

UTILITIES REGULATION & COMPETITION AUTHORITY



CONTRACT DOCUMENT

THE PROPOSED 3RD AND 4TH FLOOR FIT-OUT AND UPGRADES TO THE BUILDING MECHANICAL SYSTEMS URCA HEADQUARTERS – FREDERICK HOUSE FREDERICK STREET – NASSAU, BAHAMAS

Superintending Officer:
Manager of Facilities
Utilities Regulation and Competition Authority
P. O. Box N-4860
Nassau, Bahamas

Project Manager:
VERITAS Consultants Limited
Church Street Plaza
P.O. Box CR-54090
Nassau, Bahamas

SECTION NO. 1 – ABSTRACT OF PARTICULARS – (From Main Contract)

SPECIFIC ITEMS APPLICABLE TO THIS PROJECT

The Abstract of Particulars applicable to this project is as follows: -

<u>Condition Ref</u>		
1.1	The Authority	The Utilities Regulation & Competition Authority (URCA)
1.3	The Superintending Officer	The Manager of Facilities Utilities Regulations & Competition Authority (including any person(s) designated or authorized to act on their behalf) and the Project Manager
1.4	The Project Manager	VERITAS Consultants Limited
2.2	Date for Commencement	Within fourteen (14) days from the order to commence
2.3	Date of Completion	Within Sixteen (16) weeks from commencement
2.4	Defects Liability	Six (6) months from the date of practical completion (95% complete)
2.5	Period of Interim Certificates	Minimum Fourteen (14) days
2.6	Period for preparing Certificates	Seven (7) days from the date of valuation.
2.7	Period for honouring Certificates	Seven (7) days from date of Certificate
2.8	Percentage of Certificate Retained	Ten (10%) Percent
2.9	Liquidated and Ascertained Damages	At a rate of B\$500.00 per week or part of a calendar week. to a limit of 5% of the Total Contract Value.

Insurance for Injury to Persons; Loss of Property (Clause 29)

- A Contractors All Risk Insurance: Coverage is to include injury, fire, and theft.
- B Tenders shall obtain personal liability, and loss of property insurance coverage for a maximum of B\$1,000,000.00 for any one occurrence but unlimited as to the number of occurrences.

Pricing of Schedules of Works

- C The contract sum for this project includes, without limitation, all labor, material, and equipment for construction and installation of works as outlined in the Works.

General Notes and Insurance (Proof of insurance required for payment)

SECTION 2 – ARTICLES OF AGREEMENT

This agreement made the day of between the

**The Utilities Regulation &
Competition Authority (URCA)**

A public authority established under the Utilities Regulation and Competition Authority Act Chapter 306 of 2009, of the Statute Laws of The Commonwealth of The Bahamas, having its registered office situate in the Commonwealth of The Bahamas at Frederick House, Frederick Street, Nassau, Bahamas (hereinafter called the ‘Authority’) of the one part, and

(Hereinafter called the ‘Contractor’) of the second part.

Whereas the Authority is desirous that certain works should be constructed, Viz

**THE PROPOSED 3RD AND 4TH FLOOR FIT-OUT AND
UPGRADES TO THE BUILDING MECHANICAL SYSTEMS
URCA HEADQUARTERS – FREDERICK HOUSE
FREDERICK STREET – NASSAU, BAHAMAS**

Hereinafter referred to as ‘the Works’

and the Authority has accepted a tender proposal dated by the Contractor
for

For ‘The Works’ the **URCA HEADQUARTERS – FREDERICK HOUSE – FREDERICK STREET – NASSAU, BAHAMAS**

NOW this Agreement witnesses as follows:

1. In this Agreement words and expressions shall have the meanings as respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following contract documents shall be deemed to form and be read and construed as part of this agreement viz
 - a. The said Tender Proposal dated
 - b. The Conditions of Contract
 - c. The Drawings & Specifications as outlined in the invitation to Tender dated
 - d. The Works
3. In consideration of the payments to be made by the Authority to construct, complete, and maintain the works in conformity, in all respects, with the provisions of the Contract Documents.
4. The Authority hereby covenants to pay the Contractor in consideration of the construction, completion, and maintenance of the work at the Contract Price at the time and in the manner prescribed by the Contract Documents.

IN WITNESS WHEREOF the Chief Executive Officer of the Utilities Regulation and Competition Authority of the Commonwealth of the Bahamas has hereunto affixed the Authority's official seal and the contractor has hereunto affixed their seal and set hand the day and year first above written.

SIGNATURE

(Chief Executive Officer of the Authority)

SIGNED, SEALED, AND DELIVERED by

the said

Chief Executive Officer
Utilities Regulation and Competition
Authority of the Bahamas

In the presence of:

WITNESS
(Signature)
(Name)

SIGNATURE

Contractor - Owner

SIGNED, SEALED, AND DELIVERED by

the said

In the presence of:

WITNESS
(Signature)
(Name)

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CONDITIONS OF CONTRACT**1.0 DEFINITIONS, ETC.**

- 1.1 "Authority" means the persons so designated in the Abstract of Particulars.
- 1.2 "Contractor" means the individual or firm or company undertaking the Works and includes the Contractor's representatives, successors, and permitted assigns (including all sub-contractors).
- 1.3 " Superintending Officer or S.O." means Manager of Facilities of Utilities and Energy of Authority (URCA) or any other person designated as such in writing by the Authority (including the Project Manager VERITAS Consultants Limited).
- 1.4 " Contract Price" means the sum named in the Tender Proposal dated submitted by the Contractor and accepted by the Authority, subject to such additions or deductions as may be made under the provisions hereinafter contained.
- 1.5 " The Works" means the works described in the Tender Documents and/or shown on the Drawings and Specifications including all modified extra or additional works and obligations to be performed under the Contract.

2.0 EXTENT OF CONTRACT

The Contract comprises the construction, completion, and maintenance of the Works. Except in so far as the Contract otherwise provides, all labor, materials, plant, temporary works and everything whether of a temporary or permanent nature required in and for such construction, completion and maintenance are specified in or reasonably to be inferred from the Contract.

3.0 CONTRACT DOCUMENTS

The documents forming the Contract are to be taken as mutually explanatory of one another and in case of ambiguities or discrepancies, the same shall be explained and adjusted by the S.O. who shall thereupon issue to the Contractor instructions directing in what manner the work is to be carried out. Provided always that if in the opinion of the S.O. compliance with any such instructions shall involve the Contractor in any additional expense which because of any such ambiguity or discrepancy the Contractor did not and had no reason to anticipate, the S.O. shall certify in writing and the Authority shall pay an additional sum(s) as agreed between the parties before the commencement of these additional services to cover such expense.

4.0 CUSTODY OF DRAWINGS

One hardcopy and one electronic copy of the Drawings shall be furnished to the Contractor free of cost. After the contract, the Contractor shall return to the S.O all drawings provided under the Contract.

5.0 FURTHER DRAWINGS

The S.O. shall have full power and authority to supply to the Contractor from time to time during the progress of the Works such further drawings and instructions as shall be necessary for the proper and adequate execution and maintenance of the Works and the Contractor shall carry out and be bound by the same.

6.0 INSPECTION OF SITE

The Contractor shall inspect and examine the site and its surroundings and shall satisfy himself before submitting his tender as to the nature of the ground and subsoil the form and nature of the site the quantities and nature of the work and materials necessary for the completion of Works and the means of access to the site the accommodation he may require and in general shall obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his tender.

7.0 SUFFICIENCY OF TENDER

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the Works and of the rates and prices stated in the specification which rates and prices shall except in so far as it is otherwise provided in the Contract cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the Works.

8.0 CONTRACTOR'S SUPERINTENDENCE

The Contractor shall execute complete and maintain the Works in strict accordance with the Contract to the satisfaction of the S.O.

9.0 WORKS TO BE TO SATISFACTION OF S.O.

The Contractor or a competent and authorized agent or representative approved by the S.O. (Which approval may at any time be withdrawn) is to be constantly on site of the Works and shall give his whole time to the superintendence of the Works.

10.0 EMPLOYEES

10.1 The Contractor shall provide and employ on the site in connection with the Works: only such technical assistants as are skilled and experienced in their respective callings and such sub-agents, foremen, and leading hands as are competent to give proper supervision to the work they are required to supervise and such skilled, semi-skilled and unskilled labor as is necessary for the proper and timely execution and maintenance of the Works.

10.2 The S.O. shall be at liberty to object to and require the Contractor to remove forthwith from the Works any person employed by the Contractor in or about the execution or maintenance of the Works who in the opinion of the S. O. misconducts himself or is incompetent or negligent in the proper performance of his duties and such person shall not be again employed upon the Works without the written permission of the S.O. Any person so removed from the Works shall be replaced without delay by a competent substitute approved by the S.O.

11.0 SETTING OUT

The Contractor shall be responsible for the true and accurate setting out of the Works, which will be checked by the S.O. or his representative. Such checking shall not however relieve the Contractor of his responsibility for the correctness of the setting out.

12.0 WATCHING & LIGHTING

The Contractor shall in connection with the Works provide and maintain at his own cost all lights, guards, fencing, and watching when and where necessary.

13.0 COMPLIANCE WITH REGULATIONS

The Contractor shall conform in all respects with the provisions of any such Statute, Ordinance or Law and the Regulations or Byelaws of any duly constituted authority which may apply to the Works or any temporary works and with such rules and regulations of Public Bodies and companies and shall keep the Authority indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance or Law, Regulation or Byelaw.

Provided always that the Authority will repay or allow to the Contractor all such sums as the S.O. shall certify to have been properly payable and paid by the Contractor in respect of such fees.

14.0 INTERFERENCE WITH TRAFFIC & ADJOINING PROPERTIES

All operations necessary for the execution of the Works and the construction of any temporary works shall so far as compliance with the requirements of Contract permits and any applicable statute laws and regulations of the Bahamas be carried on so as not to interfere unnecessarily or improperly with the public convenience or the access to use and occupation of public or private road and footpaths or to or of properties whether in the possession of the Authority or of any other person and the Contractor shall save harmless and indemnify the Authority in respect of all claims, demands, proceedings, damages, costs, charges and expenses whatsoever arising out of or about any such matters.

15.0 SUPPLY OF PLANT & MATERIAL

Except where otherwise specified, the Contractor shall at his expense supply and provide all constructional plant, labor, and materials both for temporary and permanent works.

16.0 CLEARANCE OF SITE

During the progress of and upon completion of the Works, the Contractor shall clear away and remove from the site all surplus materials, rubbish, constructional plant and temporary works of every kind and leave the whole of the site and Works clean and in workmanlike condition to the satisfaction of the S.O.

17.0 LABOUR CONDITIONS

The Contractor shall observe all local regulations as to hours of work, rates of pay, and other labor conditions, and where no such regulations exist shall observe hours of work and rates of pay per those conditions normally observed in the district or any relevant trade union agreement and shall post wage rates and other conditions of work at the workplaces concerned. The Contractor shall also take adequate measures to ensure fair and reasonable conditions of health, safety, and welfare of the workers. This includes strict adherence to active emergency pandemic orders or regulations due to the COVID-19 pandemic; including social distancing, and industry work-specific protocols in force during the contract period. Except as provided in clause 23 below no labor dispute or the settlement thereof shall be grounds for any change in the Contract, including but not limited to the Contract price.

18.0 QUALITY OF MATERIALS AND WORKMANSHIP

All materials and workmanship shall be of the respective kinds described in the Specifications and following the S.O.'s instructions. Samples for testing shall be supplied by the Contractor free of cost if the supply thereof is intended by or provided for in the Specifications.

19.0 ACCESS TO SITE

The S.O. and any person authorized by him shall at all times have access to the Works and to the site and to all workshops and places where work is being prepared or where materials, manufactured articles, or machinery are being obtained for the Works and the Contractor shall afford every facility for and every assistance in obtaining the right to such access.

20.0 EXAMINATION OF WORKS

No work shall be covered up without the approval of the S.O. and the Contractor shall afford a full opportunity for the S.O. or his representative to examine and measure the work. If any part of the work has been covered up without the approval of the S.O., the expenses of opening up the inspection shall be the responsibility of the Contractor.

21.0 REMOVAL OF IMPROPER WORKS

21.1 The S.O. Shall during the progress of the works have the power to order in writing from time to time:-

21.1.1 The removal from the site within such time or times as may be specified any materials which in the opinion of the S.O. are not following the Contract.

21.1.2 The substitution of proper and suitable materials.

21.1.3 The removal and proper re-execution of any work which in respect of materials or workmanship is not in the opinion of the S.O. following the Contract.

21.2 In the case of default on the part of the Contractor in carrying out such order the Authority shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor or may be deducted by the Authority from any monies due or which may become due to the Contractor.

22.0 COMMENCEMENT OF WORK

The Contractor shall commence the work on-site within thirty days after the receipt by him of an order in writing to this effect from the S.O. and shall proceed with the same with due expedition.

23.0 TIME FOR COMPLETION

The whole of the Works shall be completed within the time stated in the Abstract of Particulars. Should the amount of extra work or any special circumstance be such as to fairly entitle the Contractor to an extension of time for the completion of the work the S.O. shall determine the amount of such extension. Should the rate of progress of the Works or any part thereof be at any time in the opinion of the S.O. too slow to ensure the completion of the Works by the prescribed time or extended time for the completion, the S.O. shall notify the Contractor in writing and the Contractor shall thereupon take such steps as the Contractor may think fit and the S.O. may approve to expedite progress to complete the Works by the prescribed time or extended time of completion at no cost to the Authority.

Special circumstances for this Clause is a reference to Acts of God or of the public enemy, earthquakes, hurricanes, acts of the Government in its sovereign capacity, fire, floods, epidemic, strikes, and lockouts, or such other circumstances, which cause failure to perform at the time of performance of an obligation hereunder and in every case are beyond the reasonable control and without the fault or negligence of the Contractor or his subcontractors'.

24.0 PERIOD OF DEFECTS LIABILITY

- 24.1 The Contractor shall execute all repairs, adjustments, reconstruction, rectification, and making good of defects, imperfections, shortages, or other faults as may be required by the S.O. for 6 months from practical completion for buildings mechanical, electrical, and air-conditioning services after the completion of the Works.
- 24.2 All such work shall be carried out by the Contractor at his own expense if the necessity thereof shall in the opinion of the S.O. be due to the use of materials or workmanship not following the Contract, or to neglect or failure on the part of the Contractor to comply with any obligation expressed or implied on the Contractor's part under the Contract.

25.0 VARIATIONS

25.1 The S.O. shall make any variation of the form, quality, or quantity of the Works or any part thereof that may in his opinion be necessary and for that purpose or if for any other reason it shall in his opinion be desirable, shall have the power to order the Contractor to do and the Contractor shall do any of the following:-

25.1.1 Increase or decrease the quantity of work included in the Contract.

25.1.2 Omit any such work.

25.1.3 Change the character or quality or kind of any such work.

25.1.4 Change the levels, lines, position, and dimension of any part of the work.

25.1.5 Execute additional works of any kind necessary for the completion of the works, and no such variation shall in any way vitiate or invalidate the Contract but the value (if any) of all such variations shall be taken into account in ascertaining the amount of the Contract price.

25.2 All such work shall be valued at the rates set out in the Specifications if in the opinion of the S.O. the same shall be applicable.

26.0 DAYWORK

The S.O. may if in his opinion it is necessary or desirable instruct in writing that any additional or substituted work shall be executed on a day work basis. In respect of all such works executed on a day work basis, the Contractor shall during the continuance of such work deliver each day to the S.O.'s representative an exact list in duplicate of the names, occupations, and time of all workmen employed on such work and a statement in duplicate showing the description and quantity of all materials and plant used therein. One copy of such list if correct will be signed by the S.O.'s Representative and returned to the Contractor.

27.0 CLAIMS AND PAYMENTS

The Contractor shall send to the S.O.'s representative at agreed intervals an account giving particulars of all claims to which the Contractor may consider himself entitled, including claims for all extra or additional work ordered by the S.O. The S.O. shall certify the sum to be paid by way of an interim certificate and the Contractor shall be entitled to payment of such amount per the periods stated in the Abstract of Particulars. Payments will be made based on 90% of the value of the

completed work plus 90% of the value of materials delivered to the site but not yet incorporated into the Works. After the Works are complete, payment shall be made at the rate of 95% of the completed work and the remaining 5% shall be held by the Authority as retention money until the satisfactory conclusion of the defects liability period. In submitting claims for payment, the Contractor shall include a certificate that all his employees have been paid the wage to which they are due.

28.0 FORFEITURE

28.1 If the Contractor shall become bankrupt or have a receiving order made against him or shall present his petition in bankruptcy or shall make an agreement with or assignment in favor of his creditors or shall agree to carry out the Contract under a committee of inspection of his creditors or being a corporation) shall go into liquidation (other than a voluntary liquidation for amalgamation or reconstruction) or if the Contractor shall assign the Contract without the consent in writing of the Authority first obtained or shall have an execution levied on his goods or property or if the S.O. shall certify in writing to the Authority that in his opinion the Contractor:

28.1.1 has abandoned the contract, or

28.1.2. without reasonable excuse has failed to commence the work or has suspended the progress of the Works for 14 days after receiving from the S.O. written notice to proceed or

28.1.3 has failed to remove materials from the site or to pull down and replace work for 14 days after receiving from the S.O. written notice that the said materials or work had been condemned and rejected by the S.O. under these conditions or

28.1.4 is not executing the Works in accordance with the Contract or is persistently or flagrantly neglecting to carry out his obligations under the Contractor has to the detriment of good workmanship or in defiance of the S.O.'s instructions to the contrary sub-let any part of the Contract; then the Authority may after giving 14 days notice in writing to the Contractor enter upon the site of the Works and expel the Contractor there from without thereby voiding the Contract or affecting the rights and powers conferred on the Authority or the S.O. by the Contract and may himself complete the Works or may employ any other Contractor to complete the Works and the Authority or such other Contractor may use for such completion so much of the constructional plant, temporary works and materials which have been deemed to become the property of the Authority under the provisions of the Contract as he or they may

think proper and the Authority may at any time sell any of the said constructional plant, temporary works and unused materials and apply the proceeds of sale in or towards the satisfaction of any sums due or which may become due to him from the Contractor under the Contract.

- 28.1.5 If the Authority shall enter and expel the Contractor under this Condition he shall not be liable to pay to the Contractor any money on account of the Contract until the expiration of the defects liability periods and thereafter until the costs of completion, damages for delay in completion (if any) and all other expenses incurred by the Authority have been ascertained and the amount thereof certified by the S.O. The Contractor shall then be entitled to receive only such sum or sums (if any) as the S.O. may certify would have been due to him upon due completion by him after deducting the said amount. But if such amount shall exceed the sum which would have been payable to the Contractor on due completion by him then the Contractor shall upon demand pay to the Authority the amount of such excess and it shall be recoverable accordingly.

29 INJURY TO PERSONS & PROPERTY

- 29.1 The Contractor shall be solely liable for and shall indemnify the Authority in respect of any liability, loss, claim, or proceedings whatsoever arising under any statute or at common law in respect of personal injury to or the death of any person whomsoever, arising out of or in the course of or caused by the execution of the Works, unless due to any act or neglect of the Authority or of any person for whom the Authority is responsible.
- 29.2 The Contractor shall be liable for and shall indemnify the Authority against any loss, liability, claim, or proceedings in respect of any injury or damage whatsoever to any property, real or personal insofar as such injury or damage arises out of or in the course of or because of the execution of the Works and provided always that the same is due to any negligence, omission or default of the Contractor, his servants or agents or of any subcontractor.
- 29.3 The Contractor shall as may be required by law cause itself to be assessed and pay its assessment under the provisions of the national insurance legislation of The Bahamas in respect of personnel employed by the Contractor in carrying out the Works and shall keep itself in good standing upon the records of the Government entity administering such legislation at all times during which work is being done under the Contract.

- 29.4 To the extent that the Contractor shall have been required under the foregoing Clauses to insure himself or to ensure that any subcontractor shall be insured, the Contractor shall produce or cause such subcontractor to produce as the case may be, the relevant policy or policies and premium receipts as and when required by the S.O. Should the Contractor make default in so doing, the Authority may insure against any risk for which the default shall have occurred and may deduct the premiums paid from any monies due to or to become due to the Contractor.
- 29.5 Without prejudice to his liability to indemnify the Authority under Clause 29.2 thereof, the Contractor shall effect or shall cause any sub-contractor to effect such insurances (including insurance against third party fire risk (as may be specifically required by the Specification and shall produce or cause such subcontractor to produce as the case may be the relevant policies and premium receipts as and when required by the S.O.; should the Contractor make default in so doing, the Authority may insure against any risk for which the default shall have occurred and may deduct the premiums paid from any monies due to or to become due to the Contractor.
- 29.6 The minimum amount of insurance cover required in respect of this Condition shall be as stated in the Abstract of Particulars.

30 INSURANCE

- 30.1 The Contractor shall in the joint names of the Authority and Contractor insure against loss and damage by fire, hurricane, storm, tempest, sea wave, riot, and malicious damage for the full value thereof, all work executed and all unfixed materials and goods upon the site but excluding plant, tools and equipment and shall keep such work, materials and goods so insured until the Works are delivered up; such insurance shall be with a company or companies approved by the S.O. and the Contractor shall deposit with him the policies and premium receipts; should the Contractor make default the Authority may insure as aforesaid and deduct the premium paid from any monies due or to become due to the Contractor.
- 30.2 The Authority shall be liable for and shall indemnify the Contractor against all loss or damage from whatever cause arising (other than from the Contractor's negligence), during the period of construction of the Works and also during the defects liability periods as stated in the Abstract of Particulars of these Conditions for loss or damage arising from a cause occurring before the commencement of the defects liability periods and for any loss or damage occasioned by the Contractor in the course of any operations carried out by him to remediate defects:-
- 30.2.1 The existing structures together with the contents thereof are owned by or for which it is responsible.

- 30.2.2 The Works and the temporary works to the full value of such work executed from time to time.
- 30.2.3 The materials, plant, and other things brought onto site by the Contractor to the full value of such materials plant and other things for incorporation into the Works.
- 30.3 The Contractor shall upon settlement of any claim under the policies aforesaid proceed with diligence to rebuild or repair the Works and replace or repair the materials or goods destroyed or injured. All monies received under such policies are to be paid to the Contractor by installments under certificates of the S.O. and the Contractor shall not be entitled to any payment in respect of the rebuilding or repair of the Works or the replacement or repair of the materials or goods destroyed or injured other than the monies received under the said policies.

31 LIQUIDATED DAMAGES

- 31.1 Time is of the essence of the Contract if the Works shall not be completed and the site not cleared on or before the date for completion, then in such a case the Contractor shall pay to the Authority a sum calculated per the details set out in the Abstract of Particulars for the period during which the Works shall remain uncompleted after the date for completion. The sum or sums of the money shall be paid as liquidated damages owing and payable by the Contractor to the Authority in respect of the loss and damage sustained because of such delay in completion subject to Clause 23 above.
- 31.2 No payment or concession to the Contractor or order for modified or additional work at any time given to the Contractor or other act or omission of the Authority or its servants shall in any way affect the rights of the Authority to recover the said liquidated damages or shall be deemed to be a waiver of the right of the Authority to recover such damages unless such waiver has been expressly stated in writing signed by or on behalf of the Authority.

32 ARBITRATION

Any dispute arising out of or in connection with this contract shall be referred to Arbitration per the Arbitration Act of the Commonwealth of the Bahamas 2009. The number of Arbitrators shall be one (1) mutually agreed by the parties or appointed per the Act.

SECTION 4 – PROJECT GENERAL NOTES**DESCRIPTION OF THE WORKS**

A The scope of work includes:

The Interior Fit-Out of the third and fourth floor of URCA Headquarters Building, Frederick House, Frederick Street Nassau, Bahamas. It also includes the Mechanical Upgrades to the building, specifically the installation of a fire suppression system to all floors and upgrades to the air conditioning system for the entire building.

B The schedule as detailed in APPENDIX A.

GENERAL ITEMS APPLICABLE TO THIS PROJECT
Compliance with Standard Procedures, Conditions, etc.

C The works shall be carried out in compliance with the standard procedures and requirements of The Ministry of Public Works. The Bahamas Code will be deemed to apply.

D The works shall also be executed per the provisions of all Regulatory Agencies having jurisdiction over the contract. Examples of such agencies or bodies would include the Department of Environmental Health, Utilities Regulatory Competition Authority (URCA), Bahamas Electricity Corporation, Building Control Department, and the like.

The Site

E The Contractor shall be deemed to have visited the site to have taken into consideration all local and existing services and to have made himself thoroughly acquainted with the position and accessibility of the proposed works and the conditions under which they will have to be carried out.

F The Contractor shall note that under no circumstances are plant, equipment, materials, or operatives to over sail or encroach beyond the designated boundaries of the site and the Contractor shall satisfy himself as to the exact location of such boundaries. The Contractor is responsible for the protection of his work and maintaining the site in a clean and tidy condition.

G Arrangements for visiting the site must be made through Mr. Jerome Elliott The Utilities Regulation & Competition Authority (URCA), Telephone Nos. 242 396-5224 or 242 376-4061

H Contractor shall carefully examine the site and all information outlined in this Document and will be deemed to have ascertained and included for the full extent and character of the work as detailed or reasonably inferred therefrom.

The Contractor's attention is specifically drawn to the fact that this contract will be on a firm unit price basis and the Contractor is to allow in his rates and general pricing for all increases in labor, material, and plant which may occur during the contract period.

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DRAFT

SECTION 1 - GENERAL REQUIREMENTS

1.1 Scope

The Contractor shall install, complete, and commission the whole of the works per this specification.

However, the Contractor must refer all conflict to the Superintending Officer (S.O.) for clarification before assuming any particular meaning.

1.2 Copyright

The copyright of all documents produced for this Contract by The Utilities Regulation & Competition Authority (URCA) or its agents, its Vendors, any Subcontractor or supplier shall be vested in the Authority.

No drawings shall be shown to any person not connected with this Contract or used for any other purpose other than this Contract without the permission in writing from the Chief Executive Officer of the Utilities Regulation and Competition Authority

On completion of the works, the Contractor shall return all documents, plans, or related data to the Chief Executive Officer of the Utilities Regulation and Competition Authority or his agents.

1.3 Standards and Abbreviations

The work, material, and equipment where applicable shall comply with the latest editions of the following codes and regulations:

- a. Bahamas Building Code.
- b. Regulation of Bahamas Government regarding safety
- c. Utilities Regulatory Competition Authority (URCA)
- d. Ministry of Health Regulations
- e. Underwriters Laboratories.

The Contractor shall note the references in the Bahamas Building Code to various American and Canadian Standard and Testing Authorities, some of which are listed over the page.

In general, these references define typical standards and the Contractor may suggest alternatives, which achieve an equal or higher standard. Where the specification requires higher standards than the Code, then the specification shall prevail.

Where the following abbreviations appear in the text, they shall have the meanings listed: -

ANSI	- American National Standards Institute
ASTM	- American Society for Testing Materials
AWS	- American Welding Society
CAD	- Civil Aviation Department
CEC	- Canadian Electrical Code
CSA	- Canadian Standards Association
MOWUD	- Ministry of Works and Urban Development
NBS	- National Bureau of Standards
SO	- Superintending Officer
UL	- Underwriters Laboratory
URCA	- Utilities Regulatory Competition Authority (URCA)

1.4 Approval by the Superintending Officer

The Contractor may only deviate from the requirements of this document with the clear, written approval of the S.O.

Where the specification requires the approval of an item before the work may progress, then the Contractor must allow in his program for the time taken to secure such approval, including postal and clerical delays.

The S.O. shall normally reply in one of the following ways: -

- "Approved"
- "Approved as noted"
- "Not approved"

The Contractor may proceed with "approved as noted" provided that he acts on the noted comments and resubmission is not necessary. The record drawings must include the action taken against these notes.

The Contractor may not proceed, or may proceed entirely at his own risk, where the S.O. replies, "not approved". Resubmission is necessary until the S.O. replies in one of the first two categories.

Approval by the S.O. of any design, material, labor, sample, drawing or any other proposal by the Contractor shall be "in principle" only and shall not absolve the Contractor of his responsibility to comply with this specification in all respects unless such non-compliance is agreed at the time of approval.

Similarly, advance approval of materials does not waive the requirements for testing and commissioning unless agreed at the time of approval.

1.5 Site Restrictions

It is deemed that the Contractor will have allowed for all delays and extra costs associated with such restrictions and no claim will be considered which is based on the Contractor's alleged ignorance of such restrictions.

1.6 Statutory Notices, Regulations, and Fees

The Contractor shall give all statutory notices required by any Government Act, by the Bahamas Building Code, by any Local Bye-laws, Rules, and Regulations, or by any Authority which has any jurisdiction over the works or of any utility to which the works will be connected.

Where these bodies require parts of the works to be tested, stamped, certified, or otherwise approved for use, the Contractor shall make all necessary arrangements for the carriage of such parts to the place required by each body and for its collection, suitably approved, and for its proper installation in the works.

The Contractor will also pay all charges, fees, or costs demanded by these Statutory Bodies and shall give every assistance to their representatives should they wish to inspect the site.

1.7 Duties and Taxes

The Contractor shall secure and pay for all import or export permits, controls, licenses, insurance, fees, duties, taxes, etc., associated with the provision and transport of labor and materials to the site.

The Contractor shall also secure and pay for all copyright licenses and agreements, royalties, fees, etc., associated with the use of the equipment and any associated software.

1.8 Building Control

At the appropriate stages of the Contract, the Contractor shall advise the Building Control Officer of the Ministry of Works and Urban Development who shall visit the site and carry out the tests and inspections required by the Building Code.

The Contractor shall give this officer every assistance and shall carry out all work necessary to comply with his instructions without cost or delay to the S.O.

1.9 Guidance Notes for Contractor

The Contractor shall refer to all documents to finalize the Builder's Work, Working, and Record Drawings. Claims for extras based on the Contractor not checking these drawings will not be considered.

All items of equipment prefabricated off-site shall be designed by their manufacturers following the appropriate standards and chosen by the Contractor to be fit for the application in which they are to be used.

The Contractor shall provide all labor, materials, plant, tools, etc., necessary to form a complete installation of all services to comply with this specification regardless of whether or not individual items are mentioned.

The Contractor shall install or apply manufactured materials in strict accordance with the directions of the manufacturer unless specifically directed otherwise. He shall ensure that manufacturer's instructions are furnished by the suppliers with all plant and equipment and make the instructions available to the S.O. on request.

Where the work is to be completed in sections, the Contractor shall design, supply, and install all temporary services needed to complete each section and to ensure that each section operates as safely and as fully as possible in the absence of the contents of the later sections.

Services, which will serve the later sections, will be properly capped, terminated, or otherwise temporarily sealed ready for reconnection at the appropriate stage, all to the approval of the S.O.

Each section shall be tested, commissioned, and provided with the appropriate data.

1.10 Dimensions

All dimensions shall be to the Imperial scale, the detailed setting-out dimensions shall be taken from the Structural Engineer or the appropriate approved Vendor's working drawings. Only stated dimensions shall be used, dimensions shall not be scaled – when in doubt, ASK!

Regardless of whether a dimension is stated on a drawing or not, the Contractor shall verify all critical dimensions by taking all the necessary measurements on-site and the cost of visiting the site for this purpose will be deemed to have been included in his tender price.

1.11 Materials and Alternatives

Alternatives may only be used with the approval of the S.O. and such approval will not absolve the Contractor from his responsibility to ensure compliance with these documents.

The Contractor shall also ensure that there are readily available spare parts for all suggested alternatives.

The S.O. reserves the right to refuse to accept any alternatives once the Contract has started.

The Contractor shall not use any products containing asbestos or its derivatives.

All materials shall be of the types, which will not support bacteriological growth. Products utilizing animal hair, for instance, acoustic insulation shall not be used.

Before ordering the Contractor shall submit for final approval details of all plant, equipment, and materials. All submissions shall be referenced properly including title and location of the project, S.O., Contractor, submission date and specification article number, and/or drawing sheet number with the detail number to indicate the location, service, and function of each particular item.

At the request of the S.O., the Contractor shall, at his own cost, supply and deliver to the site samples of any item that he proposes to use in the works. The whole of the items used shall be equal in every respect to the deposited sample.

No equipment or materials shall be ordered or installed until final approval in writing has been received from the S.O.

The Contractor shall verify the availability of all equipment and materials he intends to use in the execution of his contract before submitting the same for approval. The discontinuance of any materials after approval has been given shall not relieve the Contractor from furnishing and installing S.O. approved alternate materials of equal quality and style without additional cost to the employer.

1.12 Samples

The Contractor shall provide samples of all materials purpose-made for this contract or of any proposed alternatives. Also, at the request of the S.O., the Contractor shall produce samples of workmanship from the workmen he proposes to employ.

These materials and labor shall not be used until approved by the S.O. and approved samples shall be safely stored on-site and used as the standard against which subsequent work will be judged.

1.13 Maintenance Period

The Contractor shall provide a guarantee against faulty materials, labor, and workmanship for a minimum period of 12 months from the date of Practical Completion.

This guarantee shall cover all costs associated with the complete replacement of the faulty item and of making good any knock-on damage caused to any other part of the building or its services.

1.14 Temporary Works

Temporary works inclusive of water, drainage, gas, electrical power and lighting, fixed and mobile scaffold, access platforms and ladders, hoists, cranes, etc., shall be provided by the Contractor who shall also completely remove all such items from the site on completion of the work.

The Contractor shall provide for the off-loading of equipment and check the structural strength of all access routes for the movement of materials to and within the site. Where heavy loads are to be moved, the Contractor shall provide all temporary supports, plates, props, or other means of strengthening the route to avoid damage. Any damage will be put right by the Contractor to the approval of the S.O. and without cost or delay to the Employer.

1.15 Tools and Keys

The Contractor shall provide all tools, operating levers, handles, keys, locks, etc., necessary for the safe and proper assembly, testing, commissioning, use, and maintenance of the installation.

Before completion, the Contractor shall hand over to the S.O. all tools needed by the Employer together with an explanation of their purpose and use. The Contractor shall also supply the S.O. with two sets of all security keys, which shall be suitably labeled as to their function.

The Contractor shall fix all tools necessary for routine use or maintenance to a wooden board, which has been suitably treated and painted and mounted, in a convenient position adjacent to the appropriate item of plant.

1.16 Quality Control

The Contractor shall control the quality of all materials and workmanship to ensure that all items conform to this specification. All labor, materials, or workmanship that do not comply shall be immediately removed from the site and put right without cost or delay to the Employer. In all cases, the decision of the S.O. shall be final.

The Contractor shall prove compliance by carrying out the proper tests and inspections or by producing proper test certificates. All materials used in this contract shall be new, of the best quality, manufactured to the latest NEMA, Canadian or American Standard Specifications, UL or CSA certified, used following the manufacturer's instructions, and be suitable for their duty in the environmental conditions specified herein. They shall recognize the type of use they will get and be of robust, heavy-duty design.

The whole of the installation shall comply with the Bahamas Building Code, with particular reference to the requirements of the CEC and the NFPA, and be carried out by workmen who are fully qualified and experienced in this type of work. Electrical Contractors shall be licensed for work on three-phase equipment.

1.17 Welding and Brazing

Welding shall be carried out to the standards laid down in the Bahamas Building Code.

1.18 Supervisor

All work shall be carried out under the control of a competent full-time supervisor, foreman, or key workman who shall be fully responsible for the quality control of all labor and materials and the proper control of the services under his jurisdiction. This supervisor shall be of a suitable standard to be able to accept and act upon within a reasonable time all instructions, directives, or requests.

1.19 Builder's Work

Where applicable, the Contractor shall design, construct, supply, and install all builders' work and attendance as required by the installation of the services such as: -

- holes, chases, ducts, and trenches,
- steelwork, noggins, straps, brackets, plates, fittings, clamps and supports,
- foundations, plinths, bases, thrust blocks, anchors, holding-down bolts and shims,
- pits, manholes, valve chambers, ducts, trenches, cable pipes, all excavation, and covers, and the full and proper reinstatement,
- provision of scaffold, hoists, cranes, access ladders and platforms,
- provision of offloading, storage, and site welfare facilities,
- keeping the site clean and dry, and free from any accumulated waste materials,
- removal of all surplus, redundant, and/or temporary materials and site clearance on completion,

all to the approval of the S.O.

All Builder's work shall be carried out with the utmost care, with special emphasis where the integrity of the structure or fire or waterproofing parts of the building are involved. In these cases, the Contractor shall keep the numbers and sizes of all

holes to an absolute minimum and the Contractor shall reinstate all such holes to the strength of the original fabric. Wherever possible, fixings to structural steel shall use clamp or strap type fixtures, steelwork shall not be drilled, cut, or welded without the written approval of the S.O.

1.20 Coordination and Installation liaison

Any work which has to be amended or re-done due to a failure to coordinate the works properly will not constitute an extra to the contract.

1.22 Protection of the Work and Storage

The Contractor shall be fully responsible for the safe and proper protection of the work and shall provide all covers, enclosures, or screens, both temporary and permanent, to keep equipment secure, dry, and safe from dirt, mechanical damage, or any other form of deterioration.

The Contractor where applicable shall also provide: -

- purpose-made end caps to protect threads, nozzles and support systems,
- storage of all materials clear of the ground above stormwater flood levels and out of direct sunlight,
- protection utilizing paint, tallow, or grease for bright and machined surfaces, which immediately before handover shall be cleaned and polished,
- protection for electrical cables and seal cable ends using methods and materials recommended by cable manufacturers

and shall leave plant and equipment in a condition ready for finish painting. Parts liable to corrosion shall be painted immediately after removal of temporary protection.

Where necessary, for long items such as pipes or conduits liable to deformation, purpose-made racks are to be utilized. The Contractor shall assume full responsibility for any damage done by him, his employees, or his agents to the premises, the building, or to its contents. He shall repair any such damage to the satisfaction of the employer.

1.23 Painting and Plating

Unless specified to the contrary, the whole of the engineering services installed by the Contractor shall be plated, coated, sealed, or painted in an approved manner to inhibit corrosion and/or electrolytic action with due regard to the environmental conditions described in these specifications.

All materials supplied to the site in a prefabricated form shall be factory coated in the appropriate primer, paint, or plating.

Before being coated, all metallic parts shall be properly cleaned of all scale, rust, oil, or any other form of contamination, and thoroughly dried. All high spots shall be rubbed down and all low spots filled to give a smooth surface before coating.

All treatment shall be carried out by skilled tradesmen following the manufacturer's instructions under the correct conditions of temperature and humidity necessary to ensure a good quality finish.

All materials for site painting shall be delivered and stored in sealed containers properly designed for that purpose. All topcoats of the same color shall be from the same batch. Undercoats shall be both chemically and visually compatible with topcoats.

Any damaged item shall be put right or replaced to the satisfaction of the S.O. without cost or delay to the Contract. In all cases, the S.O.'s decision shall be final.

All steel brackets, supports, raceways, gutters, conduits, pipes, and ducts installed by the Contractor and used externally or in humid environments shall be galvanized, stainless steel or similar approved non-corrodible material.

Unless otherwise approved, galvanizing (HDG) shall be applied by a "hot-dip" process after all machining has been carried out. Painting of galvanized surfaces shall use an approved, calcium plumbate primer.

Aluminum surfaces shall be lightly roughened using an approved abrasive or acid etching solution.

All raceways, conduits, pipes, etc., installed by the Contractor and exposed to view shall be prepared, primed with the correct type of primer, given two coats of undercoat and one coat of an approved, best quality, decorative topcoat. The color of the final coat shall be agreed with the S.O.

1.25 Existing Services

The Contractor shall obtain the positions of existing services from record drawings; these however may, or may not be accurate.

The Contractor shall identify, clearly label, and carefully protect all existing services, which are retained in use throughout the works. At all times, the Contractor shall provide safe access and escape to and from these services for the Employers operating and maintenance personnel.

Where these services serve adjacent areas outside the site, they may only be disconnected with the approval of the S.O. and must be restored to use as quickly as possible. The Contractor shall note that immediate approval and disconnection may not always be possible.

The Contractor shall be responsible for determining whether or not adjacent areas are affected.

1.26 Redundant Materials

Redundant materials shall be disconnected from all services and made safe before removal. They shall then be completely removed from the site at the earliest possible opportunity.

The remaining services shall be securely sealed, capped, terminated, or plugged and left in a safe condition to the approval of the S.O.

Where redundant materials also serve areas outside the site, these areas shall be connected to new services before the old services are disconnected.

1.27 Underground Services

The Contractor shall carry out all excavations with the greatest care to ensure that the existing services are not damaged.

The Contractor, where applicable, shall check with the local electricity, water, and telephone companies and the Employer to establish the exact location and depth of all existing services within the site boundary and shall allow for the safe and proper protection of these services throughout the works so that they may continue to be used without disconnection.

The Contractor shall give these groups all assistance necessary for the inspection, repair, renewal, or removal of the affected service.

Where the Contractor encounters a service not identified by these groups, then he shall immediately inform the S.O. who will advise the Contractor on the appropriate action(s) to take.

Re-statement shall be carried out as soon as possible and shall include the proper preparation, beds, covers, compaction, and making good of the surface all per this specification to the approval of the S.O.

All underground services shall be located accurately on the working and/or record drawings by reference to dimensions from fixed, surface features.

1.28 Connections to Special Equipment and Work of Others

The Contractor shall carefully examine the existing conditions and the existing utilities in the vicinity of the site of the work. Before starting his work, and from time to time as his work progresses, the Contractor shall examine the work and materials installed by others insofar as they apply to his work and shall notify the S.O. immediately in writing if conditions exist which will prevent the satisfactory installation of the work. Should the Contractor continue his work without such notification it shall be construed as an acceptance by him of all claims or questions as to the suitability of the work of others to receive his work. He shall remove and replace at his own expense all work under his contract, which may have to be reinstalled on account of such conditions.

1.29 Safety Requirements

The Contractor shall appoint an experienced person and a deputy who shall be responsible for the safe management of the services installations throughout the contract. The Contractor shall advise the S.O. of these person's home addresses and telephone numbers and one of these persons shall always be available on call. Both persons shall be fully aware of all emergency procedures and points of disconnection of all utilities.

The Contractor shall ensure that all services are safe to be energized and that all security locks and warning signs are in place.

The Contractor shall ensure that the moving parts of all machines, motors, pumps, etc., shall be properly guarded. These guards shall be substantial and constructed in such a way that movement of the guarded item can be observed and, if necessary, any adjustment carried out without removing the guard. A hinged cover

plate shall be fitted in the guards of rotating shafts for easy access to the end of the shaft for measurement of speed.

The Contractor shall ensure that areas of working and storage are provided throughout and that all workmen follow safe working practices.

The Contractor shall not offload, store or install any material outside the perimeter of the site without the approval of the S.O. If approved, the Contractor shall observe all local regulations, Police or other statutory requirements, etc., and shall provide all safety precautions such as warning signs and lamps, fences, traffic lights, etc.

The Contractor shall provide properly constructed, secure storage enclosures for all flammable or otherwise hazardous materials per NFPA recommendations. These enclosures shall be clearly labeled to show the materials contained within and their locations; the size and quantities of materials stored shall be subject to the approval of the S.O.

Enclosures, which house gas tanks or gas pressure governors, shall be properly vented to the atmosphere.

Wherever cutting discs, grinding wheels, arc or gas torches, or any source of sparks or flames are used then the Contractor shall ensure that the proper guards are provided, that the area is clear of all combustible materials, and that a handheld fire extinguisher is readily available.

The Contractor shall not use asbestos or any materials derived from asbestos. Should any asbestos be discovered in an existing installation, then the Contractor shall immediately advise the S.O. who will decide on the correct course of action.

The Contractor shall at all times keep his works free from accumulation of waste materials or rubbish caused by his employees. After the work is completed he shall remove all his tools, materials, and rubbish from the site. He shall leave the site and his works in a clean, orderly, and acceptable condition.

1.30 Grounding and Bonding

The Contractor, where applicable, shall ground and bond the building and all services per the Codes.

The Contractor shall ensure that all metallic parts of each element of the works are assembled with mating surfaces that are clean and firmly joined together to give a connection of negligible electrical resistance. These shall include, but not be limited to the following, metallic items: -

- pipes, conduits, grilles, louvers, ducts of all services
- structural steel framework, lifting beams, etc.
- exposed metalwork in bathrooms and showers.

The Contractor shall also ensure that external metalwork, cladding, roofing, ducts, cowls, access ladders, platforms, walkways, crane tracks, etc., at roof level are all electrically continuous and bonded to the lightning protection system.

Where flexible connections, bellows, or joints are used, then a copper strap must be installed which electrically connects the fixed sections on either side of the joint to ensure electrical continuity.

Grounding connections will be made as required by the MOST RECENT EDITION OF THE CANADIAN ELECTRICAL CODE by the Electrical Contractor.

1.31 Tests and Routine Inspections

The Contractor shall carry out all tests and inspections required by the Codes, Standards, the detailed sections of this specification, or as may be reasonably requested by the S.O. all to the approval of the S.O. before any piece of equipment is connected to a live service.

The Contractor shall carry out all tests using fully skilled operatives and shall provide all test equipment, which shall be properly calibrated.

Early in the Contract, the Contractor shall produce a schedule of the proposed tests, which shall clearly show where they are to be carried out. The S.O. shall confirm which tests he will witness and the Contractor will provide the S.O. with every facility to witness these tests.

The Contractor shall confirm the dates of tests to be witnessed at least 3 days before a site test. Before any tests commence, the Contractor shall allow for the S.O. to carry out such preliminary inspections, as he deems necessary, and for the replacement of any items, which do not comply with the drawings and/or specifications.

The Contractor shall allow adequate time in his program for testing and for the S.O. to consider and approve the results.

All factory-assembled equipment shall be tested to the relevant NEMA, CSA, or UL standards before shipping. With the approval of the S.O., the results of type or batch testing will be allowed.

All equipment that has been dismantled after factory testing, for instance for shipping or installation, or which has not been properly protected against dirt, damp or physical damage at all times shall be fully re-tested on-site to ensure that the manufacturer's warranty still holds.

All installation work shall be tested per the Codes and the detailed sections of this specification to prove compliance.

All concealed work must remain uncovered until tests have been fully completed.

Where several components are used together to form a system, the Contractor shall test both the composite units and the system as a whole to prove their satisfactory operation and shall provide all simulators, test loads, etc., to test the system under varying load conditions.

The S.O. reserves the right to visit the work without notice and to ask the Contractor to demonstrate by testing any part of the works covered by this specification at that stage of construction.

Any plant, which fails a test, shall be reported to the S.O. All failures shall be either be repaired or replaced, as decided by the S.O., together with all adjacent parts, which may have suffered because of the failure, and the tests repeated to the approval of the S.O.

Materials condemned by the S.O. for any reason whatsoever shall be removed immediately from the site at the Contractors expense.

When the plant has passed the tests, the results shall be noted and signed by the tester. A copy shall be handed to the S.O. at the time of the test and copies of formal, typed Test Certificates shall be handed to the S.O. as part of the Record Information.

1.32 Commissioning

After testing and before Handover the Contractor shall properly commission all the plant in the presence of and to the approval of the S.O.

This shall include: -

- visual examination,
- functional and operational tests,
- performance testing,
- checks of labeling,
- checks of the direction of flow, motor, or pump rotation.

The Contractor shall ensure that: -

- all service connections have been properly made,
- all tests have been satisfactorily completed,
- remote controls are either operational or linked out,
- all components to be adjusted on-site are pre-set to a reasonable value and correctly set during commissioning,
- all temporary links, bypasses, jumpers, connections, etc., have either been made or removed as necessary.

The Contractor shall demonstrate to the S.O. that: -

- the work is electrically and mechanically sound,
- noise and temperature levels are acceptable,
- the plant operates correctly,
- there are no visual defects or physical damage,
- the plant is suitable for use as specified.

All temporary work shall be removed, except for any, which may be necessary to complete commissioning. This temporary work shall be identified to the S.O. at the time and completely removed before the end of the contract.

Any item, which fails during commissioning, shall be repaired or replaced as decided by the S.O., re-tested, and recommissioned, together with any adjacent items which may have suffered due to the failure, all to the approval of the S.O.

1.33 Practical Completion Inspection and Acceptance

The following prerequisites are necessary before the practical completion inspection is carried out by the S.O. but no later than thirty (30) days before practical completion.

- a. Reports approved by the S.O. on all testing, balancing, adjusting, and calibration of all systems.
- b. Furnish a complete set of "as-built" reproducible drawings of the complete works. Furnish the required maintenance and operating instructions, wiring diagrams, and control diagrams framed under glass.
- c. The S.O. may elect to permit the Contractor to offer a particular section or an independent system or major subsystems thereof for practical completion testing before the completion of the entire project so that the
The employer may secure beneficial occupancy of a portion of the complex.

1.34 Contractor Produced Information

The Contractor shall produce the following when required and/ or requested:-

- Builder's Work Drawings
- Shop Drawings
- Working Drawings
- Test and/or Calibration Certificates
- Record Drawings
- Operating Instructions
- Maintenance Instructions
- Log Book
- Service Record Books

All documents shall be numbered and marked to show what they are, the name of the Contract, the part of the works to which they refer, and the date. Should any document be resubmitted in a revised form, this revision shall be clearly described and the date of the revision shown. Each revision shall be submitted for approval.

Three sets of the draft builder's work, shop, and working drawings shall be submitted to the S.O. for approval before carrying out the work.

The Contractor shall allow an adequate amount of time for the approval to take place. Builder's Work details, in particular, must be produced early in the contract to avoid delay or later disruption.

No drawing shall be used on-site without approval. 2 sets of the draft test certificates, record drawings, operating and maintenance instructions logbooks, and service record books shall be submitted to the S.O. for approval not later than 2 weeks before the end of the Contract.

Within 4 weeks of receiving approval, the Contractor shall provide 1 complete, full-size set of copies of the approved record drawings. This shall be bound together with the operating and maintenance instructions in hardback covers. The Contractor shall include 2 sets of the appropriate logbooks and service record books for the relevant equipment or building service.

Where the work is completed in stages, the record, operating, and maintenance information shall also be completed in the same stages.

1.35 Builder's Work Drawings

The Contractor shall design and produce drawings to show details of the size and location of all builders' work for approval by the S.O. as defined above.

With the S.O.'s approval, minor items such as chases, holes, etc., which do not affect the integrity of the building structure, its fire, or waterproofing, may be agreed upon and marked on-site without drawings.

1.36 Shop Drawings

The Contractor shall design and produce shop drawings for the approval of the S.O. These shall include the following information for each item of equipment manufactured off-site and supplied to the site in a pre-assembled form: -

- general arrangements, plans, elevations, and sections,
- fabrication details, weights, sizes, and capacities,
- services connection requirements and ratings,
- internal wiring and external cabling requirements,
- builder's work and structural requirements, plinths, supports, hold down and anchor bolts, etc.,

1.37 Working Drawings

The Contractor shall design and produce working drawings for the approval of the S.O. These shall include layouts, plans, elevations, and sections, which show installation details such as:-

- any proposed deviations from the Contract Drawings,
- plan location and inverts of all pipe and ductwork,
- positions of all plant and their service connections,
- details of builder's work and reinstatement,
- location, types, and loadings of all fixings and supports,
- location of all underground or concealed services,
- details of any hazardous materials,
- location of all cables, conduits, and raceways,
- location of all disconnect switches, valves, drain points, sensors and controls,

The Contractor shall fully coordinate his working drawings with the working drawings of other trades to avoid clashes. Where clashes occur due to lack of coordination, the Contractor shall put them right with no cost or delay to the Contract.

The Contractor, where applicable, shall produce separate drawings for each service, such as HWS, ventilation, air-conditioning, gas, electrical power, lighting, public address, fire alarms, intruder alarms, lightning protection, etc.

1.38 Record Drawings

The Contractor shall keep on-site a full set of prints of all Contract and Working Drawings on which he shall record any change or additional information, which occurs during the Contract to show the "as-built" details.

The Contractor shall hand the marked-up copies of the Contract drawings to the S.O., and shall amend the originals of the Working Drawings, which shall then be issued as Record Drawings to the S.O. for approval.

In addition to the items listed under "Working Drawings" above and in the detailed sections of this specification, typical details, which should appear on the record drawings, shall include:-

- schematic diagrams of all main services,
- test certificates,
- manufacturer's shop drawings.

Following approval of the Working Drawings, the Contractor shall forward an additional set of reproducible transparencies to the S.O. A copy of each of the main schematic diagrams shall be fixed to a hardback, covered with clear plastic, and mounted in all main plant areas, electrical vaults or adjacent to main switch panels.

1.39 Operating and Maintenance Instructions Log Books And Service Record Books

The Contractor shall provide three copies of all leaflets, information, explanations, descriptions, etc., to show the Employer how to operate and maintain the various parts of the installation.

These shall normally be in A4 or foolscap sizes and enclosed in a hard-backed file. These shall include full details of:-

- starting, running, and shut-down procedures,
- planned maintenance routines, lubrication charts, etc.,
- fault diagnosis procedures,
- test and commissioning data, settings, etc.,
- recommended spare parts lists, stockiest and suppliers,
- schedules of the record drawings.

Where operating conditions may deteriorate, for example, due to wear, stretch, or bedding-, the Contractor shall include details of all adjustment points whereby the plant may be returned to the specified settings.

The instructions shall identify any dangerous conditions which might occur in the event of a failure and shall give all details of emergency procedures for the safe handling of these situations and of the location of shut-down valves and/or disconnect switches.

They shall also identify any dangerous materials which have been used in the installation, for instance, radioactive or high-voltage parts and, where applicable, instructions for their safe disposal.

The Contractor shall supply the appropriate logbooks and service record books for each system and each equipment item that requires regular or periodic testing or maintenance i.e.

- standby generator systems
- emergency lighting systems
- fire alarm systems
- master and slave clock systems
- security systems
- lightning protection systems
- earthing and bonding systems
- public address systems
- air conditioning systems
- plumbing and drainage systems
- etc.

1.40 Labels

The Contractor shall ensure that the various parts of the installation are all properly labeled per the Codes, Standards, and the detailed sections of this specification. Warning labels shall also be fitted as required by the Codes.

Labels shall be of an approved, permanent nature made from metal or plastic suitable for the temperature of the surface with which it will be in contact, fixed permanently (screwed or riveted not glued) to parts of the installation which are not easily removable. Characters shall either be engraved or embossed into the surface.

Factory-made items shall be labeled to NEMA or equivalent standards and labels shall show the manufacturer's name or trademark, model or batch identifier, and ratings of services connections.

All valves and disconnect switches shall be labeled to show their function and the service control. They shall be given a unique reference number, which also appears on the record drawings.

All pipes shall be labeled to show their contents and direction of flow.

All multi-core cables shall be labeled.

All vaults, plant areas, equipment rooms, or cupboards shall be labeled to show their contents.

1.41 Spares

The Contractor shall submit with his Tender a priced, itemized list of recommended spares to be carried by the Employer for a minimum period of 5 years after Handover.

This list shall include the manufacturers' names or trademarks, addresses, delivery periods, and ordering codes.

The Contractor shall also carry on-site a stock of consumable spares such as fuses, lamps, etc. so that repairs can be quickly carried without delaying progress.

The S.O. may choose not to order any of the above spares from the Contractor.

1.42 Training

Where applicable, the Contractor shall allow for training the Employer's staff in the safe and proper use and maintenance of the services installations. This shall include both technical and non-technical staff.

The Contractor shall also allow for training of the Client's staff by representatives of all specialist manufacturers who are specified as being required to test and commission their equipment on-site, for example, the fire alarm and public address manufacturers.

1.43 Site Meetings

The S.O. shall organize a series of meetings on-site to discuss the progress of the services installations, for work both on-site and in the various factories, and any matters likely to affect this progress. The Contractor shall provide persons of suitable seniority, representing both management and site supervision, which can speak and act with authority on these matters. These representatives shall also be able to respond to queries relating to the quality of the installations and compliance with the specifications.

These meetings shall continue as long as necessary to deal properly with outstanding items and the Contractor shall be deemed to have allowed in his Tender Sum for all charges associated with such meetings.

1.44 Schedule of Rates

The Contractor shall provide within 7 calendar days of a request a fully quantified Schedule of Rates totaling to the value of his Tender Sum.

The S.O. accepts no responsibility for the accuracy of the number of materials, plant/and or labor estimated by the Contractor, but the rates quoted together with a "Pro-rata" assessment of the quantities will be used for evaluating any interim payment or variations.

1.45 Instructions and Variations

The S.O. may issue instructions, which may vary the work, but the contractor may not deviate from the requirements of the contract without the authority of the S.O.

In either case the, Contractor shall advise the S.O. of the effect, if any, the variation will have on the cost and /or progress of the contract together with all the substantiating documentary proof the S.O. may require.

This advice shall be provided in a preliminary form within 7 days and confirmed within 14 days of a request by the S.O.

1.46 Day work and Overtime

Work shall not be carried out at day work or overtime rates without the prior approval of the S.O.

The signing of any day work or timesheet only certifies the quantities thereon, it does not constitute approval for payment at the higher rates.

1.47 Final Inspection

At the end of the maintenance period, a preliminary final inspection will be carried out by the S.O. and a final schedule of defects will be compiled and transmitted to the Contractor to be corrected within a reasonable time, not to exceed thirty (30) days.

When the Contractor indicates in writing that the final schedule of defects has been corrected, the S.O. will carry out the inspection.

When the S.O. is satisfied that all defects have been corrected, he will notify the employer in writing, with a copy to the Contractor. This notification is required before the release of retention monies on the contract works.

PARTICULAR SPECIFICATIONS

ITEM SPECIFICATIONS

GENERAL

- A SET OUT the works to the (Supervising Officer's) S.O.'s approval. The S.O. will supply a datum at the commencement of the Contract.
- B COMPLY with the Bahamas Building Code and all pertinent regulations, pay for, and display the building permit, obtain occupancy certificate on completion.
- C PROVIDE AND PAY FOR ALL temporary services required for the completion of the Contract, disconnect and remove on completion.
- D PROTECT adjoining property and buildings from any damage, which may be incurred as a result of the building operation.
- E PROVIDE adequate enclosure to the Works to ensure the safety of the public and building users if the Works proceed with the buildings in use. The enclosure shall be to the S.O.'s approval.
- F PROVIDE at least one person throughout the Contract who shall be conversant with the reference standards and who will supervise and co-ordinate the Works. All labor used shall be skilled in the facet of the work at which they are employed. No allowance will be made for lack of skill on the part of operatives when accepting or rejecting the Works.
- G PROTECT all materials, components, and elements used in the construction during delivery, handling, and storage. Protect the Works from damage by subsequent trade operations.
- H CLEAN UP during the progress of the Works, maintain a clean and tidy Site. On completion clean up and remove all construction debris to the S.O.'s approval.

DEFINITIONS

A.S.T.M. means the American Standard of Testing Materials.

SITE WORK

- I REMOVE TOPSOIL to its full depth within the limits of the construction stockpile and re-distribute as directed by the S.O.
- J REMOVE and poison any termite mounds encountered, termite-proof all fill under slabs, provide documentary evidence of treatment.
- K FILL under slabs with clean graded limestone, compact in maximum 6" layers, back-fill to all excavations and around building with compacted graded limestone.
- L TRENCH for services, provide gradients required, sand bedding for pipes, and minimum 12" coverage to all services.
- M PREVENT the spread of dust during the performance of the works. Moisten all surfaces required to prevent dust spread.
- N RIP to a depth of 12" to all areas to receive planting. Roll and crush the rock cover with 1" sand blinding.

ITEM SPECIFICATIONSCONCRETE

- A FORM PLYWOOD shall be ¾" good one side. Use new material unless otherwise approved.
- B CONSTRUCTION FORM JOINTS sufficiently tight to prevent loss of mortar.
- C COAT FORM SURFACES with approved colorless mineral oil, free from kerosene before placing reinforcing steel and concrete.
- D ENSURE CONCRETE has achieved sufficient strength before the removal of forms. In no case shall removal be less than 24 hours for vertical surfaces or 14 days for beams.
- E REINFORCING STEEL shall comply with ASTM 15 and 305 for "Deformed Billet Steel Bars" and ASTM 185 for "Welded Wire Fabric".
- F USE CHAIRS bolsters, bar supports, and spacers as required for strength, support, and spacing of bars.
- G PLACEMENT OF BARS shall be as indicated on the drawings with cover to reinforcement not less than 3" when in contact with the ground, 2" when exposed to the weather, and 1-1/2", internal beams and columns.
- H INSPECTION and approval of reinforcement by the S.O. and Building Control Officer is required before placement of concrete.
- I CEMENT for concrete shall be per ASTM C150 type 1 Ordinary Portland Cement.
- J FINE AGGREGATE shall be thoroughly washed and drained sand, which is free of salt.
- K COARSE AGGREGATE shall be clean sharp broken rock, which is free of any deleterious substance with a crushing strength capable of meeting the design requirements, sized between 1 - ½" and ¾".
- L WATER shall be clean, fresh, and free of any organic or inorganic matter. Seawater will not be permitted.
- M VAPOUR BARRIER shall be 6mm sheet plastic in a minimum 6 feet widths with 6" laps at joints and joints sealed with tape or adhesive.

- N COMPRESSIVE STRENGTH for concrete shall be 4500 psi cube tested at 28 days with a maximum slump of 4”.
- O SITE MIXING OF CONCRETE should ensure a uniform distribution of materials.
- P CONSOLIDATE AND COMPRESS concrete on placement to give a dense homogeneous structure free from clod joints. Fill planes, voids’ and honeycombing.
- Q CONCRETE FLOORS shall be finished with a rotary power trowel to obtain a dense, smooth surface with a true plane within 1/8” in 10 ft. Cover and maintain moist for 7 days. Any deviation from the true plane shall be made good with a leveling screed containing an approved bonding agent.

ITEM SPECIFICATIONS

MASONRY

- A CONCRETE BLOCKS shall have a net cross-sectional area not less than 50% of the gross cross-section and be capable of withstanding 700 psi at 28 days.
- B MORTAR shall conform to ASTM C270-64T Type M or S for 8” load-bearing and Type M, S, or N for 4” partition block-work. Cracker dust is acceptable as a plasticizer.

Type	Minimum Strength (28 days)	Portland Cement	Hydrated Lime or Lime Putty	Sand
M	2800 psi	- Ratio by strength only -		
S	2000 psi	2	1	8
N	750 psi	1	1	5

- C LAY ALL LOAD-BEARING MASONRY in stretcher bond and level and plumb to the lines and dimensions indicated on the drawings. Ensure that all horizontal and vertical joints are covered with mortar to the full width of the structure.
- D ALLOW FOR THE COLUMNS and bond intersecting walls if no tie column is present. Use full-height blocks to the underside to tie beams unless otherwise indicated on the drawings.
- E INFILL CAVITIES of block-work below slab level with concrete 2000 psi mix.

- F JOINTS of block-work to receive plaster or render finish shall have a rough, struck-off joint. Fair-faced block-work shall have a smooth concave joint.

Per ASTM C-841-76.
ITEM SPECIFICATIONS

ITEM SPECIFICATIONS ATTACHED.

DRAFT