties and fees applicable on the Tender closing date.

.2 If changes occur after receipt of Tenders, the Contract Price shall be adjusted accordingly.

1.7 Existing Utilities

.1 Conform to Territorial and municipal regulations during construction in proximity to utility structures.

.2 Notify appropriate utility companies and municipal departments minimum one week in advance of commencing such work:

.1 For telephone, NorthwesTel.

.2 For sanitary and water systems, City of Iqaluit.

.3 For power, Nunavut Power Corporation.

.3 Make arrangements with utility companies for protection of pipelines, conduits, drainlines, wiring and other structures, whether underground, on the surface or overhead, and satisfy the company or department that the methods or operations are effective.

.4 Indemnify and save harmless the Owners of these existing utilities from any loss or damage which may be suffered by reason of the operations of the Contractor in the performance of this Contract.

2. PRODUCTS – NOT USED

3. EXECUTION – NOT USED

END OF SECTION

REFERENCES

1. GENERAL

1.1 Reference Standards

.1 Within the text of the specifications reference may be made to the following standards:

.1	ABC	Alberta Building Code
.2	ACI	American Concrete Institute
.3	AISC	American Institute of Steel Construction
.4	ANSI	American National Standards Institute
.5	ASTM	American Society for Testing and Materials
.6	AWWA	American Water Works Association
.7	CCA	Canadian Construction Association
.8	CEC	Canadian Electrical Code (published by CSA)
.9	CEMA	Canadian Electrical Manufacturers Association
.10	CGSB	Canadian Government Specification Board
.11	CISC	Canadian Institute of Steel Construction
.12	CLA	Canadian Lumberman's Association
.13	CPCA	Canadian Painting Contractors Association
.14	CPCI	Canadian Prestressed Concrete Institute
.15	CRCA	Canadian Roofing Construction Association
.16	CSA	Canadian Standards Association
.17	FM	Factory Mutual Engineering Corporation
.18	IEEE	Institute of Electrical and Electronic Engineers
.19	IPCEA	Insulated Power Cable Engineers Association
.20	NAAMM	National Association of Architectural Metal Manufacturers
.21	NBC	National Building Code
.22	NEMA	National Electrical Manufacturers
.23	TTMAC	Terrazo, Tile and Marble Association of Canada
.24	ULC	Underwriters Laboratories of Canada

.2 If there is question as to whether any product or system is in conformance with applicable standards, the Engineer reserves the right to have such products or systems tested to prove or disprove conformance. The cost for such testing will be borne by the Owner in the event of conformance with Contract Documents or by the Contractor in the event of non-conformance.

.3 Where specified standards are not dated, conform to latest issue of specified standards as amended and revised to the Tender closing date.

2. PRODUCTS – NOT USED

3. EXECUTION – NOT USED

END OF SECTION

SPECIAL PROJECT PROCEDURES

1. GENERAL

1.1 Safety Equipment

.1 Provide safety equipment such as ropes, safety belts, combustible/hazardous gas and oxygen depletion meter for the use of the Engineer. Provide casual labour trained in confined space entry to Engineer when entry is required to manholes or other areas which may be hazardous. The Engineer is not allowed to enter such areas alone.

1.2 Assistance

.1 Give reasonable help to the Engineer in checking the setting out of the work. Arrange for ready access to work.

1.3 Protection, Soundness, And Repair Of New Construction

.1 Protect newly constructed work from damage. Prevent heavy loading of newly constructed work and repair damage. Construct works watertight and correct rejected work.

.2 If, in the final inspection, deficiencies are found, repair or replace defective work. Be responsible for satisfactory maintenance and repair of work undertaken for the specified warranty period. Protect and store equipment supplied under this Contract.

1.4 Protection Of Existing Structures And Property

.1 The Contractor will be held fully responsible by the Owner 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.

.2 Sustain in their places and protect from direct or indirect injury, water mains, public and private sewers and drains, conduits, cables, service pipes, poles, embankments, structures, equipment and other property in the vicinity of the work.

.3 Sustain and support structures that are uncovered, weakened, endangered or threatened.

.4 Prevent dust and dirt from entering existing buildings or areas where equipment is stored or is operating.

.5 Prevent dust, water or other deleterious substances from entering areas with existing electrical, heating ventilating, pumping and other equipment.

.6 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 entering the existing area. When work is completed remove temporary dust control device and thoroughly clean all areas affected by the work.

1.5 Protection Against Freezing

.1 Refer to other Divisions as applicable for detailed cold-weather procedures.

2. PRODUCTS – NOT USED

3. EXECUTION – NOT USED

END OF SECTION

PROJECT MEETINGS

1. GENERAL

1.1 Preconstruction Meeting

.1 Within ten (10) days after award of Contract, the Engineer will request and conduct a pre-construction meeting of parties in contract to discuss and resolve administrative procedures and responsibilities. Meetings will be in Iqaluit.

.2 Representatives of the Owner, Engineer, Contractor, Major Subcontractors, Field Inspectors and Supervisors shall be in attendance. Representatives of the Owner, Engineer, Contractor, Major Subcontractors, Field Inspectors, and Supervisors must be qualified and authorized to act on behalf of the party that each represents.

.3 After time and location of this meeting has been established, the Engineer shall notify all parties concerned a minimum of five (5) days before the meeting.

.4 The Engineer will chair and record discussions and decisions, and circulate the minutes to all parties concerned.

.5 Agenda to include the following:

.1 Appointment of official representatives of participants in the Work

1 Communication protocol and contract information.

.2 Contract Documents

.1 Bonds, Insurance, Worker's Compensation Board, Municipal Business License

.2 Payment procedures and holdbacks

.3 Definitions/Milestones

.4 Contract Drawings

.5 Submittals.

.3 Schedule of the Work, progress scheduling (Section 01310).

.4 Schedule of submission of shop drawings, samples, colour chips, (Section 01300).

.5 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences (Section 01500).

6 Delivery schedule of specified equipment (Section 01310).

.7 Site security (Section 01500).

.8 Safety and Environmental (Section 01060).

.9 Contemplated Change Notices and Change Order procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements (GC).

.10 Record drawings (Section 01720).

.11 Operation and Maintenance manuals (Section 01730).

.12 Take-over procedures, acceptance, warranties (Section 01700 and 01770).

.13 Monthly progress claims, administrative procedures, photographs, holdbacks (GC).

.14 Appointment of inspection and testing agencies or firms (Section 01400).

.15 Insurances, transcript of policies (GC).

.16 Record mutually agreed variations to Contract documents.

1.2 Progress Meetings

.1 The Engineer will schedule and administer progress meetings throughout the progress of the Work. Meetings will be held bi-weekly or as instructed by the Engineer.

.2 Agenda for progress meetings to include the following:

.1 Review and approval of minutes of previous meeting.

.2 Safety and/or environmental concerns.

.3 Review of Work progress since previous meeting.

.4 Field observations, problems, conflicts.

.5 Problems which impede construction schedule.

.6 Review of off-site fabrication delivery schedule.

.7 Corrective measures and procedures to regain projected schedule.

.8 Revisions to construction schedule.

.9 Progress, schedule, during succeeding work period.

.10 Review submittal schedules: expedite as required.

.11 Maintenance of quality standards.

.12 Pending changes and substitutions.

.13 Review proposed changes for effect on construction schedule and on completion date.

.14 Outstanding action items

.15 Date and location of next meeting

.16 Note: Should any discrepancies or inconsistencies be noted, please notify the writer as soon as possible and have it recorded in the next meeting. If no notifications are recorded, the minutes will be deemed correct and acceptable to all.

.17 Other business.

.18 Distribution list.

.3 The Engineer shall distribute written notice of the first meeting seven (7) days in advance of the meeting date.

.4 Provide physical space, table and chairs for all local participants. Teleconferencing will be utilized for out of town participants.

.5 The Engineer shall preside at meetings.

.6 The Engineer shall record the minutes of progress meetings. Include significant proceedings and decisions. Identify "action by" parties and date for completion of duty.

.7 The Engineer shall reproduce and distribute copies of minutes within five (5) working days after each meeting and transmit to meeting participants and affected parties not in attendance.

.8 Representatives of Contractor, Subcontractor and Suppliers attending meetings must be qualified and authorized to act on behalf of the party each represents.

2. PRODUCTS – NOT USED

3. EXECUTION – NOT USED

END OF SECTION

SUBMITTALS

1. GENERAL

1.1 Shop Drawings and Product Data

.1 "Shop Drawings" mean custom drawings, product data, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by the Contractor to illustrate details of a portion of the Work.

.2 Arrange for the preparation of clearly identified shop drawings as specified or as the Engineer may reasonably request. Shop drawings are to clearly indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of the Work. Where articles or equipment attach or connect to other articles or equipment, clearly indicate that all such attachments and connections have been properly coordinated, regardless of the trade under which the adjacent articles or equipment will be supplied and installed. Shop drawings are to indicate their relationship to design drawings and specifications. Notify the Engineer in writing of any deviations in shop drawings from the requirements of the Contract Documents.

.3 Examine all shop drawings prior to submission to the Engineer to ensure that all necessary requirements have been determined and verified and that each shop drawing has been checked and coordinated with the requirements of the Work and the Contract Documents. Examination of each shop drawing shall be indicated by stamp, date and signature of a responsible person of the Subcontractor for supplied items and of the General Contractor for fabricated items. Shop drawings not stamped, signed and dated will be returned without being reviewed and stamped "Re-submit".

.4 Submit shop drawings with reasonable promptness and in an orderly sequence so as to cause no delay in the Work. Failure to submit shop drawings in ample time is not to be considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed. Jointly prepare a schedule fixing the dates for submission and return of shop drawings (refer to Section 01200 – Project Meetings).

.5 The Engineer will review and return shop drawings in accordance with the schedule agreed upon or otherwise with reasonable promptness so as to cause no delay in the Work.

.6 Submit six (6) copies for the operation and maintenance manual and sufficient for the contractor's use and records and for the Engineer. The Engineer will retain two (2) copies.

.7 Shop drawing review by the Engineer is solely to ascertain conformance with the general design concept. Responsibility for approval of detail design inherent in shop drawings rests with the Contractor and review by the Engineer shall not imply such approval.

.8 Review by the Engineer shall not relieve the Contractor of his responsibility for errors or omissions in shop drawings or for proper completion of the Work in accordance with the Contract Documents.

.9 Responsibility for verification and correlation of field dimensions, fabrication processes, techniques of construction, and installation and coordination of all parts of the Work rests with the Contractor.

.10 Shop drawings will be returned to the Contractor with one of the following notations:

.1 When stamped "REVIEWED", distribute additional copies as required for execution of the Work.

.2 When stamped "REVIEWED AS MODIFIED", ensure that all copies for use are modified and distributed, same as specified for "REVIEWED".

.3 When stamped "REVISE & RESUBMIT", make the necessary revisions, as indicated, consistent with the Contract Documents and submit again for review.

.4 When stamped "NOT REVIEWED", submit other drawings, brochures, etc. for review consistent with the Contract Documents.

.5 Only shop drawings bearing "REVIEWED" or "REVIEWED AS MODIFIED" shall be used on the Work unless otherwise authorized by the Engineer.

.11 After submittals are stamped "REVIEWED" or "REVIEWED AS MODIFIED", no further revisions are permitted unless re-submitted to the Engineer for further review.

.12 Any adjustments made on shop drawings by the Engineer are not intended to change the Contract Price. If it is deemed that such adjustments affect the Contract Price, clearly state as such in writing prior to proceeding with fabrication and installation of work.

.13 Make changes in shop drawings which the Engineer may require consistent with Contract Documents. When re-submitting, notify the Engineer in writing of any revisions other than those requested by the Engineer.

.14 Shop drawings indicating design requirements not included in the Contract Documents require the seal of a qualified Professional Engineer, registered in the place of the Project. Engineering calculations shall be submitted for review, if requested, and sealed by a qualified Professional Engineer.

1.2 Samples

.1 Submit samples for the Engineers review as specified or as the Engineer may reasonably request. Clearly label samples as to origin and intended use in the Work. Reference samples to drawings and specifications.

.2 Submit samples with reasonable promptness and in orderly sequence so as to cause no delay in the Work. Failure to submit samples in ample time is not to be considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed. Jointly prepare a schedule fixing the dates for submission and return of samples (refer to Section 01200 - Meetings).

.3 Notify the Engineer in writing, at the time of submission, of any deviations in samples from requirements of Contract Documents.

.4 The Engineer' review will be for conformity of design concept and general arrangement only. Such review is not to be considered relief of responsibility for errors or omissions in samples or of responsibility for meeting all requirements of the Contract Documents.

.5 Any adjustments made on samples by the Engineer are not intended to change the Contract Price. If it is deemed that such adjustments affect the Contract Price, clearly state as such in writing and retain approval from engineer prior to proceeding with fabrication and installation of the Work.

.6 Make changes in samples which the Engineer may require consistent with Contract Documents.

1.3 Operating / Maintenance Manuals

.1 See Section 01730.

1.4 Record Drawings

.1 See Section 01720.

1.5 Progress Photographs

.1 Upon commencement of Work and at monthly intervals thereafter, supply the Engineer with one set of digital photographs with sufficient views to clearly indicate progress of all parts of the Work.

.2 Photographs are to be taken with a digital camera and have a minimum 3 megapixel resolution

.3 Submit digital photographs, on CD, to the Engineer with application for payment. Each digital photograph shall be named indicating photo content and referenced by date (i.e., filed by date taken)

1.6 Photographs and Publicity

.1 No press or publicity releases will be permitted without prior approval of the Engineer

1.7 Cash Flow Forecast

.1 Submit to the Engineer, immediately after award of Contract, a cash flow forecast of approximate costs to the Work, compiled on a monthly basis over the term of the Contract.

2. PRODUCTS – NOT USED

3. EXECUTION – NOT USED

END OF SECTION

SCHEDULES, PROGRESS REPORTS

1. GENERAL

1.1 Schedule

.1 Within fifteen (15) days after acceptance of Tender, prepare and submit a bar chart schedule for review to the Engineer. Should revisions be requested by the Engineer, resubmit within seven (7) days after receiving comments.

.2 Schedule shall show dates of commencement and completion of various parts of the Work, ordering and delivery dates of Products, phasing and timing for various subcontracts and all other detailed information to the satisfaction and approval of the Engineer.

.3 All orders for materials shall be placed in ample time for adherence to the schedule.

.4 Make special note of those times when extra work shifts are required to complete the Work.

.5 Prepare definitive schedules for the following specific items:

1 Product Delivery

.2 Schedule of all shop drawings required

.3 Schedule of all samples and mock-ups required

.4 Schedule of material deliveries

.5 Schedule of construction phases

.6 Requirements for special site instructions, colour schedules, etc.

.6 Revise and resubmit schedule periodically to reflect any changes to the schedule.

1.2 Manpower / Overtime

.1 Cease work at any particular point and transfer workers to other designated points, when so directed, should the Engineer judge it necessary to expedite the Work.

.2 Should the Work fail to progress according to the approved progress schedule, work such additional time (including weekends and holidays), employ additional workers, or both, as may be required to bring the Work back on schedule, at no additional cost to the Owner.

.3 Night work will be permitted only with written permission of the Engineer and in accordance with existing municipal regulations. Provide sufficient lighting to permit night work to be performed safely and satisfactorily.

.4 If this Contractor causes delay to another Contractor, this Contractor shall bear all costs of expediting the Work of such other Contractor.

2. PRODUCTS – NOT USED

3. EXECUTION – NOT USED

END OF SECTION

QUALITY CONTROL

1. GENERAL

1.1 Requirements Included

.1 Inspection and testing, administrative and enforcement requirements.

.2 Testing and mix designs.

.3 Mill tests

.4 Equipment/system adjust and balance

1.2 Inspection Services

.1 The Owner and the Engineer shall have access to the Work. If parts of the Work are in preparation at locations other than the Place of the Work, access shall be given to such work whenever it is in progress.

.2 Give timely notice requesting inspection if Work is designated for special tests, inspections or review by Engineer's instructions, or the law of the Place of the Work.

.3 If the Contractor covers or permits to be covered Work that has been designated for special tests, inspections or reviews before such is made, uncover such Work, have the inspections or tests satisfactorily completed and make good such Work at no extra cost to owner.

.4 The Engineer may order any part of the Work to be examined if such work is suspected to be not in accordance with the Contract Documents. If, upon examination, such work is found not in accordance with the Contract Documents, correct such work and pay the cost of examination and correction. If such Work is found in accordance with the Contract Documents, the Owner shall pay the cost of examination and replacement.

1.3 Independent Inspection Agencies

.1 Independent Inspection/Testing Agencies may be engaged by the Owner for the purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by the Owner.

.2 Provide equipment required for executing inspection and testing by the appointed agencies.

.3 Employment of inspection/testing agencies does not relax the responsibility to perform Work in accordance with the Contract Documents.

.4 If defects and/or non-conformances to the contract are revealed during inspection and/or testing, the appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Engineer at no cost to the Owner. Pay costs for retesting and reinspection.

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

.6 Cooperate to provide reasonable facilities for such access.

.7 Notify the appropriate agency and Engineer in advance of the requirement for tests, in order that attendance arrangements can be made.

.8 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with responsible promptness and in an orderly sequence so as not to cause delay in the Work.

.9 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.4 Rejected Work

.1 Remove defective Work, whether the result of poor workmanship, use of defective products or damage and whether incorporated in the Work or not, which has been rejected by the Engineer as failing to conform to the Contract Documents. Replace or re-execute in accordance with the Contract Documents at no extra cost to owner.

.2 Make good other Contractor's work damaged by such removals or replacement promptly.

.3 If in the opinion of the Engineer it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, the Owner may deduct from the Contract Price the difference in value between the Work performed and that called for by the Contract Documents, the amount of which shall be determined by the Engineer.

1.5 Tests and Mix Designs

.1 Furnish tests results and mix design as may be requested or specified.

.2 The costs of tests and mix designs beyond those called for in the Contract Documents or beyond those required by the law of the Place of Work shall be appraised by the Engineer and may be authorized as recoverable.

1.6 Mill Tests

.1 Submit mill tests certificates as requested or as required of specification Sections.

1.7 Equipment / Systems

.1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.

2. PRODUCTS – NOT USED

3. EXECUTION – NOT USED

END OF SECTION