Rough-In Procedures

-Walk through house to determine where each room is and what goes in them (Each Room should be labeled at the room entry door frame. Listed under room name should be everything that is getting pulled to that room, when you walk into the room, each location should be marked out).

-Determine where structured wiring panel is going.

-Determine where equipment rack is going.

-Bring in tools and wire - while carrying material into the house, be thinking about wire paths, where the drop is going to be, most efficient way to pull the house, etc…

-Spread Wire out to the starting locations you are going to pull.

-Find the Drop (the easiest path to the structured wiring panel/equipment rack from the attic). Drill a 2 1/2" hole to the attic.

-Take a 3/4" long bit and start drilling Room Locations. Once you determine if you are running to the attic drop or down to the basement and then over, either drill up or down.

-If you have to drill horizontal between stud bays - measure 36" up and mark each stud, then start drilling over - this will make it look uniform and neat. If it is quite a few studs bays you have to drill over, it is easiest to make the two outer studs, grab a chalk line and make a mark. 36" usually gets out of the way of the electricians horizontal drill - which seems to be around 24" - make sure you have separation between electrical lines and low voltage lines. If you need to adjust the height based on where they drilled, do so.

-With the initial wire boxes spread out, start labelling the wire (remember - every wire needs a label -Location and intended use (i.e. Master Bed DAVP).

-While labeling the wire.

-Tape bundled wire together and start pulling.

-Once you make it to the panel with the initial bundle of wire, start tacking back where the wire comes together. If you ran everything to the Attic and then down the drop, start at the top of the drop in the attic. Bundle all wires heading the same direction together and staple/zip tie it up 6'. Tack it back in as straight of a line as you can.

-When you get to each room, pull off as much wire as you need from the box, cut it.
Feed it through the pre-drilled hole and bring it down the stud bay to where the box will be.
Staple and zip tie down the stud bay so the wire can't get pinched by dry wallers.

-When you are done tacking the first run back, move your boxes and setup the next run.

-Put a line through everything that was pulled on the door frame list.

-After the wires have been pulled, start boxing. Measure the closest electrical box to the device you are putting in and match it exactly.

-Once you install a box, feed the wires through it making sure they will not get pinched by the dry wallers, but also that they are loose enough to pull out of the box during trim out.

-Installing Speaker Brackets - measure and mark on ceiling joist where you want to center the speaker, then install brackets. Once brackets are installed, staple speaker wire above bracket, making it easy to take out when going to install the speaker. While installing brackets, run the 16/2 jumper cable from the Home Run speaker to the second speaker.

-If there is any conduit going in for future proofing, this is a good time to install the conduit to the Attic, to the TV locations, projector, etc…

-At Head End - separate and organize the wiring. All of the different wiring types/colors should be neatly separated at the top of the wall and bundled with Zip Ties or Velcro and brought down together.

-Install Structured Wiring Panel. When the Panel is up, Bring all security wiring down the right side of panel and leave a 3' loop coiled in the bottom of panel. Bring all coax down the left side of panel and leave a 3' loop toward the top of the panel.

-At equipment rack location, install 2 gang backless box and bring wiring trunk through the two gang. Bundle all wiring back together keeping the organization and velcro or zip tie the trunk line to make it easier to manage.

-Wrap Equipment Rack bundle with cellophane to keep clean and paint free during finishing of the house.

When all wires have been pulled - write down the end footage on each box. This will let us inventory the wire we used on that project.

Notes:
Stay away from running parallel to Electrical Wiring - Try to be 16" away. If you have to cross an electrical line, cross at a 90 degree angle. If you are running down the same stud bay, if electrical is stapled on one side, come down the other side or in the next stud bay over and drill through.

-Sweep up and remove trash. Leave the job site cleaner than when you arrived at the end of each day.

-At the end of each day, update your Project Manager on everything that was pulled that day, giving them a good indication on how it is going, what is needed, any challenges you had, etc..

Typical Tools Used:
2ea. 100' Extension Cord
Powered Drill for 1" or over holes
2 1/2" Bit
3/4" Long Bit
3/8" Flex Bit
Hammer
Side Cuts
Tape Measure
Sharpie
Cordless Drill

Circular Saw - for cutting 2x4's if you need to stub over to center devices
4' Ladder
6' Ladder
8' Ladder
24' Extension Ladder for outdoor camera locations

Typical Install Material:
White Plastic Staples/Romex Staples
Zip Ties
Electrical Tape – White and Black
Drywall screw 1 1/4"
16p Nails - 2 1/2"
Velcro
Cellophane