SPECIFICATION FOR INSTALLING REFRIGERANT LINES AT HAMMOCK GREENS III IULY 2016

As you probably have seen, we have completed the installation of the air conditioning line covers on the outside of the building. The history of this project goes back about two years when we became aware that eventually everyone's air conditioning lines will have to be replaced. The original lines were run under the building and then up to each floor and unit through "chases" or basically within the walls. It is not possible to pull in the new lines while pulling out the old lines since the act of pulling the lines damages the insulation that is needed on one of the lines.

When your line-set fails, you will want to get it replaced as soon as possible. Each homeowner has control over which contractor to select. However, we do not want our building looking like a haphazard spider web of 22 covers or conduits going up the outside of the building. To avoid that visual effect and to save you some money for your new line set, it was decided, as an association, to install four ducts that will each contain multiple line sets. It is advisable to contact Jim Meade of Cambridge Management to help you through this process. He will help clarify the specifications that must be followed when replacing your lines. Before getting bids from contractors, be sure you and the contractors understand these requirements.

Following is a description of how each of the building units will be accessed. Please note line sets for units 102, 105, 202 and 402 have already been changed and we have elected to use the existing individual line set covers for units 105 and 402. Line sets for units 102 and 202 are now enclosed in the new cover on the east end of the building.

Units 101, 201, 301, 302 are to be connected using the cover on the east end of the building.
Units 106, 205, 206, 305, 306 are to be connected using the cover on the west end of the building.
Units 103, 104, 203, 204, 303, 304, and 403 are to be connected using the two new covers on the back of the building. A future separate cover will be required for unit 405 whenever that line set needs to be replaced.

Special considerations to be aware of -

- 1. For units 205, 302, and 305 these will be fed from the end of the building and therefore it necessitates going across the end unit adjacent to you (206, 301 or 306). This approach was used to reduce your installation cost but it also means that there will have to be coordination and expenses for the end unit owners that must be paid for by the owner/contractor doing the work in 205, 302 or 305. Access holes must be cut in approx. three places in the end unit ceiling to allow the contractor access for pulling in the new lines – one hole in the laundry room ceiling and one hole over the master shower would be a minimum. It is CRITICAL that skilled, conscientious, tradesmen do the work because these lines go across the kitchen sink area and there are sprinkler lines, ductwork and sometime recessed light canisters in the area above the sink. If the cheap PVC sprinkler lines are cracked or any way damaged, it will cause a flood to all units below. This is a huge responsibility and it is mandatory that the homeowner has the sprinkler system shut off during this installation. That will create additional expense for the owner but it is a REQUIREMENT and will be included as a stipulation in our revised by-laws. All of this must be arranged and done with input from our Property Management Company, Cambridge Management, Jim Meade and myself.
- 2. The new A/C lines should not sit on top of any existing piping. They should sit adjacent to any other piping.

- 3. If additional access holes are required....so be it. The repair and repainting of the neighbor's drywall is the responsibility of the owner installing the new equipment.
- 4. Where interior walls between units are penetrated, the holes must be filled with fire stopping caulk or sealant similar to that shown as follows: http://www.stifirestop.com/products/product-selector/
- 5. For the lines that are buried and go around to the back of the building, there are several things that the owner needs to review with the contractor.
 - a. Check for routing of existing buried lines, A/C circuits, sprinklers, etc. The contractor will be responsible for any damage to the existing piping or electrical utilities. The trench that is dug for the tubing must be outside the shrubbery beds and be located in the grassy areas. Care must be taken in order to not damage tree roots.
 - b. The new lines must buried a minimum of 18"deep and encased in flexible solid poly tubing of at least 4" diameter. This tubing must be anchored every 10 ft. to the ground using "u-shaped bent ½" rebar stakes a minimum 18" long. The trench will not be filled in until testing is completed and inspected by Property Management Co. Once filled in, the contractor is responsible for removing any debris or excess soil.
 - c. All A/C lines will be attached to the existing stainless steel unistrut using stainless unistrut clamps and stainless bolts, nuts and washers. Plated clamps are not acceptable.
 - d. Exterior wall penetrations and sealing of the penetration are the responsibility of the contractor, in accordance with all local codes. Rodent blocking and sealing is required at the end of the run.
 - e. The contractor will be responsible for removing the appropriate enclosure covers and re-installing them with all stainless steel hardware, as was the original installation. Any damage and / or touch-up painting to the covers are the responsibility of the contractor.
 - f. The contractor is responsible for any damage to landscaping

If the owner does not feel capable of directing the contractor, please contact Jim Meade to review the specs with the contractor. It is important to note that you are responsible for the contractor doing the work in accordance with these specs. If re-work is necessary and the association has to bring in additional people to solve an issue, the homeowner will be responsible for these costs. Jim Meade must be contacted to approve the installation and no drywall repairs can take place before the new piping is inspected for proper support.

As a note of caution, please use qualified contractors who are capable of verifying the sizing of their lines. These are some long piping runs and sizing is critical for proper A/C operation. It is the contractor's responsibility to determine if an accumulator is required and if system factory settings need to be adjusted. You cannot assume that just because a compressor has a given connection size, that is the size of the line to be used. See the attached sheet that provides an estimate of line lengths needed for each building unit. This for guidance only and the installing contractor is responsible for making a line length calculation and an analysis of pressure requirements and line sizing before beginning any work begins.

The contractor must install with the line set a new 4 conductor low voltage control cable to allow for connections between the interior and exterior cooling system components.