

SECTION 2 - SPECIAL TERMS AND CONDITIONS

2.1 PURPOSE

The purpose of this solicitation is to establish a full service contract to provide all necessary labor, transportation, material and equipment to furnish a comprehensive program of, inspections, testing, preventive maintenance, emergency repair, routine repair, boiler and water treatment services for all of the air conditioning and water treatment equipment including but not limited to the cooling tower HVAC, chillers, structural components, chilled water pumps and associated piping located at each awarded facility.

2.2 PRE-BID CONFERENCE (RECOMMENDED):

A pre-bid conference will be held on _____ Bidders are to meet _____. A walk-thru tour will be conducted after the pre-bid conference.

It is recommended that a representative(s) of the firm attend this conference as the "cone of silence" will be lifted during the course of the conference, and special conditions and specifications included within this solicitation will be discussed.

Bidders are requested to bring this solicitation document to the conference, as additional copies may not be available.

Note: The name of the representative of the firm that will be attending the site visit should be provided to the Contact Person identified in this solicitation _____ in order to properly arrange a room for the pre-bid conference.

2.3 TERM OF CONTRACT: SIX YEARS

This contract shall commence on the first calendar day of the month succeeding approval of the contract by the Board of County commissioners, or designee, unless otherwise stipulated in the Notice of Award Letter which is distributed by the County's Internal Services Department, Procurement Management Division; and contingent upon the completion and submittal of all required bid documents. The contract shall remain in effect for six (6) years, and shall expire on the last day of the last month of the contract term.

2.4 METHOD OF AWARD

Group 1 – Full Service Maintenance Contract

Award of this contract will be made to the lowest responsive, responsible bidder. To be considered for award, the bidder shall offer prices for all items and years listed in each site. The County will then select the bidder whose offer represents the lowest grand total, and who meet the requirements listed below. If a bidder fails to submit an offer for all items within the site, its offer for that specific site may be rejected. Bidders shall provide the **total annual cost**, inclusive of all necessary labor, transportation, material and equipment to furnish a comprehensive program of, inspections, testing, preventive maintenance (PM), emergency repair, routine repair, boiler and water treatment services necessary to keep the all of the air conditioning and water treatment equipment in operating condition within OEM specifications throughout the life of this contract.

Failure to perform in accordance with the terms and conditions of the contract may result in the bidder being deemed in breach of contract. The County may terminate the contract for default and charge the successful bidder re-procurement costs, if applicable.

Bidder Requirements

Bidder(s) shall submit with their bid all specified information, documents and attachments as proof of compliance to the qualification requirements; however, Miami-Dade County, may at its sole discretion, allow the bidder to complete or supplement the qualification requirements information/documents during the evaluation process. The County may request additional evidence from the bidder(s) to ensure, to its satisfaction, that the bidder(s) is in fact qualified to perform the required work.

Failure to provide proof of compliance to the qualification requirements, as specified by the County, may result in the bidder bid being deemed non-responsive. The County shall be sole judge of the bidder's conformance to the requirements and its decision shall be final.

- A. Bidder(s) must be a State of Florida Mechanical or Class "A" Air Conditioning Contractor. Copy of either license shall be provided with the bid submittal.
- B. Bidder must have certified technicians performing the work specified herein. Copies of Certificates of Competency as a Journeyman in the General Mechanical Category issued by Miami-Dade County or Broward County for each technician shall be provided with the bid submittal.
- C. Bidder(s) technicians shall have successfully completed the EPA Universal Refrigerant Transition and Recovery Certification Program and shall be so certified. Copies of all technicians EPA universal certifications shall be provided with the bid submittal.
- D. Bidder shall submit a copy of the current Stratospheric Ozone Protection (APCF) permit to purchase refrigerants issued by Miami Dade County Regulatory and Economic Resources Department.
- E. The Bidder or bidder's subcontractor shall submit the name(s) of technician(s) who will be performing and evaluating the Eddy Current Testing. The technician(s) performing Eddy Current Tests shall be NDT Level II Certified. The technician(s) evaluating Eddy Current Tests shall be ASNT NDT Level III Certified. Copies of the certificates or certification record shall be provided with the bid submittal.
- F. The bidder or bidder's subcontractor performing oil analysis test and evaluation of oil samples must have a demonstrated 5-year minimum of experience performing oil analysis. As evidence, the bidder or bidder's subcontractor is required to provide at least three (3) letters of reference from their clients including dates of service, and statement of work performed. Reference letters are to be submitted on client's letterhead and must clearly state the length of time services similar to those described throughout this solicitation. The references shall ascertain to the County's satisfaction that the bidder or bidder's subcontractor has sufficient expertise in performing oil analysis. The County, at its sole discretion, may choose to request additional information to assess the bidder's experience.
- G. The bidder(s) shall maintain offices, shop facilities, and personnel located in Miami-Dade or Broward and shall provide a copy of their local business tax certificate as proof of office location.

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- H. The bidder or bidder's subcontractor performing water treatment services to County equipment must have a demonstrated 5-year minimum water treatment experience. As evidence bidder or bidder's subcontractor are required to provide at least three (3) letters of reference from their clients including dates of service, and statement of work performed. Reference letters are to be submitted on client's letterhead and must clearly state the length of time services similar to those described throughout this solicitation. The references shall ascertain to the County's satisfaction that the bidder has sufficient expertise in water treatment. The County, at its sole discretion, may choose to request additional information to assess the bidder or bidder's subcontractor's experience.
- I. The bidder or bidder's subcontractor performing water treatment services to County equipment must have at minimum, one staff member holding an engineering degree. As evidence bidder or bidder's subcontractor must submit a copy of their diploma or official transcripts indicating the degree received.

The successful bidder must maintain all licenses, certificates and qualifications during the contract period. Should the successful bidder replace personnel during the contract period; the new personnel must meet the same qualifications and credentials as those identified in this section.

Group 2 – Purchase, Replacement and Installation of Capital Equipment (chillers, pumps, cooling towers, etc.) (Pre-qualification of bidders. – Closed pool)

The County may replace or add new capital equipment at any awarded site including, chillers, pumps, cooling towers, etc. under Group 2. All bidders requesting to be included in this group must comply with the following requirements:

- A. Bidders shall meet minimum requirements (A through G) listed in Group 1, and have participated in the competitive process.
- B. Acknowledgement that bidder wants to be included in group 2 whether or not the bidder is the successful bidder in Group 1.

The County reserves the right to purchase, replace and install capital equipment using a separate solicitation.

2.5 PRICES

The prices proposed by the bidder shall remain **fixed and firm** for the term of the contract, including the hourly rates provided in Section 4. The county reserves the right to negotiate lower pricing based on market research information or other factors that influence price.

2.6 METHOD OF PAYMENT

In addition to the terms and conditions stated in section 1.2.H – Prompt Payment Terms, and 1.35 Invoices. The County will pay the successful bidder's annual price listed in section 4 in 12 equal monthly installments.

No invoices shall be approved for payment unless the County has received all required reports listed in section 3.8 – Records Management.

2.7 EXAMINATION OF COUNTY FACILITES AND EQUIPMENT (RECOMMENDED)

Bidder(s) are advised to carefully examine the requirements and specifications in this solicitation, and to become thoroughly aware regarding any and all conditions and requirements that may in any manner affect the work to be performed under the contract. No additional allowances will be made because of lack of knowledge of these conditions. It shall be the responsibility of the bidder(s) to examine the equipment and facility prior to submittal of their bid.

Failure or omission of the bidder(s) to examine any instructions or documents, or any part of the specifications, or to visit the facility and become acquainted with the nature and location of the work, the general and local conditions and all matters which may in any way affect performance shall not relieve the bidder(s) of any obligation to perform as specified herein.

A walk-thru tour will be conducted after the pre-bid conference, and will continue the following days if needed. The list of sites that will be visited per day will be given at the pre-bid conference and/or at each walk-through day if additional days are needed.

Site	Facility Name	Address
1	Douglas Office	3071 SW 38 AVE Miami, FL 33146
2	Lejeune Office	3575 South LeJeune Road Miami, FL 33146
3	North District	2575 NE 151 ST Miami, FL 33160
4	Central District	3989 Rickenbacker Causeway Miami, FL 33149
5	South District	8950 SW 232 ST Miami, FL 33190
6	Alex Orr	6800 SW 87th Avenue Miami FL 33173
7	John Preston WTP	1100 West 2nd Avenue Hialeah FL 33010
8	Westwood Lakes	4801 SW 117 AVE Miami, FL 33175
9	Regional Booster Pump Stn # 536	8989 SW 117 Avenue
10	Regional Booster Stn # 1310	3700 NW 151 Street
11	Distribution	1001 NW 11th Street Miami, FL 33136

2.8 INDEMNIFICATION AND INSURANCE

This Section supersedes requirements listed in Section 1.22 of the General Terms and Conditions for Insurance Requirements.

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Note: Proof of insurance is not required in order to be pre-qualified under Group 2. However, pool members must submit a certificate of insurance meeting the requirements listed below in the event of award recommendation, and prior to commencing any work in County property.

The successful bidder shall furnish to the Internal Services Department / Procurement Management Services, 111 NW 1st Street, Suite 1300, Miami, Florida 33128-1989, Certificate(s) of Insurance which indicate that insurance coverage has been obtained which meets the requirements as outlined below:

- A. Worker's Compensation Insurance for all employees of the Contractor as required by Florida Statute 440.
- B. Commercial General Liability Insurance on a comprehensive basis in an amount not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage. **Miami-Dade County must be shown as an additional insured with respect to this coverage.**
- C. Automobile Liability Insurance covering all owned, non-owned and hired vehicles used in connection with the work, in an amount not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage.

All insurance policies required above shall be issued by companies authorized to do business under the laws of the State of Florida, with the following qualifications:

The company must be rated no less than "A-" as to management, and no less than "Class VII" as to financial strength by Best's Insurance Guide, published by A.M. Best Company, Oldwick, New Jersey, or its equivalent, subject to the approval of the County Risk Management Division.

or

The company must hold a valid Florida Certificate of Authority as shown in the latest "List of All Insurance Companies Authorized or Approved to Do Business in Florida" Issued by the State of Florida, Department of Financial Services.

NOTE: CERTIFICATE HOLDER MUST READ: MIAMI-DADE COUNTY
111 NW 1ST STREET
SUITE 2340
MIAMI, FL 33128

2.9 NO PRE-EXISTING WARRANTY

The majority of the equipment covered under this contract is not covered under any type of warranty. The successful bidder is solely responsible for all covered equipment from the date of award. The bidder shall be fully responsible for all of the equipment "as is".

2.10 WARRANTY REQUIREMENTS

In addition to all other warranties that may be supplied for good purchased from the OEM, the successful

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bidder shall warrant the services provided under this contract, other than epoxy coating, against faulty labor for a minimum period of one (1) full year after the date of acceptance of the labor, materials and or equipment by the County. Epoxy coating shall be warranted against shrinkage, peeling, water leakage behind the epoxy, or rusting through the coating for a minimum period of five (5) years. This warranty requirement shall remain in force; regardless of whether the successful bidder is under contract with the County at the time of defect. Any payment by the County for the goods and services does not constitute a waiver of these warranty provisions.

All repair and/or replacement parts supplied by the successful bidder shall be warranted for a minimum period of one (1) full year after the parts have been installed in County equipment.

2.11 OMISSIONS FROM THE SPECIFICATIONS

The apparent silence regarding any details omission from the specification of a detailed description concerning any point shall not negate or infringe on the prime objective of this contract, which is to have all equipment at the specified facilities in operating condition, in accordance with OEM specifications throughout the life of this contract. Only the best industrial practices are to prevail, and only materials and professional workmanship of the highest quality are to be used. All interpretation of these specifications shall be made upon the basis of this understanding.

2.12 PARTS

All replacement parts shall be subject to the approval of the County. The County may, at its sole discretion, specify the parts and materials to be used to perform any work or service rendered under this contract.

All parts and materials provided under this agreement shall be new or factory rebuilt, Original Equipment Manufacturer (OEM), free from defects, guaranteed suitable for their particular designed purpose. Non-OEM parts shall not be used, unless the successful bidder has prior approval from the County Project manager.

The successful bidder at their own expense shall obtain parts in the most expeditious manner available, which includes overnight air shipping and special fast track ordering.

2.13 REPAIRS DUE TO FORCE MAJEURE

Although this is a full service contract for air conditioning and water treatment equipment, it is hereby agreed and understood that the County may require additional repairs due to force majeure. Force majeure include: an act of nature, war, hurricane, riot, sovereign conduct, or verifiable vandalism.

The successful bidder will be required to perform an inspection if requested immediately after a force majeure event. When a repair is required under these circumstances, the County shall pay the successful bidder the hourly rate provided in Section 4, the hourly rate quoted shall be deemed to provide full compensation to the bidder for labor, equipment use, and travel time. The cost of parts and repairs completed by 3rd parties shall be paid on a cost "pass-thru" basis. The successful bidder shall charge the County the same invoice prices he or she is charged by his or her supplier. A copy of the successful bidder's invoice from the supplier for parts shall be submitted with the successful bidder's invoice for

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payment. In cases where the successful bidder manufactures its own parts, the bidder will charge the County a price no higher than he or she charges his or her most favored customer. The County reserves the right to request verification.

2.14 CONTACT PERSON

For any additional information regarding the terms and conditions of this solicitation and resultant contract, Contact: Yuly Chauz-Ramirez, at (305) 375-4263 or via e-mail at [ychaux@miamidade.gov](mailto:ychauz@miamidade.gov)

2.15 CLEAN-UP

The successful bidder shall maintain the chiller room and cooling tower are in a neat and clean condition. All waste materials are to be removed at the bidder's expense. The successful bidder shall remove all tools, equipment, and rigging from the chiller room and cooling tower area immediately upon completion of any service work. It is the responsibility of the successful bidder to keep the site free from trash, debris excess materials, tools and hazardous conditions at all times.

2.16 COMPLIANCE AND REGULATIONS

A. Accident Prevention and Barricades:

Precautions shall be exercised at all times for the protection of persons and property. All bidders performing services under this contract shall conform to all relevant OSHA, State and County regulations during the course of such effort. Any fines levied by the above mentioned authorities for failure to comply with these requirements shall be born solely by the responsible successful bidder. Barricades shall be provided by the successful bidder when work is performed in areas traversed by persons, or when deemed necessary by the Project Manager.

B. Protection of Property:

All existing structures, utilities, services, roads, trees, shrubbery, etc. shall be protected against damage or interrupted services at all times by the successful bidder during the term of this contract. The successful bidder shall be held responsible for repairing or replacing property to the satisfaction of the County should it be damaged by reason of the bidder's operation on the property.

C. Personnel Identification:

All personnel employed by the successful bidder, including any subcontractor and subcontractor's employees when applicable, shall display at all times an identification badge which shall include the employee's name, the employer's name and either a physical description or a photograph of the employee.

D. Compliance with Local, State and Federal Standards and Regulations:

All products and services to be provided under this contract shall be in accordance with all governmental standards, regulations and codes to include, but not be limited to, those issued by

the Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety Hazards (NIOSH), and the National Fire Protection Association (NFPA).

E. Legal Requirement for Pollution Control:

It is the intent of these specifications to comply with the Miami-Dade County Pollution Control Ordinance as stated in Chapter 24 of the Miami-Dade Code. This ordinance is made a part of these specifications by reference and may be obtained, if necessary, by the bidder through the Department of Regulatory and Economic Resources.

F. Disposal of Wastewater and Hazard Waste:

Wastes may be generated at various County facilities after draining or flushing out a chiller system onsite. Any such wastes must be discharged to sanitary sewers only if the waste meets sewer standards and only with the approval of the County facility's manager. If sewers are not available, if the waste does not meet standards, or if a discharge approval is not granted, the bidder must arrange for offsite disposal at a permitted wastewater disposal facility.

Waste oil, empty refrigerants containers, empty oil containers, water treatment chemical containers not currently in use, all used parts, and other materials shall be disposed of immediately after the completion of each service visit. In the event that hazardous waste is generated as defined by U.S. Environmental Protection Agency, or the Florida Department of Environmental Protection, it must be disposed in conformance with all local, State, and Federal laws. A copy of the completed final manifest for any related hazardous materials shall be sent to the County (upon request) at the completion of any disposal transaction.

2.17 ADDITION/ DELETION OF EQUIPMENT AND FACILITIES

A. Additional Equipment and/ or Facilities

Although this contract identifies specific equipment and facilities to be serviced, it is hereby agreed and understood that the County may at its option add new equipment after successful installation and start-up, and/or facilities to the contract. Should the County determine that additional equipment need to be added to a facility for full maintenance, a quote shall be obtained from the bidder servicing that facility. If an additional facility needs to be added to the contract, price quotes will be obtained from all the successful bidders.

B. Facility Modification

Should a facility increase or decrease in size or equipment, price quotes shall be obtained for the modification from the bidder servicing that facility. If the price submitted by the Bidder for the modification is not competitive, the County shall obtain price quotes from all the successful Bidders for the entire facility including the modified portion.

C. Deletion

Facilities or equipment may be deleted when such services are no longer required during the contract period; upon written notice to the Bidder.

D. Increase/Decrease Service

The County may increase or decrease the frequency or types of services that are listed in Section 4, Bid Submittal Form. If the frequency or types of services are reduced to less than the amount stated in Section 4, the County will negotiate with the Bidder and if the negotiated price is competitive the County will adjust prices for the next payment. If the County determines that the negotiated price is not competitive, price quotes will be obtained from all the successful bidders. If the County determines that the negotiated prices are not competitive, the County reserves the right of acquiring the services through a separate solicitation.

Any changes shall be added to this contract by formal modification of the award sheet.

2.18 SUB-CONTRACTING

The successful bidder shall be the primary service provider. Successful bidder will be permitted to sub-contract portions of the work to competent sub-contractors, for water treatment services, Eddy Current Testing, Oil Analysis, electrical work, pipe welding, insulation, crane services and other trades except HVAC. The company name, contact person and a copy of their license/certificate shall be submitted to the Internal Services Department, Procurement Management Division for approval. The sub-contractors are the responsibility of the successful bidder and not the County. All sub-contractors performing work for the County shall be duly licensed prior to commencement of any work during the contract period.

Successful bidder shall be fully responsible to the County for acts and omissions of the sub-contractors and persons employed by them, as they are for acts and omissions of persons directly employed by them.

Any work or service to be performed by a subcontractor must have the prior approval of the County. The County reserves the right to approve, disapprove or dismiss any sub-contractors. Rejection of any subcontractor shall not entitle the successful bidder adjustment of bid prices. The successful bidder shall inform the County prior to scheduling any subcontractor's visit to any County facility.

Failure by the successful bidder to have a subcontractor approved by Miami Dade County will not relieve the bidder of the responsibility to meet, comply with, and fulfill all of the terms and conditions of this contract.

Nothing contained in this bid solicitation shall be construed to create any contractual relationship between any sub-contractor and the County.

2.19 MIAMI-DADE COUNTY RESPONSIBLE WAGES

If the total contract value, exceeds \$100,000 the provisions of Section 2-1.16 (Responsible Wages) of the Code of Miami-Dade County (Code) as amended by Ordinance [Governing Legislation], will apply. A copy of this Code Section may be obtained online at www.miamidade.gov. A copy of the Ordinance may be obtained online at <http://www.miamidade.gov/business/library/ordinances/responsible-wage-code.pdf>. A copy of the Responsible Wages and Benefits Reports may be obtained online at <http://www.miamidade.gov/business/reports-wages.asp#0>

2.20 REPORTING AND PAYMENT UPON TERMINATION

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Prior to the expiration of the contract, the County may inspect all equipment serviced by the successful bidder and document any deficiencies. The bidder will be notified, in writing, of the deficiencies which have been identified and will be required to remedy the deficiencies at least ten (10) days prior to the end of this contract. Said remedy will be subject to County inspection and approval.

If the successful bidder fails to generate an acceptable remedy within the stated time, the County, at its sole discretion, may generate an appropriate remedy by whatever means it chooses, and the cost of such shall be borne by the bidder. Only after deficiencies have been corrected will the final payment be paid to the bidder, less the costs incurred by the County to remedy any deficiencies.

2.21 EXCLUDED SERVICES

Maintenance and repair of controls which are part of the Building Management System. However, the successful bidder should inspect the controls as specified in section 3.6., and if any deficiencies are identified, the bidder shall immediately notify the Project Manager.

Removal of material containing asbestos. If any material is suspected of containing asbestos, the vendor shall not disturb the suspected material, and shall immediately notify the authorized representative.

2.22 ADDITIONAL SERVICES

Additional services under this contract are considered to be any work not covered under this solicitation, but that is part of the air conditioning and water treatment equipment located at the each awarded facility. Additional services shall be obtained from the bidder servicing that facility, and will be paid at the hourly rate(s) provided in Section 4 when performed Monday through Friday between the hours 8:00 a.m. to 5:00 p.m., including the County observed Holidays, and at time and a half (1-1/2) when performed at any other time, including County observed holidays. The hourly rate(s) shall be deemed to provide full compensation to the bidder for labor, equipment use, and travel time. The cost of parts shall not exceed a **10% mark-up** from the bidder's actual cost. If requested, damaged or worn parts shall be submitted for inspection to the County.

If an excess is reported in a bidder's estimate, the bidder may be ineligible for award of that specific order. The bidder shall supply proof of purchase invoice copy for all purchased parts and materials. The actual charge to the County from a successful bidder for a specific project shall not exceed ten percent (10%) of the bidder's initial estimate without the expressed prior approval from the County. If the County determines that the price submitted by the bidder is not competitive, the County reserves the right of acquiring the services through a separate solicitation.

2.23 LIQUIDATED DAMAGES

In the event the vendor maintaining the Building Automation System (BAS) troubleshoots the equipment, and determines and provides evidence to the County that the issues are not related to BAS, but solely mechanical, and charges the County for this effort. The County shall charge the Contractor the same amount the vendor charged the County as a form of liquidated damages.

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The County shall have the right to deduct the said liquidated damages from any amount due, or that may become due to the Contractor under this agreement, or to invoice the Contractor for such damages if the costs incurred exceed the amount due to the Contractor.

Such liquidated damages are intended to represent actual costs acquired and are not intended as a penalty.

2.24 ADDITIONAL CHARGES

In the event the successful bidder troubleshoots the mechanical equipment covered under this contract, and determines and provides evidence that the issues are not mechanical, but are solely BAS issues, the successful bidder may charge the County the hourly rate listed in Section 4. However, the successful bidder shall not charge the County for the first eight (8) hours of troubleshooting that specific incident. The successful bidder may charge the County starting on the 9th hour of troubleshooting, and the hourly rate shall not exceed the rates indicated in Section 4 - Hourly Rates.

2.25 EXEMPTIONS FROM SECTION 1 – GENERAL TERMS AND CONDITIONS

The following clause within this Solicitation does not apply for any department or site: Section 1 Paragraph 1.43 Small Business Contract Measures.

MIAMI-DADE

SECTION 3 – TECHNICAL SPECIFICATIONS

3.1 PURPOSE

The purpose of this solicitation is to establish a full service contract for air conditioning chiller systems and related HVAC equipment.

A. Scope of Work:

1. Furnish all labor, material and equipment to institute a continuing and comprehensive program of, inspections, preventive maintenance, emergency repair and routine repair services, including all water chiller overhauls and repairs, providing necessary, systematic, periodic service, maintenance and satisfactory repair for all of the air-conditioning and water treatment equipment including but not limited to the cooling tower HVAC, valves, gauges, structural components, chilled water pumps, associated piping.
2. The successful bidder shall regularly and systematically inspect all water chiller equipment, it's operation, at frequencies stated herein, and as conditions warrant, adjust, lubricate, clean, repair or replace parts necessary to keep the equipment in proper and safe operating condition in accordance with OEM specifications.
3. All work performed under this contract shall be inclusive of any and all time necessary to meet the terms and conditions of this contract.

3.2 QUALITY ASSURANCE

A. Initial Inspection:

The successful bidder within the first sixty (60) days of the contract shall report back to the department all deficiencies found after the initial inspection. The County will pay the successful bidder the repairs needed to bring the equipment to OEM standards on a Time and Material basis. The hourly rate(s) provided in Section 4, the hourly rate(s) quoted shall be deemed to provide full compensation to the bidder for labor, equipment use, and travel time. The cost of parts and materials shall be paid on a cost "pass-thru" basis. The successful bidder shall charge the County the same invoice prices he or she is charged by his or her supplier. A copy of the successful bidder's invoice from the supplier for parts shall be submitted with the successful bidder's invoice for payment. In cases where the successful bidder manufactures its own parts, the bidder will charge the County a price no higher than he or she charges his or her most favored customer. The County reserves the right to request verification.

B. Emergency Response:

An emergency is an unexpected situation or occurrence that develops due to system failure, power loss, acts of nature or any life threatening situation for building occupancy, or as declared at the sole discretion of a County Project manager.

Where an emergency is deemed to exist by the County, the successful bidder shall be required to respond upon a verbal or written notification. This response must result in the arrival of technicians at

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the affected facility within two (2) hours of notification, 24 hours a day, 7 days a week, 365 days a year, all year.

C. Routine Service and Service Requests:

Routine Services will be initiated by the successful bidder in accordance with OEM specifications and the terms of this contract. Service requests will be initiated by the County, and shall result in the arrival of a properly trained technician at the affected site within twenty-four (24) hours after the notification.

Routine Services and service requests will be scheduled so as to minimize any loss of air conditioning. The successful bidder shall make every effort to schedule the work, in order to avoid disruption of the facility operations.

D. Multiple Locations:

The successful bidder shall have the capability to simultaneously perform all work described herein at multiple site locations throughout Miami-Dade County on a timely basis.

E. System Failure:

In the event of a system failure that cannot be resolved is reported by the County, the successful bidder shall bear all costs necessary to provide temporary cooling at any time the referenced equipment has been determined to be out of service, pending repairs, or loss of redundancy which prevents optimum cooling.

Temporary cooling systems shall include but not be limited to the following:

- Chillers, centrifugal, screws, cooling towers or others with and identical capacity of the unit(s) that failed
- Electrical alterations/modifications; electrical generators, portable or stationary including fuel and emissions exhaust Fuel Tanks, Fuel Cranes, transportation or material handling equipment.
- Permits or fees associated with the installation and County use of these systems.

The successful bidder is required to immediately inform the County and follow up with a written notice within 24 hours. The written notification shall state the reason the equipment is not in service, when repairs will be completed and the system back in full operation.

It shall be considered the successful bidder responsibility to have made prior arrangements for the appropriate temporary cooling systems to be available in the event they are required during the contract term. The successful bidder shall make every effort to expedite the service and minimize the disruption (the cooling effectiveness) to the location being serviced and shall employ every ordinary and extraordinary effort to minimize loss of air conditioning effect including renting, connecting and bringing online temporary equipment (chiller and/or cooling towers) within (4) hours of notification by Miami Dade County determining there will be a delay in providing service restoration of the cooling system.

F. Bidder Accessibility and Communications:

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Bidder shall be accessible by a local or toll free number in Miami-Dade County, during regular business hours. An e-mail address also needs to be provided to all County Project managers.

The successful bidder shall make every effort to communicate with the authorized County representative via e-mail to keep the County fully updated on the status of any ongoing repairs, maintenance or service.

G. System Condition:

The successful bidder shall complete all repairs within the same day as arrival on-site. If repairs are not completed within this period, the bidder shall immediately notify the County, in writing, stating the reason for the delay and establishing a completion date.

Any time services are provided, the bidder shall document the condition of the system and all performed services. These documents shall be provided with any submitted invoice. The successful bidder shall ensure that the equipment is left in an operable condition.

H. Inspection of Work / Bidder Performance

The importance of the equipment covered by this solicitation requires they be maintained in satisfactory and safe operating condition in accordance with their original specifications and capable of providing their maximum output and performance at all times.

Miami Dade County reserves the right to inspect the bidder's work as it deems necessary to ascertain that the terms and conditions are fulfilled. Should it be found that the standards herein specified are not being satisfactorily maintained, the County may request in writing that the bidder place the air-conditioning and water treatment equipment in condition to meet OEM standard.

All defects and/or deficiencies noted by a County project manager will be submitted to the bidder for correction. Should the defects and/or deficiencies not be corrected within the period specified in the notice, the bidder shall be liable for any cost incurred by the County to insure correction. This cost may be deducted against the monthly invoices from the successful bidder. Corrective actions may include, but not necessarily be limited to, additional inspections, repairs, and meetings.

Bidder failure to comply with such demand will constitute a non-performance under which the County may terminate the contract for default, and re-procure the services specified. The County may further charge the bidder any differences in cost between the bidder's price and the re-awarded price.

3.3 GENERAL WORKING CONDITIONS

- A. Successful bidder must recommend and provide to the County and effective refrigerant leak detection program designed around the chillers in the solicitation.
- B. Successful bidder must provide the county user departments with a copy of its policy and program of Chlorofluorocarbon (CFC) and waste oil handling. Successful bidder shall also comply with all ISO14001-2004 policies and regulations from the Regulatory and Economic Resources Department.

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- C. Successful bidder service personnel shall report its arrivals and departures from the County buildings to the County Project managers or their designees and must log in and out the times of arrival and departure, as well as provide a reason for their presence at any County facility.
- D. Successful bidder personnel shall perform all work covered in this contract including examination, cleaning, adjustment, lubrication, repairs and replacements, during regular working hours. Shut-downs of approximately fifteen (15) minutes to one (1) hour maximum in duration are permitted during the performance of non-emergency inspections and repairs, and routine maintenance, except as otherwise noted. The Department's Project Manager, or designee, shall be notified in advance before any shut-down is initiated.
- E. Scheduled shut-downs for major work and repairs shall be coordinated with the Departments' Project Manager(s), or their designees, as standard procedure. Work longer than an hour in duration may be performed between the hours of 5:00 p.m. and 8:00 a.m. on weekdays, or on weekends, or on observed County holidays, as authorized in writing by the Department's Project Manager(s), or their designees.
- F. Scheduled shift work beyond normal working hours may be required for maintenance of certain critical equipment. The successful bidder must coordinate these shut downs with the Department Project Manager(s) or their designees.

3.4 CONTRACT PRE-COMMENCEMENT PROCEDURE

Successful bidder shall deliver to the using departments fifteen (15) days prior to the commencement of the contract, the following documents:

- A. A sample maintenance check list.
- B. A schedule of maintenance for each type of equipment and facility awarded

Successful bidder shall be required to attend a pre-maintenance meeting to accomplish the following. The meeting date will be announced by the user departments.

- A. Introduce the successful bidder supervisor(s), contact person(s), and the maintenance personnel who will be assigned to the contract.
- B. Review and approve the documents listed in items A and B above.
- C. Scheduling the start of the service contract.

3.5 REFRIGERANTS

Successful bidder shall be responsible, at no additional cost to the County to repair any and all refrigerant leaks to OEM standard except when there are catastrophic conditions not caused by the bidder.

- A. If the date of the manufacturers' refrigerant phase-out is escalated by Federal Law, the successful bidder's obligation shall be adjusted to coincide with the new date. The costs of such replacement refrigerants shall be at the successful bidder's cost plus no more than a 10% markup. The Miami Dade County Maintenance Supervisor will determine if the chiller will be retrofitted to the replacement refrigerant or repaired as required by the contract. If refrigerant replacement / chiller retrofitting is required the bidder shall supply a quotation for labor and material for these services. If the price

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submitted by the bidder is not reasonable, the County shall obtain price quotes from all successful bidders, or acquire services through a separate solicitation.

- B. Successful bidder must have, within seven (7) days after award for immediate use, factory recommended equipment and tanks for each type of refrigerant awarded. Tanks shall be used to properly remove and store refrigerants, while making chiller repair. Bidders shall also have equipment to recycle refrigerants to remove certain impurities, dry the refrigerant and separate the oil in accordance with the current Clean Air Act. Tanks shall be large enough to hold the full refrigerant charge of the largest chiller awarded. Used refrigerant containers are not to be substituted for a refrigerant storage tank.
- C. Successful bidder must have available off-site refrigerant reclamation services to remove and reclaim refrigerant. The reclamation services shall be done in accordance with the current Clean Air Act and purity standards ARI 700.
- D. Successful bidder shall conform to all EPA regulations and report in writing per occurrence on a form provided by the County all refrigerant added, recovered, reclaimed or disposed of or accidentally discharged.
- E. Successful bidder shall assure that an adequate supply of refrigerant be available, at the bidders expense, to maintain the water chillers fully charged throughout the term of the contract.
- F. At the request of the county's project manager, the successful bidder's recovery equipment shall be made available for inspection, either at the bidder's office or at the County facility where refrigerant recover will take place.

3.6 SERVICES

The successful bidder shall provide at minimum the following services to all of the air conditioning and water treatment equipment located at each facility, but shall not be limited, to the following:

3.6.1 WATER TREATMENT SERVICES

The successful bidder and/or subcontractor shall comply with all requirements in this section for boiler and chilled water treatment services. The objective is to maintain a high quality water chemical treatment service program to maintain peak operating efficiencies and optimum Corrosion, and biological growth prevention with safe application systems and the most environmentally friendly products for chillers and cooling towers.

Training sessions for all County personnel on water treatment implementation, chemical safety and handling of chemicals and control and monitoring of the program shall be held, on site, a minimum of once per year. All training shall focus on prevention, identification and response training and shall include workbooks, videos and manuals. The training program shall be capable of tracking the progress and training of up to 10 operations personnel.

Within thirty (30) days of award of this contract, and before the chemical product can be used at any County facility, the successful bidder shall supply to the County, Material Safety Data Sheets for all formulations used, product data sheets, fully describing proper dosages, handling and

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feeding, a confidential certificate of composition of analysis, instruction for analytical procedures used to obtain all desired control limits, warranty of fill compliance with local, state, and federal pollution laws with the normal use of the product. Additional Material Safety Data Sheets shall be displayed in a holder near the water treatment equipment, as required by OSHA, and shall also be provided to the County upon request.

The following criteria are essential to the success of the water treatment program.

A. Chemical Feed and Monitoring Equipment

1. The existing chemical feed equipment is owned by each individual County facility. This equipment includes controllers, pumps, solenoids, pump feeders, timers, etc. If the existing equipment fails, breaks, or becomes ineffective the successful bidder shall replace the equipment at no additional cost. Spare equipment shall be stocked at a central warehouse for the purpose of repairing failed equipment.
2. The successful bidder shall inspect, test, maintain, service, calibrate, repair or replace as required, all water treatment equipment, including the solenoid bleed valve, monitoring, and pumping equipment. All chemical controllers, pumps, timers, strainer, 4 way function valves, safety flow controls, check valves, tubing, plastic drums, and corrosion coupon racks shall be maintained in good operating condition; if not repairable, they shall be replaced in kind and with equipment authorized by the County. Any malfunctioning equipment shall be repaired or replaced.
3. The successful bidder shall maintain all chemical storage tanks, bulk tanks, and chemical containers located at each County facility. All chemicals must have 110% containment basins.
4. Installation, maintenance and calibration of equipment shall be the responsibility of the successful bidder. Installation is defined as mounting, setup and calibration only.
5. The successful bidder will provide all necessary chemical piping from the valve on the main condenser line headers to the chemical feed stations to the chemical injection points with the exception of all of the electrical piping which shall be provided by the County.
6. A complete description of installation requirements for all new chemical feed processes shall be provided to and approved by the facility manager before the implementation of the process.

B. Equipment Inspection

All boiler and chiller equipment that is opened for service shall be inspected. A written inspection report and pictures of the internal components of the equipment shall be furnished to the County project manager. Any noted deficiencies shall be clearly outlined and corrective action shall be recommended.

C. Computerized Logs and Reference Manual

Successful bidder or bidder's subcontractor shall provide, at no additional cost to the County, a computerized trending and tracking program that allows the County to enter data directly into a monitoring program. The program shall be capable of having data manually added as well through direct data download. The program shall be web based so that no software is needed to be downloaded. A reference manual shall also be provided to allow County staff to look up subjects of interest.

D. Chemical Programs

All chemical programs shall be specifically formulated for the make-up water source being used, the equipment operating conditions, and system metallurgy and pre-existing conditions. Dosages of all chemicals shall be specified in the terms of pounds of product to be added to the systems, at the time of service, and expected concentrations of the active ingredients in the water.

Condenser water systems shall operate at 5-7(6) cycles of concentration.

E. Corrosion Inhibitors

The formulation used for treatment of the cooling tower water shall be a highly concentrated liquid blend of corrosion inhibitors and sequestering agents. It shall successfully inhibit scale formations in the tower/condenser system at concentrations of 5-7 cycles in Miami-Dade water, and 3.5 – 4.00 cycles in those locations where the make-up water is the equivalent of Homestead City Water. Corrosion inhibition shall be provided for ferrous and non-ferrous metals. Maximum permissible rates shall be 0.5 mpy for copper and 3.5 mpy for mild steel. The corrosion/scale inhibitor shall be a concentrated alkaline blend of phosphonates, polyphosphates, polymeric dispersants, sequestering agents and azoles. No acid treatments are permitted. Use of molybdate other than as a tracer is not permitted. The cooling tower water shall be maintained with a langelier index of not less than +0.5 and magnesium-silicate factor of not more than 35,000. Upon request, the water treatment vendor shall supply the County with the required testing reagents to verify the inhibitor levels.

1. A single liquid product containing Phosphonate /Azole/ Polymer dispersant is preferred for the open cooling tower system. The percentage of actives shall be: Phosphonates 6-10 ppm, Azoles 2-3 ppm, and Polymer dispersant 7-10 ppm. The successful bidder shall maintain control of the chemical makeup to enable compliance with the performance requirements of this solicitation. An oxidizing biocide shall be used thus the minimum active azoles level shall be 2ppm.
2. Use of Nitrite, azole, borate program is preferred for closed systems. The control range shall be Nitrite 200-800 ppm, azoles 5-10 ppm, tolytriazole 5-10 ppm, Ph of 8.5 to 10.0. Products shall be capable of performing corrosion control to the specification requirements notwithstanding the operational requirement of air injection into the Ice Tank Water. The closed systems are currently treated with a nitrite borate product.

Corrosion rate standards

Cooling Tower Systems	
Mild Steel	<2.0 MPY
Copper	<0.2 MPY
Closed Loop Systems	
Mild Steel	<1.0 MPY
Copper	0.2 MPY or better
Boiler Condensate Systems	
Mild Steel	<2.0 MPY

Corrosion Coupons: Provide corrosion coupons for a continuous corrosion study of both copper and mild steel in the condenser water. A minimum number of at least one (1) coupon of each metal shall be removed for analysis each calendar quarter. The corrosion rate will be determined by weight loss and reported each quarter, however such tests shall be conducted no less than forty (40) days apart and no more than (120) days apart. The corrosion rate of mild steel shall not exceed 3.5 mils (.0035 in) per year. The corrosion rate for copper shall not exceed .5 mil (.0005 in) per year.

F. Microbiological Control

1. The bidder's program shall include a specific microbiological control program for both aerobic and anaerobic bacteria compatible with any other chemical present in the treated water systems.

Use of two alternating biocides will be required. Including at least one oxidizer and other non-oxidizer applied alternately, shall be used to effectively prevent the growth of algae, fungi, slime or other undesirable forms of bacterial life. Application shall be as needed in concentrations and frequency to maintain system cleanliness, heat transfer, and to avoid corrosion caused by microbiological fouling. The biocide program shall use dosage and frequency rates designed to keep the total bacteria count in the tower water below a maximum of 10,000 cfu/ml, as measured by the EZ Cult or Ski Strip method. The oxidizing microbiocide shall be a bromine or a bromo-chlorine releaser. The non-oxidizing microbiocide shall be a broad spectrum product, the effective at pH range of 8-9. All products used shall meet all local, state and Federal regulations for discharge into sewage systems. The EPA registration numbers shall be listed on each biocide's container's label.

2. For condenser water systems:

Use of 45% glutaraldehyde at minimum dosage of 75ppm or a 15% solution at a minimum dosage of 225ppm added once per week is desired. Use of 1.5% isothiazolin as a second biocide at a minimum concentration of 75ppm is desired for the open systems added alternately once per week. An alternate second biocide would be bromine added to attain

a free halogen residual of 0.5 to 1.5ppm at least three times per week for a minimum of six (6) hours per addition. Chemical feed shall be concurrent with cooling tower operation.

3. Closed Loop Treatment:

Chilled water treatment of the closed loop system shall be a concentrated liquid chemical solution of borate buffers, nitrite, and other corrosion inhibitors for ferrous and non-ferrous metals, and sequestrants in appropriate amounts to prevent rust, corrosion, scale, pitting, and sludge accumulation. Nitrite residuals maintained throughout the system shall be 300-600 ppm with a pH within the range of 8.5-11.

Those systems containing Glycol for the purpose of Thermal Storage and Pre-conditioned Air systems shall use green Ethylene glycol with a mixture ratio of 30% Glycol.

These systems should be treated with a biocide at least once annually. Use of 45% glutaraldehyde at 200 ppm is desired if effective and as needed. Alternate use of copper free isothiazolline, or other biocide program should be considered. Products shall be capable of performing biological control to the specification requirements. Document any water loss in excess of 10%.

Closed loop microbiology standard:

Aerobic <10,000 CFU/mL
Anaerobic < 1 CFU/mL
Fungi <10 CFU/mL denitrifying – negative

Laboratory bacteria testing must be performed annually on each closed chilled loop system.

4. The selection, control on dosage of micro biocides will ultimately be based on the microbiology performance standards.

G. Chemical Delivery

1. The successful bidder shall deliver chemicals and products in a manner that is safe and acceptable to the County. The successful bidder shall provide all liquid products for the treated water systems directly to the point of feed in a bulk delivery method. This method is intended to eliminate handling of chemical drums by the facility engineers. In the event that bromine tablets are used, the successful bidder shall be responsible for adding the tablets directly to the bromine feeder.
2. Chemicals shall not be drop shipped to any County facility by a freight shipper. Removal and disposal of excess supplies shall be the responsibility of the vendor.

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3. The successful bidder's delivery specialist shall have full commercial driver's license with HAZMAT endorsements. Use of common carriers will be acceptable; however, the successful bidder shall be present to supervise the common carrier. The cost of all deliverables shall be included in the program cost.
4. A drum-less chemical feed program with suitable containment for each of the water facilities shall be provided to eliminate handling of chemicals by the facility engineers.

All deliveries shall be scheduled and pre-approved prior by each site Project Manager with a minimum of a 24 hour notification.

H. Test Equipment

1. A water treatment program manual outlining the control parameters, test instructions, product data sheets, emergency protocols for chemical spills/injuries, system descriptions, feed equipment manuals and Material Safety Data Sheets along with log sheets to enter the data shall be provided and maintained up to date by the successful bidder at each County facility. The successful bidder shall be responsible for training the plant personnel in properly running tests and keeping records.
2. The successful bidder will be responsible for installation, inspection, calibration, and maintenance of all chemical feed and monitoring equipment. The successful bidder will do all the testing of equipment to evaluate the chemical levels within the system being serviced. The successful bidder shall supply all tools, equipment, and parts necessary to perform the scope of work. Any damages to equipment during performance of service or otherwise are sole responsibility of successful bidder.

I. Analysis

Complete analytical services shall be provided, as needed, for analysis of unusual cooling water samples, scale, sludge, rust, other corrosive products, and microbiological studies to insure the minimizing of these problems throughout all circulating systems. The results shall be sent to the County.

J. Safety

1. All mechanical and analytical reagents supplied by the successful bidder shall meet all applicable government regulations. The successful bidder shall submit an MSDS for all products in use and proposed products. The successful bidder will be responsible for providing up to date MSDS for all chemicals supplied including reagents.
2. The successful bidder shall provide service and back-up personnel in a two-hour response time to any and all County water treatment locations.

K. Monthly Site Visits

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The bidder will be required to visit every site awarded, requiring water treatment servicing, at a minimum, once a month. During the site visit, documentation will need to be logged as validation of the site visit. Appointments will be set up with each individual facility administrator for each site visit.

L. Chemicals

1. The successful bidder at no additional cost to the County will supply all chemicals. The entire list of chemicals to be used for treatment shall meet Occupational Safety and Health Administration (OSHA), and Environmental Protection Agency (EPA) standards. Proper packaging of all containers used when delivering and dispensing chemicals shall be adhered to. Proper safety precautions and handling practices shall be used to dispense chemicals per OSHA rules and regulations.
2. The water treatment chemicals shall not be mixed, formulated, reformulated or otherwise altered in any way after the product has left the original manufacturing plant and/or while at any County facility.
3. The successful bidder shall have access to a lab facility. The County may establish independent lab testing, at the bidder's expense, when there is a concern with the system. The turnaround time requirements for testing will depend on the complexity of testing, as approved by the County.

3.6.2 PREVENTIVE MAINTENANCE AND INSPECTIONS

A. Preventative Maintenance:

Section 4.0, indicates the minimum frequency in which the equipment should be inspected and preventative maintenance provided. During these inspections at minimum the following should be done on each unit listed.

1. Equipment normally operating; Log equipment noting general condition, operating data, noises, vibration, temperature and pressure. Where applicable, inspect controls and safety devices, check for proper refrigerant solution, lubricant and water levels. Confirm control and equipment responses, adjust for normal operation, and provide inspection reports, including recommendations for corrective actions. Rotation of equipment and aforementioned tasks shall be performed where applicable.
2. Equipment **not** normally operating, where applicable inspect hold down bolts and electrical connections, perform functional checks on control and safety devices, and provide inspection report identifying any problem area including recommendations for corrective actions.
3. The successful bidder shall inspect the structural components of the cooling tower and chiller installation for corrosion and or structural deficiencies and shall report any identified deficiencies or defects to the authorized representative.

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4. Operation logs of Purge Units shall indicate length of operation, as compared to chiller's running time between readings. Progressively increasing running time reports of Purge unit operations must be properly documented.
5. Bidder shall be responsible for the tanks, monitoring glycol ratio per section 3.6.1, and notifying the County upon any changes or recommendations. Any loss of glycol due to the bidder's or bidder's subcontractors actions i.e. inspections, negligence etc. shall be the responsibility of the successful bidder.

B. Oil and Grease Services

These services shall include all inspection report services plus those preventative maintenance tasks which do not require component disassembly, but may require inspection cover or plate removal.

3.6.3 ANNUAL MAINTENANCE SERVICE

Full maintenance service shall include all preventative maintenance tasks as stated under Section 3 providing for the repair and replacement of new OEM (Original Equipment Manufacturer) moving parts that may have failed unexpectedly and may require disassembly and removal of available inspection covers, unless otherwise stated. Full maintenance service shall include but not be limited to:

- A. Replace yearly expendable parts, perform adjustment check and calibrate controls, measure and record accessible clearances, and leak test all joints of interconnecting refrigerant piping.
- B. Chillers, Air Handler Units (AHU), Condenser Units, Self-Contained Package Unit, electrical equipment, motors, electrical wiring up to 6" from point of source, water flow safety controls, cooling tower fan speed controls, lead-lag controls, auto start after power failure controls, all controls supplied with water and air-cooled chillers, pumps, cooling tower fans, air compressors, air dryers, and internal parts for disconnect switches, starters, solid state starters, contactors, relays, variable speed drives, breakers, fuses, variable frequency drives (VFD's), motor stators, motor rotors, dip and bake motor windings. Major repairs, including but not limited to, interconnecting refrigerant piping, any costs of expediting delivery of parts, all maintainable component repairs (and any maintainable components especially listed herein), but not limited to: all safety devices and controls that have a direct bearing on chiller operation, such as low water safety, oil safety flow switches, differential pressure switches, microprocessor – based control panels (including remote panels and controlling computer terminals) associated any and all automatic valves including direct expansion (DX) and electronic affecting chiller operation and all unloading devices.
- C. Rewinding of motors, shall be performed by a service center authorized by the motor OEM and the County. This service shall be expedited in a timely manner.
- D. Inspect, test, maintain, service, calibrate, repair or replace, as required, all shut-off valves, check valves, float valves, thermometers within the condenser and chilled water loops in the water chiller room and cooling tower area.

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- E. Inspect, test, maintain, service, calibrate, repair or replace, as required, all oil lines piping and hoses for cooling tower gear boxes, all components for the pneumatic supply air system in the water chiller room and cooling tower area, the chilled water make up pressure regulator or float valve, water pressure safety relief valve, back flow check valve, bypass quick fill water valve, vent valves, strainers, gauges, sight glasses and expansion tank.
- F. Inspect, test, maintain, service, overhaul, repair or replace, as required, all components for the chilled, condenser water pumps, cooling tower fan motors, coupling, shafts, fan blades, belts, pulleys, bearings, gear boxes, cooling tower water makeup float valves, drift eliminators and all ancillary parts.
- G. Insulation removed from the chiller shall be reinstalled in a manner consistent with manufacturer's instruction for application, all applicable local, state and federal guidelines and/or standards. Any insulation material, wrap or adhesives, suspected of containing asbestos shall be reported to County for analysis.
- H. Clean Air-cooled condensing unit coils units using a brush, vacuum cleaner, pressurized air stream or a commercially available coil cleaning foam, never with an acid-based cleaner. Clean the finned surface at least every six months or more frequently as conditions require. Use Calgon Corporation's CalClean 41352 (or equal). Apply to finned area according to label directions and rinse thoroughly to remove all residual chemicals.
- I. All of the condenser fan motors shall be checked each maintenance for bearings and support integrity as well as all electrical components.
- J. Inspect, test, maintain, service, repair or replace as required, all thermometers and water pressure gauges on the condenser and chilled water pipe within the chiller plants.
- K. Inspect, test, maintain, service, repair or replace as required, the refrigerant monitor systems existing in the chiller plants.
- L. Perform major overhauls as required pending oil analysis and at the department's discretion.
- M. Permanent pipe taps with caps for temporary connections to chiller and or cooling tower systems are to be added when overhauls or repairs are performed on existing equipment.
- N. Perform annual chiller compressor oil analysis test, change oil where analysis report indicate corrective action is required and change refrigerant and oil filter as set forth in the OEM operation service manuals.
- O. Oil samples must be removed from water chiller compressor while under operating temperatures, with at least 300 hours of operation time on the sample. Oil sample containers must be able to be sealed to eliminate moisture contamination.
- P. The successful bidder shall annually remove condenser heads and inspect condenser tubes and tube sheets for corrosion and effects of the water treatment program. Additional openings of condensers and/or evaporators shall be performed to clean and/or brush the tubes, as

required to insure proper operation and performance of the equipment within the manufacturer's specification.

Q. Vibration analysis services shall cover the following:

1. Perform vibration analysis as needed. Bidder(s) shall perform a vibration analysis with computer analysis showing velocity, acceleration and displacement on all three (3) plants.
2. Provide all the equipment necessary for the analysis.
3. Indicate instrumentation use and limits of the analysis, if any.
4. Provide a graphic vibration signature in the horizontal, vertical and axial directions.
5. Report the amplitude of vibration by velocity (inches/second) and frequency (cycles/minute).
6. Indicate areas which exceed acceptable levels (.10 inches/second) of vibration amplitude, at discrete frequency.
7. Provide recommended corrective action as required.
8. Provide written report within 30 days of analysis. In the report indicate at which locations the signatures were obtained.
9. Indicate re-analysis frequency based on results if more than once a year.

3.6.4 TUBE INSPECTION (Water Cooled Chillers Only)

The following services are to be performed by the successful bidder at least once a year, to include but not limited to:

A. Tube Inspection

Bidder(s) shall remove condenser heads, perform an internal visual examination of the water side of tubes as well as the end bells and tube sheet and shall present a report to the County department(s) regarding any signs of internal damage.

B. Tubes Brush Cleaning

Includes tube inspection and the internal brushing of the water side of the heat exchanger tubes (cooler and condenser). Included are tubes that have factory installed brushes. Cooler shall be brushed on an as needed basis as determined by the user departments and the successful bidder. Successful bidder shall be responsible to maintain brush system to OEM standards; including replacing damaged brushes, or replacing all brushes in accordance with manufacturer's recommended life expectancy.

C. Tube Repairs – Refrigerant Side

Includes the repair or replacement of internal tubes, tube sheets, support sheets, distribution systems, oil components that contain or distribute refrigerant/lithium bromide within the equipment. This service covers tube failures that may result from the refrigerant/lithium bromide side of the equipment heat exchanger.

D. Tube Repairs – Water Side

Includes the repair or replacement of internal tubes, tube sheets, support sheets, eliminators and distribution system. This service covers all tube failures that may be the result of age.

E. Tube Sheet Epoxy Coating

Successful bidder shall supply Material Safety Data Sheet (MSDS) before work is started. Epoxy coating shall contain no asbestos. Epoxy shall be the type that is typically used in the condenser tube sheet coating business.

Commented [CY(1)]: How often is epoxy coating required?

- Epoxy shall be non-shrinkable.
- Epoxy shall have compressive strength of 13,000 psi in accordance with ASTM D695.
- Epoxy shall have flexural strength of 10,000 psi in accordance with ASTM D790.
- Epoxy shall have tensile shear adhesion of 27,000 psi mild steel in accordance with ASTM D1002.
- Epoxy shall have hardness of Rockwell RI 04 in accordance with ASTM 1)785.
- Epoxy must cure in 12 hours of 75°F to light loading machining strength.
- Epoxy shall be applied the same day as sandblasting is done.
- Before any epoxy coating is applied, Eddy Current testing shall be done and any tubes needing to be replaced or plugged shall be completed.
- If the condenser tube sheet is known to be leaking, refrigerant shall be removed and the condenser placed in a vacuum. The County requires that all condensers be in a vacuum while epoxy coating is being applied, for safety and EPA Clean Air Act requirements.
- The successful bidder shall be responsible for the removal of condenser water box heads, modified divider plates and shall replace needed gaskets, reinstall condenser heads and return the water chiller to operation leaving the area affected by this work in broom-clean condition. Any equipment or area damaged by the successful bidder shall be restored to original conditions.
- The epoxy coating shall be applied to both tube sheets, including the area beyond the gasket. Water box heads are only to be epoxied at the request of the County. The first layer of epoxy coating shall not be applied by spraying. Spraying is allowed only after the first layer of epoxy coating has been applied.

F. Automatic Brushing Systems

- These systems shall be inspected annually or more often as needed and shall be serviced as per manufacturer recommendations.

3.6.5 COOLING TOWERS, WATER STRAINERS, AND WATER PUMPS

- A. Inspect, test, maintain, service, calibrate, overhaul, repair or replace as needed mechanical parts of cooling tower, cooling tower fans, fan motors, fan drives, all condenser and chiller water pumps, motors, couplings, starters, circuit breakers, makeup water float and valve assemblies and any other equipment or controls needed for proper cooling tower operation, including the cooling tower water temperature control including Variable Frequency Drives

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- B. The cooling tower shall be drained, cleaned, and flushed annually or more often as needed to insure proper operation. Condenser water strainers are to be cleaned each time the cooling tower is cleaned and additionally as required. Chilled water pump strainers are to be cleaned as needed. No high pressure equipment shall be used in cooling tower cleaning.
- C. The chemical system shall be promptly serviced after cleaning the cooling towers to balance the chemical treatment levels.
- D. Annually, perform cooling tower gear box oil change.
- E. Furnish complete water treatment services as frequently as required, but no less than once monthly, to prevent the build-up of mud and scale, eliminate corrosion in the condenser, evaporator, piping, and to control biological growth in the water cooling towers.

3.6.6 PNEUMATIC CONTROL SYSTEM WITHIN CHILLER PLANT AS INDICATED

- A. Inspect, test, maintain, service, calibrate, overhaul, repair or replace as required pneumatic control system components including, but not limited to:
 - Pneumatic control compressor(s).
 - Compressor motor(s) and starter(s).
 - Drive belt(s) and sheaves (s).
 - Air receiver(s) and automatic drain valve(s).
 - Air dryer(s).
 - Pressure reducing valve(s), and oil and water separator(s) and filter(s).
 - Pressure switch(s) and alternator control(s).
 - Annually perform air compressor crank case oil change.
- B. The vendor shall be responsible for the following:
 - Provide factory approved air compressor oil, filters and all components in the pneumatic control system.
 - Log air compressor(s) run time and off time at each inspection report and ensure that the air compressor(s) are functioning correctly.
 - Change oil and replace all filters every six months.
 - If the air compressor(s) run time increases and off time decreases and the water chiller room is free of pneumatic system leaks, the vendor shall notify the County of the leaks outside of the water chiller room.

3.7 EDDY CURRENT TESTING

Eddy current testing shall be provided on all equipment except Air Cooled Chillers unless required for operational reasons. Testing should be scheduled with the project manager, and may be coordinated at the same time chillers are down and open for their full annual maintenance service. Test shall be repeated in three year intervals. Testing shall be done by a level II Certified Technician.

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The eddy current testing must be in accordance with ASTM Standards E243, E426, and E571.

The inspection report shall contain the following information:

1. Data Sheet
2. Summary of Inspection
3. Recommendations
4. Tube Sheet Layout
5. Tube Strip Graphics
6. Calibration Settings and Graphs
7. Calibration Procedures
8. Explanation of Abbreviations

Successful bidder will be responsible for re-insulation of chiller evaporators and associated piping disturbed during the tube cleaning or eddy current services.

3.8 RECORDS MANAGEMENT

A. Service Receipts

Successful bidder shall submit (identified with their invoice number and this bid number) to the Department Project Managers or their designees, a copy of the mechanic's service receipt indicating the date, time and nature of the service performed. These services receipts shall be signed by the Departments' Project Manager(s), or their designees, at the time the work is performed. If the service person cannot get Department Project Manager's signature, the service person will leave a copy of the service receipt in the machine room and/or complete log book provided by the County, and so advise the Project Manager(s) the next working day.

B. Survey Reports

At the end of each calendar year, the successful bidder shall provide the Authorized Representative with a report stating the total amount of refrigerant added to each chiller during that year in compliance with EPA requirements.

C. Water Treatment Services Reports

The successful bidder shall provide the department, at minimum, monthly reports to include PH levels, conductivity results, iron levels, copper levels, zinc levels, calcium levels, molybdenum levels, phosphonate levels, and azoles present. All other levels that are measured shall be compiled into a "Biological Monitoring Results" spreadsheet to include desired ranges, inventory levels, and a list of adjustments made.

1. The monthly service report shall include the following information obtained by on-site analysis in addition to recommendations for action required:

SOLICITATION TITLE: A/C Chillers, Auxiliary Equipment, Water Treatment – Full Service Contract for WASD

Make-up Water:

- Total Hardness (ppm as CaCO₃)
- Calcium (ppm as CaCO₃)
- Magnesium (ppm as CaCO₃)
- M Alkalinity (ppm as CaCO₃)
- Conductivity (microSiemens)
- Chloride (ppm)
- Silica (ppm as SiO₂) (where scaling is a factor)
- pH

Cooling Tower:

- Total Hardness (ppm as CaCO₃)
- Calcium (ppm as CaCO₃)
- Magnesium (ppm as CaCO₃)
- M Alkalinity (ppm as CaCO₃)
- Silica (ppm as SiO₂) (where scaling is a factor)
- Conductivity (micromho)
- Chloride (ppm)
- pH
- Inhibitor (ppm) (6-10 ppm Phosphonate required)
- Cycles of concentration
- Scaling Index (Langlier or Ryznar)
- Total bacteria count
- Total halogen (Bromine)

Chilled Water

- Nitrite (ppm as NaNO₂)
- pH

The successful bidder shall provide, on a quarterly basis to the facility manager, a review summary containing the following information:

2. A statement of progress that has been made during the quarter, with recommendations for action during the next quarter.
3. A summary of all corrosion data, including a comparison to historical data. Pitting index and pitting mpy to be reported.
4. Laboratory analyses of all systems.
5. Summary of onsite testing using graphical format.
6. Accounting of chemical product shipments to date vs. annual estimate for chemical usage.
7. Provide an explanation for any variances from the proposal quantities.

D. Oil analysis Test Report

Report must show job name and chiller location, model and serial numbers, type of oil and date of sample test. Test result sheet must show spectral-chemical analysis in parts per million by weight

SOLICITATION TITLE: A/C Chillers, Auxiliary Equipment, Water Treatment – Full Service Contract for WASD

content of iron, chromium, nickel, aluminum, lead, copper, tin, silver, titanium, silicon, boron, sodium, potassium, molybdenum, phosphorus, zinc, calcium, barium, magnesium, antimony and vanadium. The report must also show the physical test for water in parts per million, total acid content, chloride in parts per million, viscosity at 72 degrees F. All tests must be performed by an independent certified lab.

E. Log

Successful bidder shall provide the departments' Project Managers with a written log for each department of all repairs and adjustments (including minor ones) made in addition to the preventative maintenance work. This log shall consist of the time the complaint was registered, the nature of the complaint, the correction of the problem and the amount of time required correcting the problem. The departments shall decide where the log books shall be kept. The successful bidder is to complete the log on each routine visit indicating the maintenance performed on all problems and the corrections made during each call-back and/or repair.

F. Refrigerant Forms

Successful bidder shall use the approved refrigerant service forms provided by the maintenance department and shall return all completed forms whenever refrigerant services are performed.

G. Data Sheet

Successful bidder shall provide and maintain a system data log sheet for each facility. Once each month, the bidder shall record the following information, and a report with the results shall be sent to the project managers of each department. These reports shall include the following information:

- Discharge pressure
- Discharge temperature
- Liquid Sub-cooling
- Suction pressure
- Suction temperature
- Suction-superheat
- Oil pressure
- Oil temperature
- Chilled water return temperature
- Chilled water supply temperature
- Chiller Approach temperature
- Condenser water return temperature
- Condenser water supply temperature
- Condenser approach temperature
- Chiller motor amps on each leg
- Chiller motor voltage on each leg

H. Check Sheet

SOLICITATION TITLE: A/C Chillers, Auxiliary Equipment, Water Treatment – Full Service Contract for WASD

Successful bidder shall maintain on the job sites and have available for inspection at all times, a written check sheet and service ticket indicating the service routine or repair that has been performed on the most recent visit and the date of the visit. Copies of check charts will be submitted to the department Project Manager(s) on the anniversary of each contract year and at the conclusion of the contract.

The logo for Miami-Dade County, Florida, is centered on the page. It features a circular emblem with a sun rising over a body of water, with palm trees on the right side. The words "MIAMI-DADE" are written across the center of the emblem in a bold, sans-serif font. Below the emblem, the words "FLORIDA" and "COUNTY" are written in a smaller font.

MIAMI-DADE

Bidders shall provide the total annual cost, inclusive of all necessary labor, transportation, material and equipment to furnish a comprehensive program of, inspections, testing, preventive maintenance (PM), emergency repair, routine repair, boiler and water treatment services for air conditioning chiller systems and related HVAC equipment.

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Site	Department / Chiller(s) Location	Mfr.	Type	Equip #	Model #	Serial #	Year	Lon.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5
		Trane	Centrifugal	Chiller 1	CVHE450	L01C07685	2001	450	R-123	Water Cooled	Quarterly					
		Trane	Screw	Chiller 2	RTHC1B2P0H0C	U01C08365	2001	200	134A	Water Cooled	Quarterly					
		The following auxiliary equipment is part of chiller 1 and 2 listed above:														
		Trane	VFD	101	176U1339	134700V211	2003				Quarterly					
		Trane	VFD	102	176U1339	134800V211	2003				Quarterly					
		Trane	VFD	201	176U1340	16100V221	2003				Quarterly					
		Trane	VFD	202	176U1340	160900V221	2003				Quarterly					
		Trane	VFD	301	176U1340	134400V211	2003				Quarterly					
		Trane	VFD	302	176U1340	134100V211	2003				Quarterly					
		Trane	VFD	401	176U1340	133900V211	2003				Quarterly					
		Trane	VFD	402	176U1340	134600V211	2003				Quarterly					
		Trane	VFD	501	176U1340	161000V221	2003				Quarterly					
		Trane	VFD	502	176U1340	134200V211	2003				Quarterly					
		Trane	VFD	OAF-1	176U1337	151700V221	2003				Quarterly					
		Trane	VFD	OAF-2	176U1337	151800V221	2003				Quarterly					
		Trane	VFD	SEF-1	176U1340	152100V221	2003				Quarterly					
		Trane	VFD	SEF-2	176U1340	134300V211	2003				Quarterly					
		Trane	VFD	SEF-3	176U1340	134000V211	2003				Quarterly					
		Trane	VFD	CT-1	174F9510	549000V475	2003				Quarterly					
		Trane	VFD	CT-2	174F9510	548900V475	2003				Quarterly					
		Liebert	Self C ontained	Security Comm-	BU102C-CDE1484A	N11K740053	2011	10	R-22 and 410	Water Cooled	Quarterly					
		Carrier	Self C ontained	Center	42DDA148LDY6AUBU	706151-10-1	2011	10	R-22 and 410	Water Cooled	Quarterly					

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The following are self-standing units																	
Make	Type	Equip #	Model #	Serial #	Year	Ton	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6		
Liebert	DX	CRA/C-1	VH125A-AAE1	509177-002	2003	10	R-22 and 410		Quarterly								
Liebert	DX	CRA/C-2	VH125A-AAE1	509177-001	2003	10	R-22 and 410		Quarterly								
Liebert	DX	CRV-3	CR035RA1A7A517	M11CBM0013	2011	10	R-22 and 410		Quarterly								
Liebert	DX	CRV-4	CR035RA1A7A517	M11CBM0011	2011	10	R-22 and 410		Quarterly								
Liebert	DX	CRV-5	CR035RA1A7A517	M11CBM0012	2011	10	R-22 and 410		Quarterly								
Liebert	Condenser	CR A/C-1	CDF165LA	0117C47372	2003	10	R22	Air	Quarterly								
Liebert	Condenser	CR A/C-2	CDF165LA	0117C47369	2003	10	R22	Air	Quarterly								
Liebert	Condenser	CRV-3	TCSV60K-A	1111C33910	2011	10	410	Air	Quarterly								
Liebert	Condenser	CRV-4	TCSV60K-A	1111C33853	2011	10	410	Air	Quarterly								
Liebert	Condenser	CRV-5	TCSV60K-A	1111C33918	2011	10	410	Air	Quarterly								
The following equipment is considered a system separate from the ones above																	
Marley	Cooling Tower	1	8VDJ56TTFPA725AAL	AV650125-174643-A2	2003	270		Water Cool	Quarterly								
Marley	Cooling Tower	2	8VDJ56TTFPA725AAL	AV650125-174643-A1		270			Quarterly								
Water Treatment Services for the system listed above.											\$0.00						
Total - Site 1																	
Site	Department / Chiller(s) Location	Make	Type	Equip #	Model #	Serial #	Year	Ton	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6
		Trane	Screw	1	RTAC2254UQ0NUAFN	U07K05863	2007	213	134A	Air Cooled	Quarterly						
		Trane	Screw	2	RTAC1554UQ0NUAFN	U07C02793	2007	150	134A	Air Cooled	Quarterly						
The following auxiliary equipment is part of chiller 1 and 2 listed above																	
		Trane	VFD				2003				Quarterly						
		Trane	VFD				2003				Quarterly						
		Trane	VFD				2003				Quarterly						
		Trane	VFD				2003				Quarterly						
		Trane	VFD				2003				Quarterly						

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2	Lejeune Road Office - 3575 South Lejeune Road		Trane	Air Handlers	MCCB025UA0A0UA	K07H06538A				Water Cooled	Quarterly					
	Trane	Air Handlers	MCCB030UA0A0UB	K07H065 43A					Water Cooled	Quarterly						
	Trane	Air Handlers	MCCB025UA0A0UA	K07H06551A					Water Cooled	Quarterly						
	Trane	Air Handlers							Water Cooled	Quarterly						
	Trane	Air Handlers							Water Cooled	Quarterly						
	Taco	Chilled Wtr Pump-1	FE3008E2H1R2UA	2003	15-hp				Water	Quarterly						
	Taco	Chilled Water Pump-2	FE3008E2H1R2UA	2003	15-hp				Water	Quarterly						
	The following is a self standing unit															
	Carrier	Pkg Unit	Self Contained	50D5034600A8	2892F09388				30	R-22	Air	Quarterly				
	Water Treatment Services															
The following equipment is considered a system separate from the ones above																
Protec	Cooling Tower	1						30	Water	Water	Monthly					
Water Treatment Services																
Total - Site 2															\$0.00	

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Site	Department / Chiller(s) Location	Mfr.	Type	Equip. #	Model #	Serial #	Year	Ion.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6	
3	North District - Interama 2575 NE 151st Street	Marley	Cooling Tower		NC5-8607	Quantity -2		300			Monthly							
		Marley	Cooling Tower		NC501	Quantity -2		400			Monthly							
		Water Treatment Services																
Total - Site 3												\$0.00						

Site	Department / Chiller(s) Location	Mfr.	Type	Equip. #	Model #	Serial #	Year	Ion.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6	
4	Central District - Virginia Key 3989 Rickenbacker Causeway	The following cooling towers are in different locations within the Central District - Virginia Key																
		Protec	Cooling Tower	Qty. 1					30			Monthly						
		Water Treatment Services for Cooling Towers listed immediately above																
		Protec	Cooling Tower	Qty. 1					15			Monthly						
		Water Treatment Services for Cooling Towers listed immediately above																
		Protec	Cooling Tower	Qty. 1					30			Monthly						
Water Treatment Services for Cooling Towers listed immediately above																		
Marley Quadraflow	Cooling Tower	Qty. 3	23101	Oxygen-Plant			400			Monthly								
Water Treatment Services for Cooling Towers listed immediately above																		
Total - Site 4												\$0.00						

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Site	Department/Chiller(s) Location	Mfg.	Type	Equip.#	Model#	Serial#	Year	Ion.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6			
The following cooling towers are in different locations within the Central District - Virginia Key																				
5A	South District - Waste Water Treatment Plant. 8950 SW 232nd Street	Protec	Cooling Tower	Qty. 1	PCT 50	Main Electrical Switchgear Building		50			Monthly									
		Water Treatment Services for Cooling Towers listed immediately above																		
		Protec	Cooling Tower	Qty. 1	PCT 15	Oxygenation Building #1		15				Monthly								
		Water Treatment Services for Cooling Towers listed immediately above																		
		Protec	Cooling Tower	Qty. 1	PCT 10	Oxygenation Building #1		10				Monthly								
		Water Treatment Services for Cooling Towers listed immediately above																		
		Marley Quadraflow	Cooling Tower	Qty. 4	23101	Cooling Towers are in between O2 Buildings 1 and 2		400				Monthly								
		Water Treatment Services for Cooling Towers listed immediately above																		
														Total - Site 5A						\$0.00

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Site	Department / Chiller(s) Location	Mfg.	Type	Equip. #	Model #	Serial #	Year	Ton.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6		
5B	South District Waste Water Treatment Plant Adm Bldg. 8950 SW 232 Street	Trane	Rotary	Chiller 1	RTAA0704X001A3C0HB	U04F06496		70	R-22	Air Cool	Quarterly								
		The following auxiliary equipment is part of chiller, listed above:																	
		Trane	VFD	Lab	TR16016GT4CM1ST	074026H025	2003					Quarterly							
		Trane	VFD	1st-Fl	same	040525RH74	2003					Quarterly							
		Trane	VFD	2nd-Fl	same	147425H458	2003					Quarterly							
		Trane	VFD	Cond	TR200	000204H240	2003					Quarterly							
		Trane	VFD	Cond	TR200	045002G289	2003					Quarterly							
		Trane	AHU	1					20	Water	Water	Quarterly							
		Trane	AHU	1					20	Water	Water	Quarterly							
		Trane	AHU	1					25	Water	Water	Quarterly							
		The following are self standing units																	
		Trane		PAHU # 1	1					40	R-22	Air Cool	Quarterly						
Trane		PABU # 2	1					40	R-22	Air Cool	Quarterly								
Trane		Condenser # 1	1					40	R-22	Air Cool	Quarterly								
Trane		Condenser # 2	1					40	R-22	Air Cool	Quarterly								
Total - Site 5B												\$0.00							
Site	Department / Chiller(s) Location	Mfg.	Type	Equip. #	Model #	Serial #	Year	Ton.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6		
5C	South District Waste Water Treatment Plant Effluent Pump Station # S0750	Trane	Rotary	1	RTWD110 HE			110	134A	Water Cool	Quarterly								
		The following auxiliary equipment is part of chiller, listed above:																	
		Trane	VFD	1	17424762	083504Y484	2015					Quarterly							
		Marley	Cooling Tower	1	496M	A010087955-A1			110	Water	Water	Quarterly							
		Trane	AHU-1	1	CS0A050				50	Water	Water	Quarterly							
		Trane	AHU-2	1	CS0A040				40	Water	Water	Quarterly							
		Trane	AHU-3	1	CS1A012				12	Water	Water	Quarterly							
Total - Site 5C												\$0.00							

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Site	Department/Chiller(s) Location	Mfr.	Type	Equip. #	Model #	Serial #	Year	Ton.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6
5D	South District Waste water Treatment Plant	Broad	Absorption	1	BDH3OX-98 9/115.6			100	Water	Water Cool	Quarterly						
	Co-Gen Bldg.	York	Scroll	1	YCAL0056EE46XEB	SDAM-522970		56	4-10	Air	Quarterly						
Total - Site 5D																	
\$0.00																	

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Site	Department / Chiller(s) Location	Mfr.	Type	Equip #	Model #	Serial #	Year	Ion.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6
6A	Alex Orr WTP Laboratory 6400 SW 87 Ave	Trane	Scroll	Cond	RAIUC2545C13A0D0000 20	C12H05537	2013	25	410	Air Cool	Quarterly						
		Trane	VFD	TR200	131L1002	426702G412	2013				Quarterly						
		Trane	AHU	1	CSAAD08UBC00	K12H79535	2013	25	410	Air	Quarterly						
Total - Site 6A												\$0.00					
Site	Department / Chiller(s) Location	Mfr.	Type	Equip #	Model #	Serial #	Year	Ion.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6
6B	Alex Orr WTP Laboratory 6400 SW 87 Ave	Trane	VFD	1-floor	174F5241	065300Y157	2006				Quarterly						
		Trane	VFD	2-floor	174F6332	065400Y157	2006				Quarterly						
		Trane	VFD	3-floor	174F6332	065600Y157	2006				Quarterly						
Total - Site 6B												\$0.00					

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Site	Department / Chiller(s) Location	Mfr.	Type	Equip #	Model #	Serial #	Year	Ton.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6	
7	John Preston WTP 1100 W. 2nd Ave	Trane	Cond	1	RAUCC254B203ABD0000	C09H01780	2013	25	R-22	Air-Cool	Quarterly							
		Trane	VFD		174Z5574	342903Y419	2013				Quarterly							
		Trane	AHU	1	MCCB017UA0AQUA	K09H25987	2013	25	R-22	Air	Quarterly							
Total - Site 7																		\$0.00

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Site	Department / Chiller(s) Location	Mfg.	Type	Equip. #	Model #	Serial #	Year	Ion.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6
8	Westwood Lakes Maint Facility 4801 SW 117 Ave	Trane	Pkg Unit	1	TCD301C400CA	644101072D	2005	25	R-22	Air	Quarterly						
		Trane	VFD	1	174F8894	509100Y137	2005				Quarterly						
Total - Site 8																	
												\$0.00					
Site	Department / Chiller(s) Location	Mfg.	Type	Equip. #	Model #	Serial #	Year	Ion.	R	Type	Frequency of PM and/or water treatment	Annual Cost Year 1	Annual Cost Year 2	Annual Cost Year 3	Annual Cost Year 4	Annual Cost Year 5	Annual Cost Year 6
9	Regional Booster Pump Stn # 536 Address: 8989 SW 117 Avenue	Carrier	AHU-1	1	40RM034B611GC	2309V11200	2010	20	R-22	Air	Quarterly						
		Carrier	AHU-2	1	40RM034B611GC	2309V11201	2010	20	R-22	Air	Quarterly						
		Carrier	Condenser-1	1	38AH03Y-K611A	2709028632	2010	20	R-22	Air	Quarterly						
		Carrier	Condenser-2	1	38AH03Y-K611A	2709028634	2010	20	R-22	Air	Quarterly						
Total - Site 9																	
												\$0.00					

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Site	Department/Chiller(s) Location	Mfr.	Type	Equip #	Model #	Serial #	Year	Ton.	R	Type	Frequency of PM and/or water treatment	Annual Cost						
												Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
10	Regional Booster Stn # 1310 Address: 3700 NW 151 Street	Carrier	AHU-1	1	38APD03065A10020	1710Q39455	2010	30	410	Air	Quarterly							
		Carrier	AHU-2	1	38APD03065A10020	1710Q3945	2010	30	410	Air	Quarterly							
		Carrier	Condenser-1	1	40RUAA30A1AGA0A0A0	0410J01234	2010	30	410	Air	Quarterly							
		Carrier	Condenser-2	1	40RUAA30A1AGA0A0A0	0410J01278	2010	30	410	Air	Quarterly							
Total - Site 10												\$0.00						
Site	Department/Chiller(s) Location	Mfr.	Type	Equip #	Model #	Serial #	Year	Ton.	R	Type	Frequency of PM and/or water treatment	Annual Cost						
												Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
11	Distribution 1001 NW 11th Street	Protec	Cooling Tower	1		Roof Mounted		15			Monthly							
		Water Treatment Services																
		Protec	Cooling Tower	1		Meter Shop		20				Monthly						
		Water Treatment Services																
Total - Site 11												\$0.00						
GRAND TOTAL (SITES 1 -11)												\$0.00						