

GENERAL SPECIFICATIONS

SUMMARY OF WORK - SECTION S01010

1.01 WORK UNDER THE CONTRACT

A. The Work shall be as described in this Specification Section and in the Contract Documents.

The several buildings where work is to be completed as described in the Contract Drawings. It is a total of 276 units as follows:

SECTION A - 150 Units

1 Bedroom (4-plex)	-	60	(401 sq. ft.)
2 Bedroom (duplex)	-	44	(600 sq. ft.)
3 Bedroom	-	23	(792 sq. ft.)
4 Bedroom	-	23	(968 sq. ft.)

SECTION B - 126 Units

2 Bedroom (duplex)	-	30	(672 sq. ft.)
3 Bedroom	-	51	(864 sq. ft.)
4 Bedroom	-	45	(1056 sq. ft.)

B. The specific addresses of the buildings where the work is to be completed, as described in the Contract Drawings, shall be designated at the time the Contract is awarded by the Collier County Housing Authority.

1.02 COMMENCEMENT OF WORK

A. The Contractor must commence the Work enabled by the issuance of a permit within ten continuous calendar days of the issuance of the permit. If the Work does not commence within the ten (10) continuous calendar day milestone, future allowances, if any, for delays agreed to by the Authority will be reduced by a number of days equal to the number of days between the ten continuous calendar day milestone date and the actual start date.

1.03 ITEMS NOT INCLUDED

The following items shown on the Drawings are not included in the Work:

A. Items indicated "By Others"

B. Items indicated "N.I.C." (Not in Contract)

C. Existing construction not indicated or specified to be removed, replaced or altered.

1.04 CUTTING, PATCHING AND REMOVALS

A. Contractor shall do all cutting and patching, painting and finishing of existing work which is disturbed while performing the Work. All work shall be restored to provide a new appearance and to be structurally sound.

B. The work shall be done by competent workmen skilled in the trade required by the restoration.

C. Examination:

1. Prior to cutting, drilling, or removal investigate both sides of the surface involved. Determine the exact location of structural members.
2. If unforeseen obstructions are encountered take precautions necessary to prevent damage and obtain instructions from the Authority before proceeding with the Work.

D. Preparation:

1. Provide temporary shoring and other supports necessary to prevent settlement or other damage to existing construction which is to remain.
2. Prepare existing surfaces properly to receive, and where required, to bond with the Work

E. Removals, Cutting, Altering:

1. Cut and alter existing materials as required to perform the Work. Limit the cutting to the smallest amount necessary. Core drill around holes and saw-cut other openings where possible.
2. Perform cutting, drilling and removals in a manner that will prevent damage to construction that is to remain.

F. Patching:

1. Patch existing construction and finishes defaced, damaged or left incomplete due to alterations or removals. Patching, except as otherwise indicated, shall be limited to the areas which have been cut or altered; match materials, finishes, underlying construction, and quality of area patched.

1.05 PROJECT WORKING HOURS

A. The Contractor shall observe the work hours for the project within the parameters set forth by Housing Authority. Provide the Authority with a schedule of the intended hours in order for it to set its personnel schedule.

B. No overtime work shall be performed without prior written approval by the Authority.

1.06 PROGRESS PHOTOGRAPHS

A. The Contractor shall take and submit to the Authority digital color photographs of the Site and the Work being performed under this Contract. The digital photographs shall be taken prior to start of Work and thereafter on a monthly basis, and at the completion of the Work. The number and locations from which the digital photographs are taken shall be subject to the direction and approval of the Authority and shall be sufficient to record the conditions existing prior to the commencement of Work and thereafter as directed by the Authority to sufficiently document and record the overall progress of the construction.

B. All digital color photographs shall be in the JPEG color format and shall be concisely labeled with date, time project number and subject. The digital photographs shall be stored on Compact Disks (CDs); each labeled with the project and date taken. The digital photographs shall be, at a minimum, 3.0 mega-pixel, high resolution, best quality.

C. In addition to submitting CDs, an 81/2"x11" color printout of each digital photograph taken shall be included. Each printout shall be on photo quality paper.

D. The disk(s) and the sheathed printouts shall be delivered to the Authority's representative monthly and, at the latest, must accompany the monthly requisition for the period photographed.

E. The cost for taking, processing and delivering the disk(s) and sheathed printouts shall be included in the Contractors Bid Amount.

PROJECT MEETINGS - SECTION G01200

1.01 SUMMARY

A. Project meetings shall be convened either regularly or as needed to accomplish the following:

1. Coordinate and plan the start of the Work.
2. Resolve problems and issues with the design, construction or administration of the Project.
3. Review the progress of the Work, the quality of the Work, and payments for the Work.
4. Review and negotiate change orders.
5. Review project closeout progress and procedures.

1.02 PRE-CONSTRUCTION MEETING

A. Prior to the start of Work, the Authority will convene a Pre-Construction Meeting to be attended by representatives of the Authority, the Contractor and the Engineer of Record. Project items including, but not limited to, the following shall be established and/or discussed:

1. Key personnel from all parties involved with the Project.
2. Lines of communication and points of contact.
3. Mobilization and safety procedures.
4. Permit applications and use of the premises.
5. Progress meeting intervals.
6. Contractor's quality control system and forms to be used on the project.
7. Submittal processes.
8. Procedures for processing and responding to Contractor's inquiries (e.g.: "Request(s) For Information" ["RFI's"])
9. Change Order process
10. Request for payment procedures

B. The Authority will prepare and provide minutes of these meetings to all attending parties.

1.03 PROGRESS MEETINGS

A. At intervals established during the Pre-Construction Meeting, the Authority will convene job site Progress Meetings to be attended by all key project personnel presided by the Authority's representative. The frequency of such Progress Meetings may be modified if the Authority's representative determines that the Work progress or jobsite conditions warrant additional meetings. The Authority's representative will determine the agenda for the meeting. All topics relating to the performance of the Work shall be discussed.

B. The Authority will prepare and provide minutes of these meetings to all attending parties.

1.04 CHANGE ORDER MEETINGS

A. The Authority's representative may convene Change Order Meetings at its offices to resolve change order issues and disputes not otherwise concluded. The Contractor shall assure that all parties necessary to negotiate on its behalf are in attendance.

1.05 PROJECT CLOSE-OUT MEETINGS

A. The Authority's representative may convene Project Closeout Meetings to discuss deficiency lists, punch lists, closeout documentation, substantial or final payment request procedures and other topics related to the Final Completion of the Work.

RECORD DOCUMENTS - SECTION G01720

1.01 CONTRACTOR PROJECT RECORD DOCUMENTS

A. The purpose of the Contractor Project Record Documents is to record the actual location of the Work in place, including, but not limited to, underground lines, concealed piping within buildings, clean-out locations, concealed valves and control equipment, connections, switches, and cut-outs, and to record changes in the Work.

B. In addition to the sets of Contract Documents that are required by the Contractor on the Site to perform the Work, the Contractor shall maintain at the Site one copy of all Drawings, Specifications, and Addenda, that are part of the Contract as awarded, and also Change Orders, Modifications, approved Shop Drawings, field directives, and other approved changes. These are collectively referred to as "Project Record Documents." Each of these documents shall be clearly marked "Project Record Copy" as indicated below, maintained in a clean and neat condition available at all times for inspection by the Authority and shall not be used for any other purpose during the progress of the Work.

C. Contractor Project Record Documents Requirements

1. The Contractor shall mark-up the "Project Record Documents" to show:

- a. Approved changes in the Work, either by Change Order or field directive.
- b. Details not shown in the original Contract Documents.
- c. All relocations of Work.
- d. Actual location of all electrical devices.
- e. Revisions in electrical circuitry

D. The Contractor shall keep the "Project Record Documents" up-to-date from day to day as the Work progresses. Appropriate documents shall be updated promptly and accurately; no Work shall be permanently concealed until all required information has been recorded.

E. Each month, copies of these Project Record Documents will be examined by the Authority's Field Representative prior to recommending the approval of the partial payment request to ascertain that the record prints reflect the changes to date.

1.02 FINAL RECORD DOCUMENTS

A. Final Record Shop Drawings: If installed equipment is at variance with the respective approved Shop Drawings, the Contractor shall furnish to the Authority's Field Representative revised Shop Drawings indicating the actual completed installation one month prior to Substantial Completion.

B. Final Record Drawings (referred to in the industry as "As-builts"):

1. The Contractor shall submit a set of Final Record Drawings, incorporating all changes appearing on the Contractor "Project Record Documents" onto the original set of bid documents. The changes to the Contract Documents shall be clearly indicated. The documents may be made by hand.
 2. The Contractor shall submit 2 sets of prints of these "Final Record Drawings" to the Authority's Field Representative for acceptance as many times as is required until the Drawings are accepted as reflecting the "as-built" installation.
- C. The originals of the Contractor "Project Record Documents" shall be submitted by the Contractor to the Authority when all Work is completed and shall be approved by the Authority before the Contractor requests final payment. Refer to Section G01700, "Project Closeout," for other requirements associated with final acceptance of the work.

D. All of the above listed requirements of this Article shall be at the Contractor's expense.

SUBMITTALS - SECTION S01300

1.01 SUMMARY

A. Contractor shall provide all Submittals required by the Contract. The Contractor shall adhere to all submittal and scheduling. After examination of the Submittal by the Authority's Representative and the return of such items by the Authority to Contractor, the Contractor shall make corrections indicated and shall furnish to the Authority the required number of corrected items.

1.02 DEFINITIONS

A. Products, materials, systems and equipment are collectively called "products" for the purposes of the Contract Documents.

B. Unacceptable and Incomplete Submittals

Submittals that do not contain the required information specified herein, such as specification section and location of work, etc; or do not specifically indicate the actual item proposed; drawings that are only duplications of the Contract Drawings; and those shop drawings not prepared by specialty firms for items requiring such expertise will be considered unacceptable or incomplete submissions.

1.03 CONTRACTOR RESPONSIBILITY, GENERAL

A. The review of Submittals by the Authority, which will typically be by the appropriate Design Professional of Record for the item submitted except those to be reviewed by other Authority Departments, shall not relieve the Contractor of responsibility for (1) the accuracy and proper dimensioning; (2) for the proper fitting and construction of the Work; and (3) the furnishing of materials or Work required by the Contract but not indicated on the Shop Drawings. Acceptance of Submittals shall not be construed as approving departures from the Contract Drawings, Supplementary Drawings (Drawings initiated by change orders or Notice of Direction (NOD)) or Specifications. The Contractor is responsible for clearly indicating (clouding, flagging, etc.) any portions of the submittal that vary in any way from the Contract Documents.

B. It shall be the Contractor's responsibility to carefully review all Submittals to ensure conformance with the Contract requirements including verification of dimensions, clearances, compatibility and coordination with other product data and shop drawings submitted for other work.

C. Submittals shall be marked to show the Contract name and number, the Contractor, and applicable subcontractor, manufacturer or supplier. Submittals shall completely identify the specification section, Contract Drawings, and the locations at which materials or equipment are to be installed.

D. Where printed materials describe more than one product or model, clearly identify which item is submitted for acceptance.

E. If the Authority finds a Submittal unchecked and incomplete or unacceptable, it will be returned to the Contractor for correction prior to any further processing or review by the Authority regardless of any urgency claimed by the Contractor. In such a situation, the Contractor will be responsible for any resulting delays to the scheduled Contract completion. Furthermore, the Authority may hold the Contractor responsible for increased costs incurred by the Authority resulting from the Contractor's failure to comply with the requirements set forth herein.

F. No portion of the Work shall commence until required Submittals are Satisfactory to the Authority.

G. Each month, copies of these Project Record Documents will be examined by the Authority's Field Representative prior to recommending the approval of the partial payment request to ascertain that the record prints reflect the changes to date.

1.04 AUTHORITY'S RESPONSIBILITY, GENERAL

A. The review of Submittals by the Authority will be for general conformance with the requirements of the Contract Documents only and shall not be interpreted as confirming or approving detailed dimensions, quantities or approval of deviations from the Contract Documents. The Authority's review shall not relieve the Contractor of its responsibility for the accuracy of its submittals nor for the furnishing and installation of materials and equipment in accordance with the Contract Documents. The Authority's review of a separate item shall not be deemed to include a review of the complete assembly in which it functions.

B. The Authority will review all satisfactorily prepared Submittals and will return each Submittal to the Contractor with a stamped comment indicating the Authority's response to the submission. The stamp will indicate one of the following responses:

1. "No Exceptions Taken" - The Work covered by the submittal may proceed to fabrication/ installation provided it complies with requirements of the Contract Documents. This review action does not authorize changes to Contract Sum or Contract time. ("Approved" or "Accepted" are alternate comments with the same meaning.)
2. "Make Correction Noted" - The Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract. The response indicates that portions of the submittal have been questioned and found to be in deviation/conflict with the requirements of the Contract Documents, notes have been added for clarity and/or the submittal requires field verification. Resubmission is required only if the Contractor is unable to comply with noted corrections. Resubmission must clearly indicate items varying from the noted corrections and other changes made from the previous submission. ("Approved as Noted - No Resubmission Required" is an alternate comment with the same meaning.)
3. "Rejected: Revise and Resubmit" - The response indicates that the submittal is deficient. Additional information is required to complete the review. Work covered by the submittal may not proceed - purchasing, delivery, fabrication, or installation MAY NOT be undertaken. The Contractor is to revise or prepare a new submittal according to the comments. ("Revise and Resubmit" is an alternate comment with the same meaning.)
4. "Rejected: Not acceptable for review" - The response indicates that the item does not meet the requirements of the Contract, or the submittal is incomplete and has not been reviewed. Do not proceed with the Work covered by the submittal - purchasing, delivery, fabrication, or installation MAY NOT be undertaken. Prepare a new submittal complying with the Contract requirements; resubmit immediately. ("Not Approved" is an alternate comment with the same meaning.)

C. Do not permit Submittals marked Rejected (or the similar terms listed above) to be used at the Project site, or elsewhere where Work is in progress.

1.05 SUBMITTAL SUBMISSION PREPARATION

A. Submittals shall be accompanied by a transmittal to the Authority requesting acceptance. Transmittals shall contain submittal items from only one Specification Section.

B. Each Submittal and transmittal shall be identified with the following information:

1. Project title.
2. Contract name and Contract number.
3. Date of the submittal, including dates of any revisions.
4. Name of Contractor, name of Subcontractor, material supplier and manufacturer, as applicable.
5. Name of person or firm preparing Submittal.
6. Contract Drawing numbers and Specifications, Section Division and Paragraph numbers used as references in preparing Submittal, and titles of items to which the Submittal refer.

C. In addition to marking the transmittal, each submittal shall be stamped with one of the following:

1. "This submittal contains no Product Substitutions"
2. "This submittal contains Product Substitutions"

D. Submit required data for each item as specified in the technical sections. However, if a product specified in the technical section by specific product name or model number is proposed for use, Manufacturer's test reports (except those required in the field to verify performance), manufacturer's qualifications, and samples (except for those requiring selection or acceptance of color, texture, appearance, or other variable characteristic, field mock-ups, and those showing thickness, fabrication shape, and type of material), are not required to be submitted.

E. Acceptance of a "product" does not constitute acceptance for installation at locations other than that provided in the Contract Documents.

1.06 RESUBMISSIONS

A. The resubmission procedure shall be the same as for the initial submission in all respects except the following:

1. The transmittal shall contain the same information as the first transmittal except that transmittal numbers shall run consecutively and the submission number shall indicate 2nd, 3rd, etc. submission. The drawing number/description shall be identical to the initial submission and the date shall be the revised date for that submission.
2. No new material, other than may be incidental to the required correction, shall be included on the same transmittal for a resubmission.
3. The Authority's review of resubmitted items shall generally be restricted to revisions to the original Submittal, unless the Contractor makes other revisions in addition to those indicated. All changes (revisions) to resubmitted items or the additional changes by the contractor must be clearly encircled, highlighted, or otherwise designated.

information:

- a. Manufacturer's recommendations.
- b. Compliance with recognized trade association standards.
- c. Compliance with recognized testing agency standards.
- d. Application of testing agency labels and seals.
- e. Notation of dimensions verified by field measurement.
- f. Notation of coordination requirements.

1.08 RECORD DOCUMENTS

A. See the individual technical Sections of these Specifications and Section G01720 for requirements concerning Record Documents.

1.09 WARRANTIES & GUARANTEES

A. See the individual technical Sections of these Specifications and Section G01740 for those items of work requiring the submission of Warranties and/or Guarantees.

GUARANTEES & WARRANTIES - SECTION G01740

1.01 SUMMARY

A. The Contractor shall provide the Contractor's Guarantee for the Work; specific guarantees and warranties for products and installation as identified in the individual technical Sections of Division 16 of the Specifications.

1.02 GUARANTEE AND WARRANTY REQUIREMENTS

A. When correcting guaranteed or warranted Work that has failed or is defective, the Contractor shall remove and replace other work that has been damaged as a result of such failure or defect or that must be removed and replaced to provide access for correction of warranted Work.

B. Upon determination that Work covered by a guarantee or warranty has failed or is defective, the Contractor shall replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The entity responsible for the warranty/guarantee of the failed or defective item of Work is responsible for the cost of warranty/guarantee work regardless of whether the Authority has benefited from use of the Work through a portion of its anticipated useful service life.

C. The Authority reserves the right to withhold acceptance of Work for the Project where a technical section specific guarantee, warranty, certification, or similar commitment is required on such work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

D. The Authority reserves the right to withhold acceptance of Work for the Project where a technical section specific guarantee, warranty, certification, or similar commitment is required on such work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

E. The Authority reserves the right to withhold acceptance of Work for the Project where a technical section specific guarantee, warranty, certification, or similar commitment is required on such work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.03 CONTRACTOR'S GUARANTEE

A. The Contractor shall furnish a comprehensive written guarantee in the following form:

"GUARANTEE"

PROJECT _____

CONTRACT NO. _____

The Contractor hereby guarantees that the Work specified for the aforesaid Contract will be free from defects of material and workmanship for a period as specified in the General Conditions.

The Contractor also guarantees that it will repair or replace, whichever may be deemed necessary by the Authority, all defective material or workmanship in the Work that may appear within the guarantee period to the satisfaction of the Authority and without any cost or expense to the Authority.

Contractor _____

By _____

Date _____

Sworn to me before this _____

day of _____ 20____

Notary Public

B. Scheduling of corrective Work will be determined by the Authority. Work required to correct failed or defective material or workmanship during the guarantee periods shall be done by the Contractor without cost to the Authority.

C. Should the Contractor fail to remedy defects immediately, the Authority may furnish such materials and labor as are necessary to correct such failure or defect in the Work at the Contractor's expense.

1.07 PRODUCT DATA

A. See the individual technical Sections of these Specifications for those items of work requiring the submission of Product Data.

B. Compile Product Data into a single submittal. Product Data includes, among other information, printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves.

C. The Contractor shall submit six (6) copies of all Product Data.

1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not pertinent, mark copies to indicate the applicable information. Include the following information:

ELECTRICAL NOTES & SPECIFICATIONS:

1. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE NATIONAL BUILDING CODES AND LOCAL CODES AS MAY BE APPLICABLE. SIX SHOP DRAWINGS OF ALL MAJOR EQUIPMENT SHALL BE REQUIRED PRIOR TO ORDERING EQUIPMENT.

2. WORK SHALL INCLUDE ALL LABOR, MATERIALS, PERMITS AND COSTS FOR INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM.

3. ALL EQUIPMENT, FIXTURES, ETC., SHALL BE STARTED, TESTED, ADJUSTED AND PLACED IN SATISFACTORY OPERATING CONDITION BY THIS CONTRACTOR WHO SHALL GUARANTEE ALL WORKMANSHIP MATERIALS AND EQUIPMENT TO BE FREE OF DEFECTS FOR A PERIOD OF (1) ONE YEAR FROM AND SHALL REPAIR SUCH DEFECTS WITHOUT COST TO THE OWNER. ALL EQUIPMENT SHALL BE COVERED FOR THE DURATION OF THE MANUFACTURER'S GUARANTEE OR WARRANTY, AND THIS CONTRACTOR SHALL FURNISH THE OWNER WITH ALL MANUFACTURER'S GUARANTEE AND WARRANTIES.

4. ALL WIRE SIZES SHOWN (UNLESS NOTED OTHERWISE) ARE FOR COPPER CONDUCTORS.

5. CONDUCTOR SIZE SHALL BE #12 AWG (UNLESS NOTED OTHERWISE) AND (INSULATION TYPE TO BE WHAT IS AVAILABLE AT TIME OF INSTALLATION (TW, THW, THHN, THWN, XHHN OR XHHW). ALL CONDUCTOR AMPACITIES ARE TO BE BASED UPON USE OF 90°C RATED INSULATION.

6. AC AIR HANDLER AND CONDENSING UNIT CIRCUIT BREAKERS MUST BE U.L. LISTED AS "HACR" RATED IN ORDER TO USE NON-AUTO DISCONNECTS AT HVAC EQUIPMENT, IF NOT LISTED THEN A FUSED DISCONNECT IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S NAME PLATE REQUIREMENTS MUST BE INSTALLED AT THE EQUIPMENT. ALL GROUP MOUNTED DISCONNECTS (SUCH AS A/C CONDENSERS) ARE TO BE IDENTIFIED AS TO UNIT OR LOCATION THEY SERVE.

7. ELECTRICAL CONTRACTOR IS PERMITTED TO USE CONDUIT AND CABLE, ARMORED OR METAL-CLAD CABLE AS AN ACCEPTABLE MEANS OF WIRING.

8. REVISIONS TO THESE DRAWING AND CERTIFICATION THERETO WHICH MAY BE REQUIRED BY THE APPLICABLE INSPECTION AUTHORITY, BECAUSE OF CONTRACTOR OPTED REVISIONS SHALL BE COMPENSATED TO THE ENGINEER BY THE REQUESTING CONTRACTOR. PAYMENT WILL BE REQUIRED AT TIME OF CERTIFICATION DELIVERY.

9. DO NOT SCALE THE ELECTRICAL DRAWINGS, REFER TO THE ARCHITECTURAL PLANS FOR EQUIPMENT LOCATIONS, CABINETS, CEILING GRIDS, DOOR SWINGS, ETC.

10. IT IS NOT THE INTENT OF THESE PLANS TO SHOW ALL DETAILS OF CONSTRUCTION, ONLY THE INTENT. THE ELECTRICAL CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS SUCH AS HARDWARE, JUNCTION BOXES, CONDUIT FITTINGS, ETC., AS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM IN WORKING ORDER.

11. MATERIALS EQUIPMENT AND SYSTEMS SHALL MEET ALL PERTINENT REQUIREMENTS OF THE AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM), THE UNDERWRITERS LABORATORY (UL), THE 2002 NATIONAL ELECTRICAL CODE (NEC), THE NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION (NEMA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AND OTHER NATIONALLY RECOGNIZED AGENCIES AS WELL AS APPLICABLE LOCAL CODES.

12. BIDDERS SHALL BE LICENSED CONTRACTORS IN ACCORDANCE WITH LOCAL AND STATE LAWS.

13. BIDDERS SHALL THOROUGHLY ACQUAINT THEMSELVES WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THEY SHALL EXAMINE ALL SERVICES, EQUIPMENT, SURFACES, ETC., WHICH THIS WORK IS IN ANY WAY DEPENDENT UPON, AND BRING ANY DISCREPANCIES DETERMINED OR OMISSIONS FOUND IN THE DRAWINGS TO THE OWNER'S ATTENTION BEFORE PROCEEDING WITH THE ELECTRICAL WORK.

14. THE SYSTEMS SHOWN ON DRAWINGS SHALL BE PROVIDED TO SERVE ALL FIXTURES, EQUIPMENT, AND AREAS WITHIN THE CONTRACT LIMITS AS SET FORTH BY THE ARCHITECTURAL SOLUTION FOR THE PROJECT. THE BIDDING AND CONTRACT REQUIREMENTS, GENERAL REQUIREMENTS, AND GENERAL PROVISIONS SHALL APPLY TO THIS SECTION. SYSTEMS SHALL INCLUDE ALL EQUIPMENT, APPURTENANCES, SAFETY DEVICES, AND CONTROLS NECESSARY FOR THE INTENDED SERVICE.

15. WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN PERMISSION OF THE OWNER.

16. ANYTHING DRAWN OR SPECIFIED SHALL NOT BE CONSTRUED TO CONFLICT WITH ANY LOCAL OR MUNICIPAL ORDINANCES, REGULATIONS OR ORDINANCE WHICH GOVERNS THE INSTALLATION OF ANY

ELECTRICAL, OR RELATED WORK. ITEMS SHALL NOT BE INSTALLED IN CONFLICT WITH THE NATIONAL ELECTRICAL CODE, RESOLVE ANY AND ALL CONFLICTS BEFORE INSTALLATION AT NO ADDITIONAL COST TO THE OWNER.

17. ALL EQUIPMENT SHALL BE NEW AND UNUSED. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS, EXCEPT WHERE THESE SPECIFICATIONS REQUIRE A HIGHER QUALITY INSTALLATION THAN RECOMMENDED BY THE MANUFACTURER.

18. ALL INSTALLED SYSTEMS, DEVICES AND RELATED ITEMS SHALL BE TESTED IN PLACE ON SITE. REPLACE ANY AND ALL CONTRACTOR-SUPPLIED DEFECTIVE DEVICES, ITEMS OR SYSTEMS AT CONTRACTOR'S OWN EXPENSE BEFORE COMPLETION OF THE PROJECT.

19. VERIFY MECHANICAL EQUIPMENT SWITCH AND CONNECTION REQUIREMENTS, ITEM BY ITEM WITH THE MECHANICAL CONTRACTOR, BEFORE WIRING EQUIPMENT. RESOLVE ALL DISCREPANCIES WITHOUT FURTHER COST TO OWNER.

20. ALL LIGHTS SHALL BE SUPPORTED AND SECURED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

21. ELECTRICAL SCOPE OF WORK

a. DISCONNECT AND REMOVE THE ELECTRICAL SPACE HEATERS AND PATCH THE WALL.

b. REMOVE THE CIRCUIT BREAKERS FROM THE PANEL THAT FED

HVAC NOTES:

THESE MECHANICAL DRAWINGS CONFORM TO ALL REQUIREMENTS OUTLINED IN FMC 6th EDITION 2017.

A. THE HVAC CONTRACTOR SHALL INCLUDE THE FURNISHING OF ALL LABOR AND MATERIALS TO COMPLETE THE AIR CONDITIONING, HEATING, AND VENTILATING WORK AS SHOWN ON THE DRAWINGS TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

1. ALL PERMIT FEES
2. ALL AIR CONDITIONING EQUIPMENT
3. EXHAUST FANS AND SYSTEMS
4. MOTORS AND STARTERS FOR EQUIPMENT FURNISHED UNDER THIS WORK
5. SUPPLY AND RETURN DUCTWORK
6. OUTSIDE AIR AND EXHAUST AIR DUCTWORK
7. SUPPLY AND RETURN AIR GRILLES, REGISTERS, WEATHERPROOF LOUVERS AND DAMPERS.
8. FILTERS AND STARTERS, ETC.
9. CONDENSATE DRAIN PIPING.
10. CONTROLS INCLUDING THERMOSTATS AND LOW VOLTAGE WIRING.
11. EQUIPMENT SUPPORTS, HANGERS, ETC.
12. TEST AND BALANCE OF ALL SYSTEMS.

B. CONDENSATE PIPING:

1. ALL AIR HANDLERS SHALL HAVE AUXILIARY DRAIN PANS WITH AUXILIARY DRAINS PIPED TO A CONSPICUOUS LOCATION AT THE EXTERIOR OF THE BUILDING. INSULATE CONDENSATE PIPE WITH 1/2" ARMAFLEX.
2. CONDENSATE AND EMERGENCY CONDENSATE DRAINS SHALL BE SCHEDULE 40 PVC ASTM 2665
3. SLOPE HORIZONTAL CONDENSATE DRAINS A MINIMUM OF 1/4" PER FOOT.

C. NOT USED

D. EXHAUST SYSTEMS:

1. EXHAUST OUTLETS FOR DUCTS CONVEYING NOXIOUS GASES, FLAMMABLE VAPORS, CORROSIVE VAPORS, AND DUCTS SERVING COMMERCIAL FOOD COOKING AND PROCESSING EQUIPMENT, SHALL TERMINATE OUTSIDE THE BUILDING AND SHALL BE LOCATED 10' FROM ANY ADJACENT BUILDING, PARKING AREA, ADJACENT PROPERTY LINE, WINDOW, DOOR OR AIR INTAKE OPENING AND SHALL BE LOCATED AT LEAST 10' ABOVE THE ADJOINING GRADE.

E. REFRIGERANT LINES:

1. SIZE ALL REFRIGERANT LINES TO MEET THE MANUFACTURERS RECOMMENDATIONS.
2. INSULATE ALL SUCTION LINES WITH 1/2" ARMAFLEX INSULATION, INSTALLED TO MEET THE MANUFACTURERS INSTRUCTIONS.
3. ANY REFRIGERANT LINES RUNNING UNDERGROUND SHALL BE WITHIN A PVC PIPE CHASE.

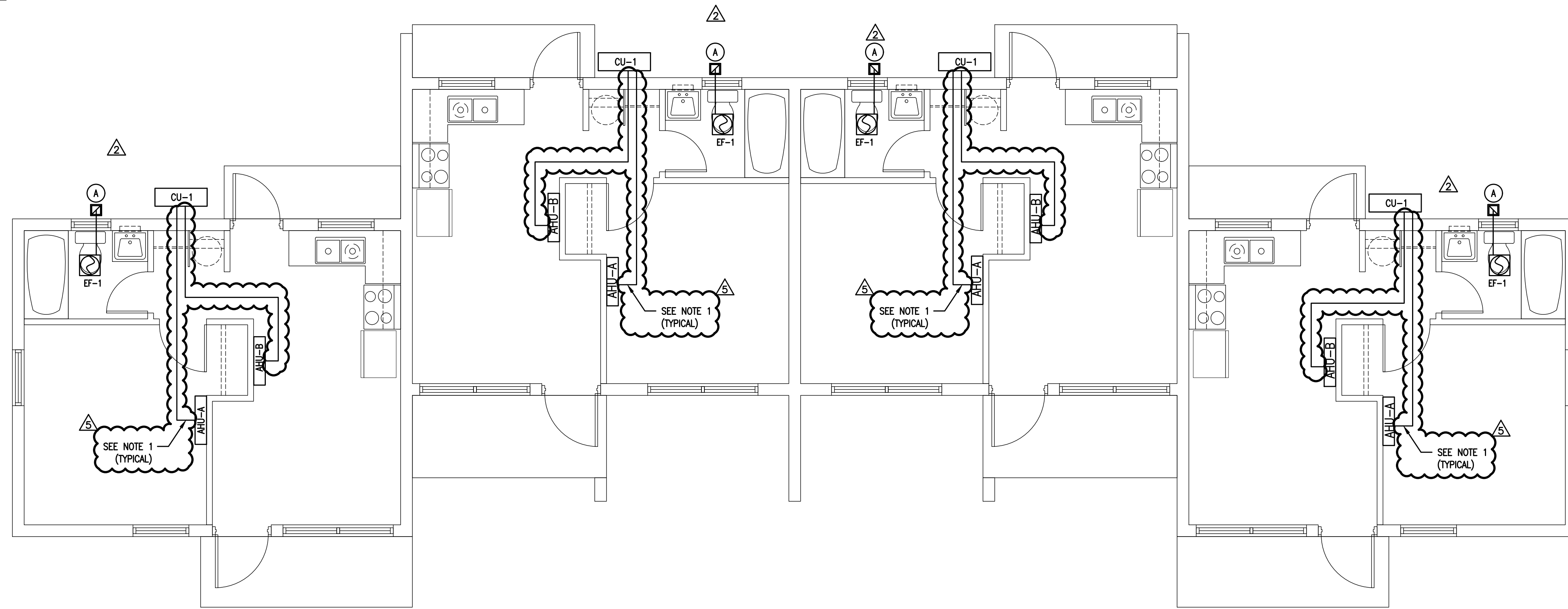
F. NOT USED

G. THERMOSTATS:

1. EACH AIR CONDITIONING SYSTEM SHALL HAVE A 24 VOLT THERMOSTAT MOUNTED AT 5'-0" ABOVE FINISHED FLOOR. THERMOSTATS SHALL BE ONE STAGE COOL, ONE STAGE HEAT, WITH "AUTO-ON" FAN SWITCH AND "HEAT-OFF COOL" SYSTEM SWITCH. PROVIDE TWO STAGE COOL AND TWO STAGE HEAT THERMOSTATS FOR TWO STAGE UNITS, WHERE REQUIRED. PROVIDE LISTED THERMOSTATS THAT ARE SHOWN ON THE EQUIPMENT SCHEDULE.
2. HVAC CONTRACTOR SHALL FURNISH AND INSTALL ALL CONTROL WIRING AND CONDUIT AS REQUIRED.

H. TESTING AND BALANCING:

1. HVAC SUBCONTRACTOR SHALL PROVIDE LABOR TO TEST AND ADJUST ALL AIR FLOW RATES AT THE TIME OF THE ORIGINAL COMMISSIONING OF THE SYSTEM AND PROVIDE A REPORT TO THE GENERAL CONTRACTOR. THEY HAVE THE ADDITIONAL RESPONSIBILITY FOR ONE ADDITIONAL VISIT TO THE PROJECT FOR COMFORT BALANCING WITHIN SIX MONTHS FROM THE TIME THE PROPERTY IS TURNED OVER TO THE OWNER.



SECTION A - QUADPLEX MECHANICAL PLAN

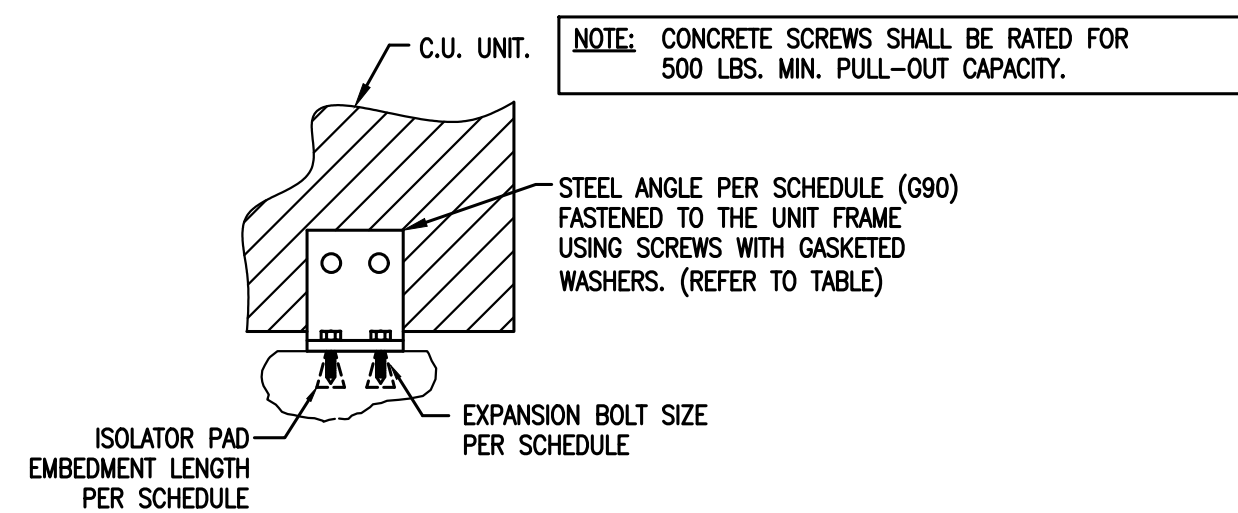
SCALE: 1/4" = 1'-0"

CONTRACTOR SHALL FURNISH & INSTALL NEW PRE-ENGINEERED CONCRETE PAD.

COND. UNIT TIE DOWN SCHEDULE

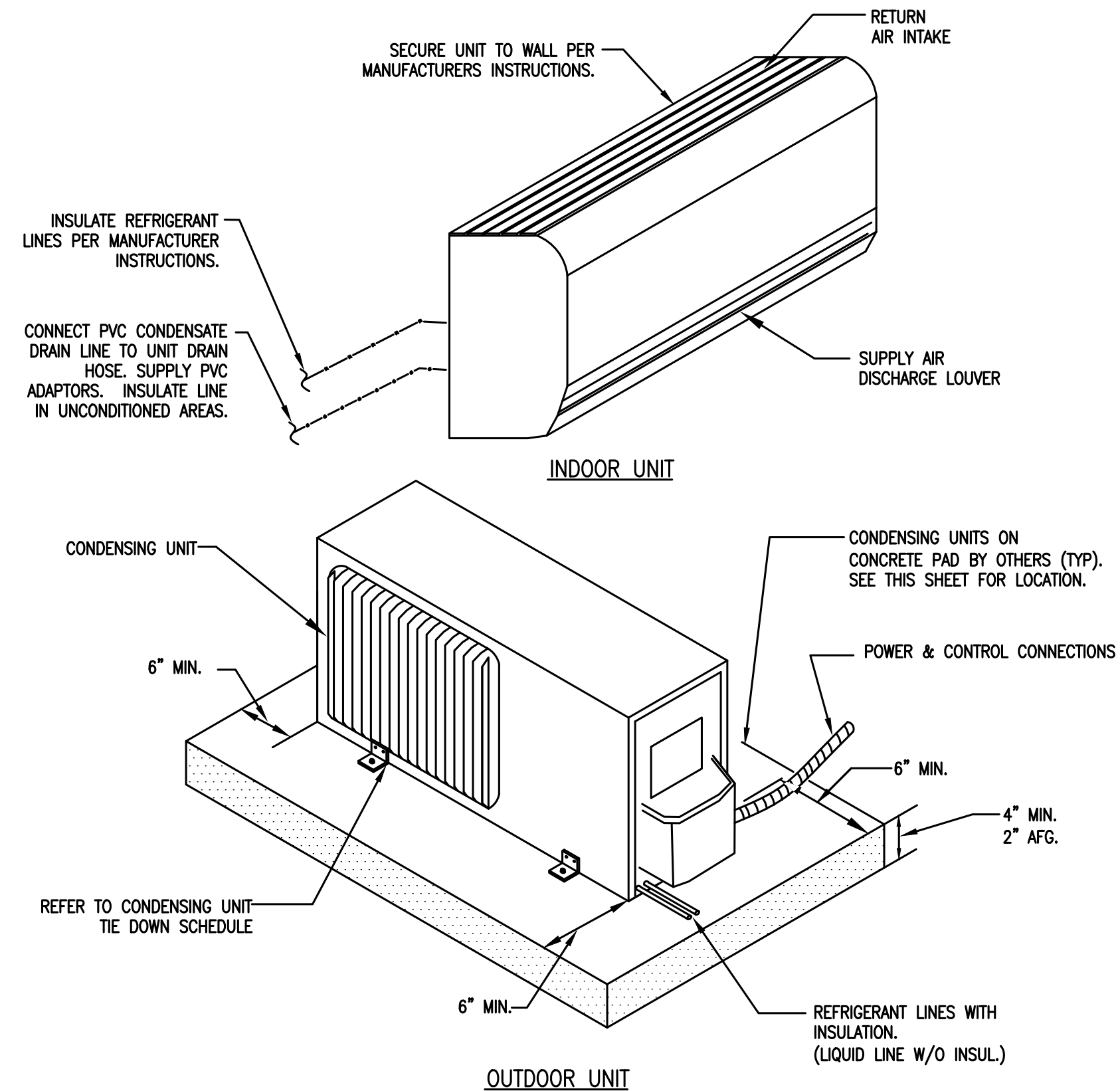
UNIT SIDE LENGTH	CABINET		CONCRETE PAD		
	# SCREWS PER SIDES	SM SCREW DIAMETER	# CONCRETE EXPANS. BOLTS	EMBEDMENT	STEEL ANGLE
12"	1	3/16" DIA.	1/4"	1 1/4"	1"x1"x1/4"
12" THRU 24"	2	1/4" DIA.	1/4"	1 1/2"	2"x2"x1/4"
24" THRU 36"	3	1/4" DIA.	1/4"	1 1/2"	2"x2"x1/4"
36" OR 5 TON	4	1/4" DIA.	1/4"	1 3/4"	2"x2"x1/4"

MAXIMUM WIND SPEED OF 150 MILES PER HOUR.
NOTE: CONDENSING UNITS TO BE MOUNTED ON CONCRETE PAD, PROVIDE ALL CLEARANCES FOR ACCESS AND AIR FLOW.



TYPICAL DUCTLESS SPLIT SYSTEM DETAIL

SCALE: NOT TO SCALE



MECHANICAL EQUIPMENT SCHEDULE														
MARK	MODEL	CFM	O.A.	VOLTAGE	MCA	SEER/HSPF	SENS. CAP.	TOTAL CAP.	EAT	WGT.	FLA.	KW	FUSE	NOTES
AHU-A	DHMSHQ09XA3	210/380	---	208/230/1/60	.2	19.0/10.0	5.95	8.50	80/67	19.18	.33	---	---	1, 2
AHU-B	DHMSHQ12XA3	210/380	---	208/230/1/60	.2	19.0/10.0	7.35	10.5	80/67	19.18	.33	---	---	1, 2
CU-1	38MGRQ188--3	1200	---	208/230/1/60	18	19.0/10.0	12.6	18.0	95	105.8	.42	---	25	---

1. PROVIDE MANUFACTURERS WIRELESS THERMOSTAT CONTROLLER.
2. SIZE REFRIGERANT PIPING TO MEET THE MANUFACTURERS RECOMMENDATIONS.

EXHAUST FAN SCHEDULE											
MARK	MFG.	MODEL	TYPE	C.F.M.	S.P.	H.P.	R.P.M.	VOLT.	CURB	B.D.D.	REMARKS
EF-1	BROAN	671	CEILING	70	.25	.5 AMPS	---	120	NO	YES	SWITCH WITH LIGHTS

AIR DISTRIBUTION SCHEDULE					
MARK	MFG.	MODEL	SIZE	DIRECTION	ACCOS.
A	METALAIR	RH-1	6 x 6	EXHAUST	INSECT SCREEN

DRAWING NOTES:

1. ROUTE REFRIGERANT LINES ABOVE CEILING FROM THE NEW AIR HANDLING UNIT TO THE EXTERIOR CONDENSER ACCORDING TO THE MANUFACTURER'S REQUIREMENTS.

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY STEVEN R. STAFFORD ON THE DATE INDICATED USING A DIGITAL SIGNATURE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

PROJECT NAME:
Farm Worker Village
Collier County Housing Authority
1800 Farm Worker Way
Immokalee, Florida 34142

STAFFORD ENGINEERING, INC.
3525 Bonita Beach Rd., Suite 110, Bonita Springs, FL 34134
239-948-5941 / 239-948-5980 FAX
Steven R. Stafford - PE - Florida License # 34664
Certificate Of Authorization No. 26464

#	REVISION	DATE
1	CODE COMMENTS	SEPTEMBER 14, 2020
2	OWNER CHANGES	JUNE 26, 2020
3	CODE COMMENTS	NOVEMBER 2, 2017
4	CODE COMMENTS	JUNE 12, 2017
5	CODE COMMENTS	MAY 30, 2017

DATE: 09/14/16
DRAWN BY: R.A.M.
CHECKED BY: S.R.S.
JOB NUMBER: 16079

M-1
9/15/2020 11:57 AM