PLAN AND SHALL EXECUTE ALL CX RESPONSIBILITIES ASSIGNED TO THEM IN ACCORDANCE WITH THE CX PLAN. THE CX PLAN SHALL INCLUDE, AS A MINIMUM, THE FOLLOWING ITEMS: MEASURABLE CRITERIA FOR PERFORMANCE. CX.2.2 - AIR DISTRIBUTION SYSTEM TESTING, ADJUSTING AND BALANCING (TAB): THE CONTRACTOR SHALL PROVIDE A WRITTEN BALANCE REPORT TO THE OWNER AND ENGINEER OF RECORD (EOR) FOR ALL CX.2.2.1 - AIR SYSTEM BALANCING: AIR SYSTEM BALANCING SHALL BE ACCOMPLISHED IN A MANNER TO FIRST MINIMIZE THROTTLING LOSSES, THEN FOR FANS WITH FAN SYSTEM POWER GREATER THAN 1 HP, CX.2.3.2 - FUNCTIONAL PERFORMANCE TESTING (FPT): THE OBJECTIVE OF FUNCTIONAL PERFORMANCE TESTING IS TO DEMONSTRATE THAT EACH SYSTEM IS OPERATING ACCORDING TO THE DESIGN INTENT AND BUILDING OWNER SHALL BE INVITED TO WITNESS THE TESTING. THE CXA SHALL DOCUMENT THE RESULTS. THE CXA SHALL RECORD THE RESULTS OF THE FUNCTIONAL PERFORMANCE TESTS. ALL ITEMS OF NON-CONFORMANCE ISSUES SHALL BE NOTED AND REPORTED ON COMMISSIONING FIELD REPORTS AND/OR A COMMISSIONING ISSUES LOG. CORRECTION OF MINOR ITEMS OF NON-COMPLIANCE IDENTIFIED MAY BE MADE DURING THE TESTS AT THE DISCRETION OF THE CXA. IN SUCH CASES, THE ITEM OF NON-COMPLIANCE AND RESOLUTION SHALL BE DOCUMENTED ON THE FUNCTIONAL TEST PROCEDURE FORM. PERFORMANCE OF ALARMS: AND • CLIMATIC CONDITIONS REQUIRED FOR PERFORMANCE OF THE DEFERRED TESTS. THE BUILDING OWNER ACKNOWLEDGING THAT THE BUILDING OWNER HAS RECEIVED THE PRELIMINARY COMMISSIONING REPORT. ANY INFORMATION BE UNCLEAR. ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED. NAME AND ADDRESS OF AT LEAST ONE LOCAL SERVICE AGENCY.

## MECHANICAL SYSTEMS COMMISSIONING AND COMPLETION REQUIREMENTS

CX.1 - COMMISSIONING DESCRIPTION: COMMISSIONING (CX) IS THE COMPREHENSIVE AND SYSTEMATIC PROCESS OF VERIFYING THAT THE BUILDING SYSTEMS PERFORM INTERACTIVELY IN ACCORDANCE WITH THE DESIGN INTENT. THE CONSTRUCTION DOCUMENTS AND THE USER'S OPERATIONAL NEEDS. THE CX PROCESS SHALL ENCOMPASS AND COORDINATE THE EQUIPMENT AND SYSTEM DOCUMENTATION. EQUIPMENT START UP. CONTROL SYSTEM CALIBRATION. TEST AND BALANCE, FUNCTIONAL PERFORMANCE TESTING AND USER TRAINING. THE CONTRACTOR SHALL PERFORM COMMISSIONING TO ACHIEVE THE FOLLOWING SPECIFIC OBJECTIVES ACCORDING TO THE CONTRACT DOCUMENTS:

 VERIFY AND DOCUMENT THAT ALL COMPONENTS REQUIRING SERVICE RECEIVE COMPLETE PRE-FUNCTIONAL CHECKOUT BY THE INSTALLING CONTRACTOR AND CAN BE ACCESSED, SERVICED, AND REPLACED WITHOUT DISTURBING NEARBY COMPONENTS. INCLUDING OTHER EQUIPMENT, DUCTS, PIPING, ETC. VERIFY AND DOCUMENT THAT EQUIPMENT AND SYSTEMS ARE INSTALLED, STARTED AND RECEIVE ADEQUATE OPERATIONAL CHECKOUT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE

MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY ACCEPTED STANDARDS. VERIFY AND DOCUMENT THE PROPER FUNCTIONAL PERFORMANCE AND INTEGRATION OF EQUIPMENT AND SYSTEMS BASED ON THE DESIGN CRITERIA AND CONTRACT DOCUMENTS.

• VERIFY THE COMPLETENESS OF OPERATIONS AND MAINTENANCE MATERIALS. CX.1.1 - COMMISSIONING AUTHORITY (CXA): THE CONTRACTOR SHALL RETAIN THE SERVICES OF A COMMISSIONING AUTHORITY (CXA) ACCEPTABLE TO THE OWNER AND ENGINEER OF RECORD (EOR). THE CXA,

A REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY INDEPENDENT FROM THE DESIGN OR CONSTRUCTION OF THE PROJECT SHALL BE THE SINGLE POINT OF CONTACT FOR THE CX TEAM MANAGEMENT. DOCUMENTATION OF THE CX PROCESS AND PREPARATION AND DISTRIBUTION OF KEY MANAGEMENT REPORTS IS THE RESPONSIBILITY OF CXA. THE CXA SHALL ALSO PROVIDE AN ADVISORY ROLE TO THE CONSTRUCTION TEAM AND SHALL ENSURE THAT CX ACTIVITIES ARE EXECUTED IN ACCORDANCE WITH THE ACCEPTED PROCESSES. PLANS AND SPECIFICATIONS.

CX.2 - REQUIREMENTS: PRIOR TO PASSING THE FINAL MECHANICAL INSPECTION BY THE AHJ, THE EOR MUST PROVIDE EVIDENCE OF MECHANICAL SYSTEMS COMMISSIONING AND COMPLETION. COPIES OF ALL DOCUMENTATION SHALL BE GIVEN BY THE CXA TO THE EOR AND OWNER, AND SHALL BE MADE AVAILABLE TO THE AHJ UPON REQUEST.

CX.2.1 - COMMISSIONING PLAN (CX PLAN): THE CONTRACTOR SHALL PROVIDE A COMMISSIONING PLAN DEVELOPED BY THE CXA, A REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY. THE GENERAL CX REQUIREMENTS SHALL BE DETAILED IN THE CX PLAN. THE CX PLAN SHALL PROVIDE GUIDANCE IN THE EXECUTION OF THE CX PROCESS. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL PARTS OF THE CX

• A NARRATIVE DESCRIPTION OF THE ACTIVITIES THAT WILL BE ACCOMPLISHED DURING EACH PHASE OF COMMISSIONING, INCLUDING THE PERSONNEL INTENDED TO ACCOMPLISH EACH OF THE ACTIVITIES. • A LISTING OF THE SPECIFIC EQUIPMENT, APPLIANCES OR SYSTEMS TO BE TESTED AND A DESCRIPTION OF THE TESTS TO BE PERFORMED. • FUNCTIONS TO BE TESTED, INCLUDING, BUT NOT LIMITED TO CALIBRATIONS AND ECONOMIZER CONTROLS.

• CONDITIONS UNDER WHICH THE TEST WILL BE PERFORMED. AT A MINIMUM, TESTING SHALL AFFIRM WINTER AND SUMMER DESIGN CONDITIONS AND FULL OUTSIDE AIR CONDITIONS.

HVAC SYSTEMS SERVING ZONES WITH A TOTAL CONDITIONED AREA EXCEEDING 5,000 SF. AIR DISTRIBUTION SYSTEMS SHALL BE TESTED, ADJUSTED, AND BALANCED BY A LICENSED ENGINEER OR A COMPANY OR INDIVIDUAL HOLDING A CURRENT CERTIFICATION FROM A RECOGNIZED TESTING AND BALANCING AGENCY ORGANIZATION IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS.

FAN SPEEDS SHALL BE ADJUSTED TO MEET DESIGN FLOW CONDITIONS. BALANCING PROCEDURES SHALL BE IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) PROCEDURAL STANDARDS, THE ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS, OR EQUIVALENT PROCEDURES.

• EXCEPTION: DAMPER THROTTLING MAY BE USED FOR AIR SYSTEM BALANCING WITH FAN MOTORS OF 1 HP OR LESS, OR IF THROTTLING RESULTS IN NO GREATER THAN 1/3 HP FAN HORSEPOWER DRAW ABOVE THAT REQUIRED IF THE FAN SPEED WERE ADJUSTED.

BUILDING ENVELOPE PRESSURIZATION SHALL BE TESTED AND CONFIRMED POSITIVE TO HELP PREVENT INFILTRATION OF OUTDOOR AIR WITH ITS EXCESS LATENT LOAD.

CX.2.3 - FUNCTIONAL PERFORMANCE TESTING (FPT): FUNCTIONAL PERFORMANCE TESTING SHALL BE CONDUCTED.

CX.2.3.1 - PRE-FUNCTIONAL CHECKLISTS (PFC), START-UP AND OPERATIONAL CHECKOUT: PRE-FUNCTIONAL CHECKLISTS ARE IMPORTANT TO ENSURE THAT THE EQUIPMENT AND SYSTEMS ARE PROPERLY INSTALLED AND OPERATIONAL. THEY HELP TO ENSURE THAT FUNCTIONAL PERFORMANCE TESTS MAY PROCEED WITHOUT UNNECESSARY DELAYS. EACH PIECE OF EQUIPMENT SHALL RECEIVE A PRE-FUNCTIONAL CHECKLIST. NO SAMPLING STRATEGIES MAY BE USED. ALL RELATED CHECKOUT AND STARTUP PROCEDURES SHALL BE DOCUMENTED BY THE CONTRACTOR. CHECKOUT AND STARTUP REPORTS SHALL BE SUBMITTED TO THE CXA FOR REVIEW AND APPROVAL. ALL PRE-FUNCTIONAL CHECKOUTS FOR A GIVEN SYSTEM MUST BE SUCCESSFULLY COMPLETED PRIOR TO FORMAL FUNCTIONAL PERFORMANCE

THE CXA OR THE CONTRACTOR SHALL DEVELOP THE PRE-FUNCTIONAL CHECKLISTS. THE PFC AND STARTUP FORMS MAY BE INDEPENDENT OR ON A CONSOLIDATED FORM. THE CONTRACTOR SHALL DETERMINE WHICH TRADE IS RESPONSIBLE FOR EXECUTING AND DOCUMENTING EACH OF THE LINE ITEM TASKS AND NOTE ON THE FORM. EACH FORM MAY HAVE MORE THAN ONE TRADE RESPONSIBLE FOR ITS EXECUTION. ONLY INDIVIDUALS THAT HAVE DIRECT KNOWLEDGE AND WITNESSED THAT A LINE ITEM TASK ON THE PRE-FUNCTIONAL CHECKLIST WAS ACTUALLY PERFORMED SHALL INITIAL OR CHECK THAT ITEM

CONTRACTOR SHALL SUBMIT FULLY EXECUTED PRE-FUNCTIONAL CHECKLISTS UPON THEIR COMPLETION FOR APPROVAL PRIOR TO THE START OF FUNCTIONAL PERFORMANCE TESTING.

CX.2.3.1.1 - DEFICIENCIES: THE RESPONSIBLE TRADE SHALL CLEARLY LIST, AT THE BOTTOM OF THE PROCEDURE FORM OR ON AN ATTACHED SHEET, ANY OUTSTANDING ITEMS OF THE PRE-FUNCTIONAL CHECKLIST, STARTUP AND CHECKOUT PROCEDURES THAT WERE NOT COMPLETED SUCCESSFULLY. THE FORMS AND ANY OUTSTANDING DEFICIENCIES SHALL BE PROVIDED TO THE CXA. THE INSTALLING SUBCONTRACTORS OR VENDORS SHALL CORRECT ALL AREAS DEFICIENT OR INCOMPLETE IN THE CHECKLISTS IN A TIMELY MANNER. THE CXA SHALL VERIFY CORRECTED DEFICIENCIES AS REQUIRED.

CX.2.3.1.2 - SCHEDULING: THE CONTRACTOR SHALL WORK WITH THE CXA TO SCHEDULE THE COMMISSIONING ACTIVITIES. THE CONTRACTOR SHALL INTEGRATE COMMISSIONING ACTIVITIES INTO THE MASTER SCHEDULE TO TRACK THE CRITICAL PATH TO PROJECT COMPLETION.

CX.2.3.1.3 - SUBMITTALS: THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL EQUIPMENT TO BE COMMISSIONED TO THE CXA.

• AT A MINIMUM, THE SUBMITTALS SHALL INCLUDE THE MANUFACTURER AND MODEL NUMBER, THE MANUFACTURER'S PRINTED INSTALLATION AND DETAILED START-UP PROCEDURES. FULL SEQUENCES OF OPERATION, O&M DATA, PERFORMANCE DATA AND CONTROL DRAWINGS. • IN ADDITION, THE INSTALLATION AND CHECKOUT MATERIALS THAT ARE ACTUALLY SHIPPED INSIDE THE EQUIPMENT AND THE ACTUAL FIELD CHECKOUT SHEET FORMS TO BE USED BY THE FACTORY OR FIELD TECHNICIANS SHALL BE SUBMITTED TO THE CXA. ALL DOCUMENTATION REQUESTED BY THE CXA SHALL BE INCLUDED BY THE SUBCONTRACTORS IN THEIR O&M MANUAL CONTRIBUTIONS.

AND CONTRACT DOCUMENTS. THE CXA SHALL DEVELOP FUNCTIONAL PERFORMANCE TESTING PROCEDURES AND SUBMIT FOR REVIEW AND COMMENT BY THE CONTRACTOR. THE CONTRACTOR SHALL EXECUTE THE FPTS AND THE CXA SHALL RECORD THE RESULTS. THE CXA SHALL SUBMIT TEST RESULTS AND PROVIDE SUPPORT DOCUMENTATION IN ACCORDANCE WITH THE COMMISSIONING PLAN. COMPLETE FUNCTIONAL PERFORMANCE TESTING PRIOR TO ACCEPTANCE. THE SUBCONTRACTORS, UNDER THE OBSERVATION OF THE CXA, SHALL CONDUCT FUNCTIONAL PERFORMANCE TESTING. THE CXA

IN GENERAL, FUNCTIONAL PERFORMANCE TESTING WILL BE CONDUCTED ONLY AFTER PRE-FUNCTIONAL CHECKLISTS AND STARTUP HAS BEEN SATISFACTORILY COMPLETED. THE CONTROL SYSTEM SHALL BE

SUFFICIENTLY PRE-TESTED BY THE CONTRACTOR BEFORE IT IS USED TO VERIFY PERFORMANCE OF OTHER COMPONENTS OR SYSTEMS. THE AIR BALANCING SHALL BE COMPLETED BEFORE FUNCTIONAL PERFORMANCE TESTING OF AIR-RELATED EQUIPMENT OR SYSTEM'S SCHEDULED.

RANDOM SAMPLING (NOT LESS THAN 25% OF THE TOTAL NUMBER OF EACH) IS PERMITTED FOR FUNCTIONAL PERFORMANCE TEST PROCEDURES EXECUTION ON MULTIPLE IDENTICAL PIECES OF NON-LIFE SAFETY OR OTHERWISE NON-CRITICAL EQUIPMENT FOR EACH INDIVIDUAL SYSTEMS TYPE.

• EXCEPTION: MAJOR HVAC EQUIPMENT (AHUS OF GREATER THAN 5000 CFM) SHALL NOT BE SAMPLED. EACH PIECE OF THIS EQUIPMENT SHALL BE TESTED AS DESCRIBED HEREIN.

THE CXA SHALL NOTE EACH SATISFACTORILY DEMONSTRATED FUNCTION ON THE TEST FORM. FORMAL APPROVAL OF THE FUNCTIONAL TEST SHALL BE MADE LATER AFTER REVIEW BY THE CXA. THE CXA WILL

GIVE FINAL APPROVAL ON EACH TEST, AND PROVIDE SIGNED COPIES TO THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE ALL STANDARD AND SPECIALIZED TESTING EQUIPMENT REQUIRED TO PERFORM PRE-FUNCTIONAL CHECKLISTS, STARTUP AND INITIAL CHECKOUT, AND FUNCTIONAL

PERFORMANCE TESTING. ALL TESTING EQUIPMENT SHALL BE OF SUFFICIENT QUALITY AND ACCURACY TO TEST AND/OR MEASURE SYSTEM PERFORMANCE WITH THE TOLERANCES SPECIFIED IN THE SPECIFICATIONS. FREQUENCY OF CALIBRATION SHALL BE IN ACCORDANCE WITH APPLICABLE NEBB OR AABC REQUIREMENTS. CX.2.3.2.1 - EQUIPMENT: EQUIPMENT FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THE INSTALLATION AND OPERATION OF COMPONENTS, SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING

RELATIONSHIPS IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS SUCH THAT OPERATION, FUNCTION AND MAINTENANCE SERVICEABILITY FOR EACH OF THE COMMISSIONED SYSTEMS SHALL BE CONFIRMED. TESTING SHALL INCLUDE ALL MODES AND SEQUENCE OF OPERATION, INCLUDING UNDER FULL-LOAD, PART-LOAD AND THE FOLLOWING EMERGENCY CONDITIONS:

 ALL MODES AS DESCRIBED IN THE SEQUENCE OF OPERATION; REDUNDANT OR AUTOMATIC BACK-UP MODE;

• MODE OF OPERATION UPON A LOSS OF POWER AND RESTORATION OF POWER.

CX.2.3.2.2 - CONTROLS: HVAC CONTROL SYSTEMS SHALL BE TESTED TO DOCUMENT THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT, AND SYSTEMS ARE CALIBRATED, ADJUSTED AND OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. SEQUENCES OF OPERATION SHALL BE FUNCTIONALLY TESTED TO DOCUMENT THEY OPERATE IN ACCORDANCE WITH APPROVED PLANS AND

CX.2.3.2.3 - ECONOMIZERS: AIR ECONOMIZERS SHALL UNDERGO A FUNCTIONAL TEST TO DETERMINE THAT THEY OPERATE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

CX.2.4 - PRELIMINARY COMMISSIONING REPORT: A PRELIMINARY REPORT OF COMMISSIONING TEST PROCEDURES AND RESULTS SHALL BE COMPLETED AND CERTIFIED BY THE CXA (A REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY) AND PROVIDED TO THE EOR AND BUILDING OWNER. THE REPORT SHALL BE IDENTIFIED AS "PRELIMINARY COMMISSIONING REPORT" AND SHALL IDENTIFY:

• ITEMIZATION OF DEFICIENCIES FOUND DURING TESTING REQUIRED BY THIS SECTION THAT HAVE NOT BEEN CORRECTED AT THE TIME OF REPORT PREPARATION. DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION BECAUSE OF CLIMATIC CONDITIONS.

CX.2.4.1 - ACCEPTANCE OF REPORT: BUILDINGS, OR PORTIONS THEREOF, SHALL NOT PASS THE FINAL MECHANICAL INSPECTION UNTIL SUCH TIME AS THE AHJ HAS RECEIVED A LETTER OF TRANSMITTAL FROM

CX.2.4.2 - COPY OF REPORT: A COPY OF THE PRELIMINARY COMMISSIONING REPORT SHALL BE MADE AVAILABLE FOR REVIEW BY THE AHJ.

CX.2.5 - DOCUMENTATION REQUIREMENTS: THE DOCUMENTS DESCRIBED HEREIN SHALL BE PROVIDED TO THE BUILDING OWNER WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF

CX.2.5.1 - DRAWINGS: CONSTRUCTION DOCUMENTS SHALL INCLUDE THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT. THE CONTRACTOR OR CXA SHALL CONTACT THE EOR SHOULD

CX.2.5.2 - MANUALS: THE CXA SHALL FACILITATE AND CONFIRM THAT AN OPERATING AND MAINTENANCE MANUAL IS DEVELOPED, PROVIDED AND INCLUDES ALL OF THE FOLLOWING:

• SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.

• MANUFACTURER'S OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED

 HVAC CONTROLS SYSTEM MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD-DETERMINED SETPOINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR, FOR DIGITAL CONTROL SYSTEMS, IN SYSTEM PROGRAMMING INSTRUCTIONS. • A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SETPOINTS.

CX.2.5.3 - SYSTEM BALANCING REPORT (TAB REPORT): A WRITTEN REPORT DESCRIBING THE ACTIVITIES AND MEASUREMENTS COMPLETED AS REQUIRED ABOVE.

CX.2.5.4 - FINAL COMMISSIONING REPORT: A REPORT OF TEST PROCEDURES AND RESULTS IDENTIFIED AS "FINAL COMMISSIONING REPORT" SHALL BE DELIVERED TO THE BUILDING OWNER AND SHALL INCLUDE:

RESULTS OF FUNCTIONAL PERFORMANCE TESTS.

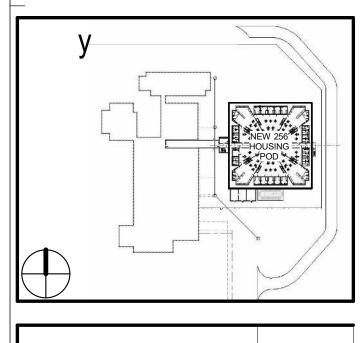
 DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED. • FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE, PROVIDED HEREIN FOR REPEATABILITY. DESCRIPTION OF DEFERRED TESTS WHICH CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION DUE TO CLIMATIC CONDITIONS.

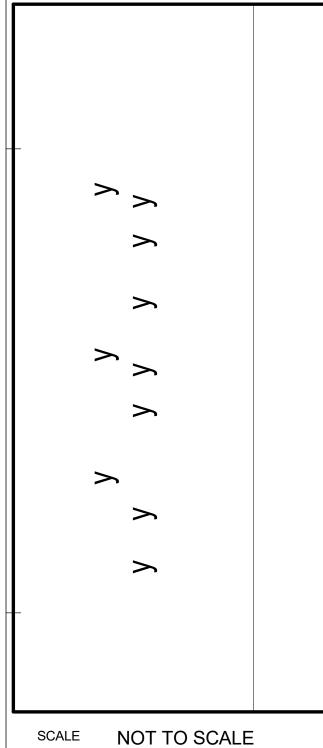
10365 Hood Road South Suite 203 t +1 904-262-8660 Jacksonville, Fl. 32257 255 S. Orange Avenue Orlando, FL 32801 www.tlc-engineers.com P 407.841.9050 TLC No.:120018 THINK. LISTEN. CREATE. Professional Seals Christopher J. Floegel, P.E. State of Florida Professional Engineer License No. 84276 This item has been electronically signed and sealed by the individual named above, using a dated Digital Signature in the space below, per F.A.C. Rule 61G15-23.004. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.

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ISSUED FOR PERMIT 7-24-20 **REVISIONS** 

## DRAWN BY

C FLOEGEL APPROVED BY C FLOEGEL CHECKED BY C FLOEGEL JULY 24, 2020

HVAC COMMISSIONING NOTES

50101397

PROJECT NO.

**DESTROY AFTER USE**