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| **EDIT NOTE: THE FOLLOWING SPECIFICATION SHALL BE USED FOR BOTH NEW CONSTRUCTION AND REPLACEMENT PROJECTS. THIS SECTION PROVIDES A GUIDELINE FOR EQUIPMENT TYPE; EITHER FORCED DRAFT OR INDUCED DRAFT TYPE. FIRST CHOICE FOR JOBS, NEW AND REPLACEMENT, IS THE INDUCED DRAFT TYPE, SINCE THEY ARE MORE ENERGY EFFICIENT (LOWER OPERATING BHP), EASIER TO SERVICE AND OBTAIN PARTS, AND THE FAN SYSTEMS DO NOT DETERIORATE AT THE SAME RATE AS A FORCED DRAFT COOLER. FORCED DRAFT SHALL BE USED WHEN THE EXISTING FOOTPRINT IS INSUFFICIENT FOR THE DRAFT TYPE. COOLING TOWERS ARE TO BE MANUFACTURED OF STAINLESS STEEL TYPE AS SPECIFIED BELOW.** |

**PART 1 – GENERAL**

**1.01 SUMMARY**

A. Section Includes: Cooling towers and refrigeration system.

B. Related Requirements:

1. Division 01: General Requirements.
2. Division 26: Electrical.

3. Section 22 10 00: Plumbing.

4. Section 23 05 00: Common Work Results for HVAC.

5. Section 23 05 13: Basic HVAC Materials and Methods.

6. Section 23 07 00: HVAC Insulation.

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| **EDIT NOTE: SELECT THE APPLICABLE CONTROLS SECTION FROM THOSE LISTED BELOW; DELETE SECTION NOT USED.** |

7. Section 23 09 23: Environmental Controls and Energy Management Systems.

8. Section 23 20 13: Above Ground HVAC Piping.

9. Section 23 20 16: Underground HVAC Piping.

10. Section 23 25 00: HVAC Water Treatment.

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| **EDIT NOTE: SELECT APPLICABLE CHILLER SECTION FROM THOSE LISTED BELOW; DELETE SECTIONS NOT USED.** |

11. Section 23 64 16: Oil Lubricated Centrifugal Water Chillers.

12. Section 23 64 23: Scroll Water Chillers.

13. Section 31 23 23: Excavation and Fill for Utilities.

**1.02 QUALITY ASSURANCE**

A. Installers and Manufacturer's Qualifications: Comply with provisions stated in Section 23 05 00: Common Work Results for HVAC.

B. Regulatory Requirements:

1. ANSI/ASHRAE STANDARD 15 - Safety Standard for Refrigeration Systems.

2. ANSI/ASHRAE 90.1 - Energy Standard for Buildings Except Low-Rise Residential Buildings.

3. ANSI/ASME Boiler and Pressure Vessel Code, Section VIII.

4. ANSI/ASME B31.5 - Refrigeration Piping and Heat Transfer Components.

5. ANSI/UL 1995 - Heating and Cooling Equipment.

6. UL 984 - Hermetic Refrigerant Motor Compressors.

7. ANSI/AHRI 550/590 - Standard for Performance Rating of Water Chilling Packages Using the Vapor Compression Cycle.

8. AHRI STANDARD 575 - Standard for Method of Measuring Machinery Sound Within Equipment Space.

**1.03 SUBMITTALS**

A. Provide submittals in accordance with Division 01 and Section 23 0500: Common Work Results for HVAC.

B. Manufacturer’s Data:

1. Complete list of items proposed to be furnished and installed under this Section. Material lists, which do not require performance data, shall include manufacturer’s names, types, and model numbers for usages indicated.

2. Manufacturer's specifications and data required to demonstrate compliance with specified requirements. Literature shall include descriptions of equipment, types, models, and sizes proposed, capacity tables or curves marked to indicate performance characteristics, electrical requirements, options selected, space requirements (including allowances for servicing if indicated), and data necessary to ensure compliance with requirements of this Section and performance indicated on Drawings. Data shall also include name and address of nearest service and maintenance organization that regularly stocks repair parts. Listings of items that function as parts of an integrated system shall be furnished at one time. Include start-up instructions, operation data, maintenance data, controls, and accessories. Include trouble-shooting guide.

3. Shop Drawings indicating methods of installation of equipment and materials, sizes and schedules of piping, and details of supports. Items to be indicated shall include but are not limited to, the following:

a. Layout of proposed piping, and equipment drawn to scale, to establish that equipment will fit into allotted spaces with clearance for installation and maintenance. Indicate proposed details for attachment or anchoring to concrete pad or structural framing of building, as indicated in the drawings. Indicate vibration isolation units, foundations and supports, and openings for passage of pipes and ducts.

b. Drawings indicating locations and sizes of sleeves and prepared openings for pipes and ducts.

c. Wiring Diagrams: Power, signal, and control wiring.

**1.04 PRODUCT HANDLING**

A. Protection, Replacements, Delivery and Storage: Comply with provisions stated in Section 23 0500: Common Work Results for HVAC.

**1.05 COORDINATION**

1. Coordinate related and adjacent activities in accordance with provisions of Section 01 3113: Project Coordination.
2. Coordinate size, location of concrete bases and anchor bolts. Refer to Section 03 3000: Cast-In-Place Concrete.
3. Coordinate installation of roof curbs, equipment supports, and roof penetrations. Refer to Section 07 7100: Roof Specialties.

**1.06 WARRANTY**

A. Fan drive components shall be covered by a five year manufacturer’s warranty. Drive components protected by this warranty shall include the fan(s), bearing(s), fan shaft(s), drive sheave(s) and fan motor(s).

**1.07 DELIVERY, STORAGE AND HANDLING**

A. Comply with manufacturer's installation instructions for rigging, unloading, and transporting units.

B. Protect units from physical damage. Leave factory shipping covers in place until installation.

**PART 2 – PRODUCTS**

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| **EDIT NOTE: SELECT THE APPLICABLE COOLING TOWER TYPE TO BE USED IN THE PROJECT (CLOSED CIRCUIT OR OPEN CIRCUIT); DELETE UNUSED COOLING TOWER TYPE.** |

**2.01 CLOSED CIRCUIT COOLING TOWERS**

A. General: Furnish packaged closed circuit coolers, factory assembled and tested complete with fill, fan, louvers, accessories, and rigging supports, as manufactured by Evapco Inc., SPX Cooling Technologies, Inc., Baltimore Aircoil Company, or equal.

B. Capacity: Unit size, capacity, operating and electrical characteristics shall be as indicated on Drawings. Performance shall be certified by the Cooling Technology Institute in accordance with CTI Certification Standard STD-201 or, lacking such certification, a field acceptance test shall be conducted within the warranty period in accordance with CTI Acceptance Test Code for Closed Circuited Cooling Towers, ATC-105S, by the Cooling Tower Institute or other qualified independent third party testing agency. The tower shall operate against 0 inch external static pressure.

C. Basin: Pan shall be constructed of type 316 stainless steel. Entire pan area shall incorporate a stepped configuration for reduced water volume, lower operating weight and easier pan maintenance. The upper and lower pan bottoms shall be sloped to provide positive drainage of the complete basin section. Depressed side outlets which are not an integral part of the basin are not acceptable.

1. Casing: Casing, basin and framework shall be constructed of heavy gage stainless steel, type 304 or type 316.
2. Fill:
3. Heat transfer section shall be integral to the water distribution section to facilitate rigging and shall include serpentine, PVC wet deck surface below a nozzle or spray-type water distribution system.
4. The water distribution system shall be fabricated of non-corrosive materials, and shall evenly distribute water over fill material with pressurized spray tree. Maximum pressure at inlet shall be 3.3 psig.

a. Pipes: Schedule 40 PVC, non-corrosive materials.

b. Nozzles: Non-clogging, ABS plastic, threaded into branch piping.

1. The wet deck surface shall consist of serpentine sheets of polyvinyl chloride (PVC). The PC sheets shall be impervious to rot, decay, fungus or biological attack and have a flame spread rating of 5 per ASTM Standard E84. The surface shall be manufactured and performance tested by the cooling tower manufacturer to assure single source responsibility and control of the final product. Wet deck surface and eliminators shall be Factory Mutual Global approved and listed in the Factory Mutual approved guide.
2. Heat Transfer Coil:

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| **EDIT NOTE: CHANGE PARAGRAPH BELOW TO STAINLESS STEEL TYPE 304 IN LIEU OF HOT-DIP GALVANIZED, IF SITE CONDITION WARRANTS THE USE OF THIS MATERIAL.** |

1. Cooling coils shall be all prime surface steel, encased in a steel framework with the entire assembly hot-dip galvanized after fabrication.
2. Coil assembly shall be completely enclosed and protected from sunlight exposure, environmental elements and debris.
3. Removable panels shall be provided around the coil to permit easy inspection of the coil without entry.
4. Tubes shall be sloped for free drainage of the coil and designed for low pressure drop.
5. Coil shall be pneumatically tested at 400 psig under water.
6. Units having the heat transfer coil exposed to direct sunlight and debris shall not be acceptable.

G. Fan Motor and Drive System:

1. Enclosure Type: TEAO or TEFC
2. Motor Speed: VFD Duty
3. Drive: Power Band Belt designed for 150 percent of the motor nameplate HP.
4. Belt: Mutli-groove, solid back V-belt type neoprene reinforced with polyester cord.
5. Sheaves: Aluminum alloy if located inside the airstream.
6. Bearings: Heavy duty, self-aligning pillow block bearings with lubrication lines extended to side access door. Minimum L10 life for bearings shall be 75,000 hours. Provide extended grease lines and fittings.
7. Vibration Cutout Switch: Mechanical switch to de- energize fan motors if excessive vibration in NEMA 4 enclosure.
8. The fan and fan sheaves shall be mounted on the shaft with a specially plated bushing to provide maximum corrosion protection.
9. Bearing lube lines shall be extended to the exterior of the unit for easy maintenance.
10. All sheaves located in the airstream shall be constructed of aluminum alloy; vented guards shall be not acceptable.
11. If internal belt adjustment is necessary, an internal working platform and ladder is required to access the drive system.

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| **EDIT NOTE: SELECT THE APPLICABLE FAN TYPE PARAGRAPH 2.01.H FROM THOSE LISTED BELOW; DELETE PARAGRAPHS NOT USED.** |

H. Induced Draft Cross Flow Unit Fan Type: Fans shall be axial propeller type constructed of aluminum alloy and statically balanced. The fan shall be installed in a closely fitted cowl with venture air inlet. Fan screens are steel and are bolted to the fan cowl. Provide fan vibration cut-out switch.

I. Super Low Sound Fan Fans are axial propeller, one piece heavy duty FRP hub and blade construction. Galvanized steel closely fitted fan cowl with venturi air inlet for maximum fan efficiency, covered with a heavy gage hot dip galvanized steel fan guard. Provide fan vibration cut-out switch.

J. Forced Draft Unit Fan Type: Fans shall be forwardly curved centrifugal type of hot-dip galvanized steel construction. Fans shall be factory installed into hot-dip galvanized steel housings in the basin/fan section, and statically and dynamically balanced for vibration free operation. Fans shall be mounted on either a solid steel shaft or a hollow steel shaft with forged bearing journals. The fan shaft shall be supported by heavy-duty, self-aligning bearings with cast iron housings and lubrication fittings for maintenance. On units 8 ft and wider with single-sided air inlets, lubrication lines shall be extended to the exterior of the unit for ease of maintenance. The fan drive shall be V-belt type with taper lock sheaves designed for 150 percent of the motor nameplate horsepower. Drives are to be mounted and aligned at the factory.

K. Fan Shaft Bearings:

1. Fan shaft bearings shall be heavy duty self-aligning ball type with grease fittings extended to the outside of the unit.

2. Bearings shall be designed for a minimum L-10 life of 75,000 hours.

L. Water Distribution System:

1. The water distribution system shall be completely enclosed and protected from sunlight exposure, environmental elements and debris.
2. The spray system shall provide a water flow rate over the coil of not less than 12 GPM per square foot for maximum cooling efficiency (Induced Draft) or 6 GPM per square foot (Forced Draft).
3. The spray header shall be removable for cleaning, and constructed of schedule 40 polyvinyl chloride pipe for corrosion resistance.
4. Spray nozzles shall be threaded into spray header; snap-in nozzles shall not be acceptable.

M. Eliminators:

1. The eliminators shall be constructed entirely of inert polyvinyl chloride (PVC) in easily handled sections and be completely separate from the fill section for maximum efficiency.
2. The eliminator design shall incorporate three changes in air direction to assure complete removal of all entrained moisture from the discharge air stream.
3. Maximum drift rate shall be less than 0.001 percent of the circulating water rate.

N. Air Inlet Louvers:

1. The air inlets louver shall be constructed from UV inhibited polyvinyl chloride (PVC) and incorporate a frameless interlocking design that allows for easy removal of louvers for access to the entire basin area for maintenance.
2. The louvers shall have a minimum of two changes in air direction and be a non-planar design to prevent splash-out, block direct sunlight and debris from entering the basin.

O. Recirculation Pump:

1. The pump(s) shall be close-coupled TEFC, centrifugal type with mechanical seal, installed vertically at the factory to allow free drainage at shut down.
2. The pump motor(s) shall be totally enclosed fan cooled.

P. Ladder: Provide ladder extending from the unit base to the motor access door in compliance with requirements of General Industrial Safety Orders of the State of California, Division of Industrial Safety, Title 8.

Q. Handrail: Provide fan deck handrail with kick-board and knee rail, complying with requirements of General Industrial Safety Orders of the State of California, Division of Industrial Safety, Title 8.

**2.02 OPEN CIRCUIT COOLING TOWERS**

1. General: Furnish packaged open circuit coolers, factory assembled and tested complete with fill, fan, louvers, accessories, and rigging supports, as manufactured by Evapco Inc., SPX Cooling Technologies, Inc., Baltimore Aircoil Company, or equal.

B. Capacity: Unit size, capacity, operating and electrical characteristics shall be as indicated on Drawings. Performance shall be certified by the Cooling Technology Institute in accordance with CTI Certification Standard STD-201 or, lacking such certification, a field acceptance test shall be conducted within the warranty period in accordance with CTI Acceptance Test Code ATC-105, by the Cooling Tower Institute or other qualified independent third party testing agency. The tower shall operate against 0 inch external static pressure.

C. Basin: The pan shall be constructed of type 304 stainless steel or 316 stainless steel. Entire pan area shall incorporate a stepped configuration for reduced water volume, lower operating weight and easier pan maintenance. The upper and lower pan bottoms shall be sloped to provide positive drainage of the complete basin section. Depressed side outlet sumps which are not an integral part of the basin shall not be acceptable.

Removablestainless-steel strainer with openings smaller than nozzle orifices.

Overflow connection.

Makeup water connection.

Side drain connection.

Flume plate between adjacent cells (for multiple-cell units).

Equalizer connection (for multiple-cooling-tower system).

D. Casing: The casing shall be constructed of type (304 stainless steel or 316 stainless steel). The casing panels shall totally encase the sides of the fill section to protect the surface from direct atmospheric contact. The casing shall not be constructed of flammable materials such as fiberglass.

Fasteners: Corrosion resistance equal to or better than materials being fastened.

Joints: Sealed watertight.

Welded Connections: Continuous and watertight.

E. Fill Material: Cooling tower fill shall be PVC (Polyvinyl Chloride) of cross-fluted design for optimum heat transfer efficiency. The cross-fluted sheets shall be bonded together for strength and durability. The fill shall be fabricated, formed and installed by the cooling tower manufacturer and shall be elevated a minimum of 4 feet above the floor of the cold water basin to facilitate cleaning. The fill shall be suitable for use as a working platform. The PVC fill shall be self-extinguishing for fire resistance with a flame spread rating of 5 per ASTM E84. It shall also be resistant to rot, decay and biological attack. The fill shall be able to withstand a water temperature of 130 degrees F (54.4 degrees C).

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| **EDIT NOTE: SELECT THE APPLICABLE FAN TYPE PARAGRAPH 2.02.F FROM THOSE LISTED BELOW; DELETE PARAGRAPHS NOT USED.** |

F. Induced Draft Fan: Fans shall be axial propeller type constructed of aluminum alloy and statically balanced. The fan shall be installed in a closely fitted cowl with venturi air inlet. Fan screens shall be steel and bolted to the fan cowl. Provide fan vibration cut-out switch.

F. Super Low Sound Fan: Fans shall be axial propeller, one piece heavy duty FRP hub and blade construction. Galvanized steel closely fitted fan cowl with venturi air inlet for maximum fan efficiency, covered with a heavy gage hot dip galvanized steel fan guard. Provide fan vibration cut-out switch.

F. Forced Draft Fan: Fans shall be forwardly curved centrifugal type of hot-dip galvanized steel construction. Fans shall be factory installed into hot-dip galvanized steel housings in the basin/fan section, and statically and dynamically balanced for vibration free operation. Fans shall be mounted on either a solid steel shaft or a hollow steel shaft with forged bearing journals. The fan shaft shall be supported by heavy-duty, self-aligning bearings with cast iron housings and lubrication fittings for maintenance. On units eight feet and wider with single-sided air inlets, lubrication lines shall be extended to the exterior of the unit for ease of maintenance. The fan drive shall be V-belt type with taper lock sheaves designed for 150 percent of the motor name plate horsepower. Drives shall be mounted and aligned at the factory.

1. Water Distribution System: Each cell of the cooling tower shall have one hot water return inlet connected to a main spray header. The spray header and branches shall be constructed of Schedule 40 polyvinyl chloride (PVC) pipe for corrosion resistance and shall have a steel connection which is either beveled for weld or grooved for a mechanical coupling to attach the external piping. The spray header and branches shall be removable for cleaning purposes and have threaded end caps to allow debris to be removed. The water shall be distributed over the fill by precision molded ABS spray nozzles with large 3/8 inch by 1 inch orifice openings and integral sludge ring to eliminate clogging. The nozzles shall be threaded into the water distribution piping to assure positive positioning.

Evenly distribute water over fill material, with pressurized nozzles.

Pipes: Schedule 40, PVC.

Nozzle Materials: ABS plastic.

1. Drift Eliminator Material: The eliminators shall be constructed entirely of inert polyvinyl chloride (PVC) in easily handled sections and be completely separate from the fill section for maximum efficiency. The eliminator design shall incorporate three changes in air direction to assure removal of all entrained moisture from the discharge air stream. Maximum drift rate shall be less than 0.001 percent of the circulating water rate.
2. Water Level Control: Water level in basin shall be maintained by a float-operated globe valve Bailey 27-P, Clayton 2124, or equal, non-modulating type angle valve with threaded bronze or cast iron body, seamless copper float and pilot valve. Differential shall be adjustable. Threaded connections shall be a minimum of 125 ANSI B16.4. Valve trim shall be bronze or stainless steel.
3. Motors:
4. Enclosure Type: TEAO or TEFC
5. Motor Speed: VFD Duty
6. Drive: Power Band Belt designed for 150 percent of the motor nameplate HP.

a. Belt: Multi-groove, solid back V-belt type neoprene reinforced with polyester cord.

b. Sheaves: Aluminum alloy if located inside the airstream.

c. Bearings: Heavy duty, self-aligning pillow block bearings with lubrication lines extended to side access door. Minimum L10 life for bearings shall be 75,000 hours. Provide extended grease lines and fittings.

d. Vibration Cutout Switch: Mechanical switch to de- energize fan motors if excessive vibration in NEMA 4 enclosure.

K. Ladder: Provide ladder extending from the unit base to the motor access door in compliance with requirements of CCR, Title 8, Division of Industrial Safety, General Industrial Safety Orders.

L. Handrail: Provide fan deck handrail with kick-board and knee rail, complying with requirements of CCR, Title 8, Division of Industrial Safety, General Industrial Safety Orders.

**PART 3 - EXECUTION**

**3.01 INSTALLATION**

A. Install equipment as indicated on Drawings and in compliance with manufacturers’ recommendations, with vibration isolation, mounting pads or foundations as may be required and flexible connectors as specified herein or in related Sections.

B. Inspect areas under which Work of this Section will be performed. Correct conditions detrimental to proper and timely completion of Work. Do not proceed until unsatisfactory conditions have been corrected.

**3.02 EQUIPMENT FOUNDATIONS**

A. Equipment foundations, where indicated, shall be of sufficient size and weight and of proper design to preclude shifting of equipment under operating conditions, or under abnormal conditions which could be imposed upon equipment. Foundations shall meet requirements of equipment manufacturer, and when required by the Architect, obtain from equipment manufacturer approval of foundation design and construction for equipment furnished. Equipment vibration shall be maintained within the limits as required by the manufacturer.

**3.03 EQUIPMENT DESIGN AND INSTALLATION**

A. Equipment Installation: Equipment installation shall be strictly in accordance with these Specifications, and installation instructions of manufacturers. Equipment installed on concrete foundations shall be grouted before piping is installed.

1. Install equipment properly aligned, leveled, and adjusted for satisfactory operation.

2. Install equipment so connecting and disconnecting of piping and accessories can be readily accomplished, and so those parts are easily accessible for inspection, service, and repair.

3. Install water cooling towers on a vibration isolation equipment base as indicated on drawings.

4. Install electrical components, devices, and accessories that are not factory mounted.

B. Connections: Piping shall be installed in such a manner as not to place a strain on any equipment. Flanged joints shall be provided and adequately extended before installation. Piping shall be graded, anchored, guided and supported, without low pockets.

Drawings indicate general arrangement of piping, fittings, and specialties; refer to Section 23 2013: Above Ground HVAC Piping for piping installation requirement.

Install piping adjacent to Closed Circuit Coolers to allow service and maintenance.

Install flexible pipe connectors at final connections of towers mounted on vibration isolators.

Connect overflow drain and bleed lines to sanitary sewage system.

Domestic Water Piping: Comply with applicable requirements of Section 22 0513: Basic Plumbing Materials and Methods. Connect to water-level control with shutoff valve and union or flange at each connection.

Condenser-Water Piping: Comply with applicable requirements in Section 23 2013: HVAC Piping. Connect to supply and return cooling-tower connections with shutoff valve, flow-control valve, and union or flange on supply connection to the tower and shutoff valve and union or flange to return connection from the tower to the chiller.

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| **EDIT NOTE: RETAIN SUB-PARAGRAPH 3.03.B.7 IF HOT-WATER BASIN HEATER IS INSTALLED; RETAIN SUB-PARAGRAPH 3.03.B8 BELOW IF STEAM BASIN HEATER IS INSTALLED; DELETE BOTH IF NO HEATERS ARE INSTALLED.** |

Connect wiring according to Division 26, Electrical.

Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

**3.04 NOISE AND VIBRATION**

A. Operation of Equipment: Mechanical equipment and piping systems shall operate at lowest vibration and noise levels possible.

B. Corrective Measures: If objectionable noise and vibration occur, provide necessary and required changes to furnish satisfactory results.

**3.05 FIELD TESTS AND INSPECTION**

A. Perform field inspections, field tests and trial operations as specified in Section 23 0500: Common Work Results for HVAC. Provide labor, equipment and incidentals required for testing. The Project Inspector will witness field tests and trial operations as specified in Section 23 0500: Common Work Results for HVAC.

B. Equipment and Material: Equipment and material certified as having been successfully tested by manufacturer, in accordance with referenced Specifications and standards, will not require re-testing before installation. Equipment and material not tested at place of manufacture will be tested before or after installation, as applicable, or where required to determine compliance with Specifications and standards.

C. Complete installation and startup checks according to manufacturer's written instructions and perform the following:

Clean entire unit including basins.

Verify that accessories are properly installed.

Check makeup water float.

Verify clearances for airflow and for cooling tower servicing.

Check for vibration isolation and structural support.

Lubricate bearings on fans and shafts.

Verify fan wheel rotation for correct direction and for vibration or binding. Correct vibration and binding problems.

Adjust belts to proper alignment and tension.

Verify water level in tower basin. Fill to proper startup level.

Verify operation of tower basin, makeup line, automatic freeze protect dump, and controlling device. Replace defective and malfunctioning units.

Verify operation of basin heater and control thermostat. Replace defective and malfunctioning units.

Verify that tower discharge is not recirculating into air intakes. Recommend corrective action.

Verify correct rotation of spray pump.

D. Check HVAC water treatment system for proper operation, and measure chemical treatment levels. Verify operation of tower basin automatic blowdown, and controlling device.

E. Extent of Field Tests: After installation and before Substantial Completion, Work of this Section shall be subjected to required field tests, including those specified, and listed in 23 0500: Common Work Results for HVAC.

F. Operation and Maintenance Data: Provide required operation and maintenance data as specified in Section 23 0500: Common Work Results for HVAC.

* 1. **PROTECTION**

A. Protect the Work of this Section until Substantial Completion.

**3.07 CLEANUP**

A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

END OF SECTION