Welcome to the Charlotte Region Habitat for Humanity Construction Manual. This manual describes the construction practices that are used on house builds. The manual will be revised on a regular basis through the year as edits are brought to our attention. After the first year we will update the manual annually by dedicated sub-team of our volunteers based on staff and volunteer feedback!

If you have any questions or concerns with the contents of the Construction Manual, please contact Gerald Myers at myersgam@gmail.com or Dan Sanford at dansanford@icloud.com or Jack M. Stein at jackmstein@aol.com

The chapters are arranged in the order of the process to build a house. Some of the tasks are not one by Habitat volunteers and are sub contracted out to the various trades. Insulation, Roofing, Concrete, Drywall are typically sub contracted. Plumbing, electrical and HVAC are also sub contracted out. The subcontracted tasks will appear in the Miscl section.

Below is an overview of each chapter and the revision date

**Floor Framing**— updated August 20,2020

- Building wood floor with I joists
- Installing the center support beam over the piers
- Installing the sill plate
- Installing the rim board
- Install the Subfloor
- Building wood floor with standard joists

**Wall Layout**— updated August 20,2020

- Mark and label the floor with the positions of the wall units
- Laying Out the exterior top and bottom plates
- Marking the exterior plates for framing components
  - Windows
  - Exterior doors
- Pre-building the exterior doors and windows components
Crown studs and cut to length for exterior walls

**Exterior/Interior Framing— updated August 21,2020**

Exterior Walls assembly and raising  
Straighten and Bracing All Exterior Walls  
Crown studs and cut to length  
Marking the interior plates for framing components  
  Interior entry doors, closet doors  
  Walls to support plumbing  
  Walls to support cabinetry  
  Tees and Ladders  
Interior walls assembly and raising  
Measuring and installing cap plates  
Build door headers  
Install blocking for cabinets  
Remove bottom plates at door openings  
Install deadwood for drywall  
Install hurricane clips  
Install porch beams for front and rear porches  
Finish installing OSB on exterior of house  
Complete the blue board sheathing  
Windows installed  
  Flash Window Framing  
  Window Installation  
  Flash Windows with Flashing Tape  
Flash porches  
Exterior doors installed  
Insulation behind the bathtub  
Remove temporary bracing

**Painting— updated June 20,2020**

Preparation  
 Priming, Painting, and Staining  
 Clean-Up

**Interior Trim— updated August 20,2020**
Installing Laminate Flooring— updated August 20,2020

Prepare the Floor:
Prepare Door Jambs
Plan the first and last rows and cut if you need to
Install the first row
Install the remaining rows
Handling special situations
How to end flooring at a doorway
Vinyl Laminate Flooring

Vinyl Siding— updated August 20,2020

Siding Prep including flashing, starter strip.
Installation of inside and outside corners; F-Channel and J-Channel
Installing House Siding
Installing Porch ceiling soffit
Installing Shed Siding
Installing Soffit
Installing Fascia
Installing Shutters
Site Cleanup

Installing Lap Siding— updated August 20,2020

Siding preparation and installation
Trim for inside and outside corners, windows, doors, fixtures
The first row:
Porch, porch beam and porch roof:
Post installation (caulk, paint)

Exterior Trim— updated August 20,2020

Installing aluminum capping under porch beam.
Installing posts to support the porch beam
Framing deck
Installing porch rails and pickets
Trim on double windows

Shed — updated August 17,2020

Building shed base and floor
Building shed walls
Building shed roof
Assembling the shed including the roof framing
Installing shed door
Roofing and siding the Shed

Installing crawl space door— updated August 17,2020

Miscl:
Using a Water Level— updated August 20,2020

Roof Framing— updated August 20,2020

Gable Trusses
Lay Off for Roof Trusses
Prep for Raising Gables
Trusses and Gables
Raising Gable Trusses
Interior Trusses
Rear and Side Door Roofs
Fascia Boards
OSB Nailing Strips
Extension Ladder Setup
Roof Sheathing
Bottom Chord Bracing
Diagonal Bracing
Attic Floor
Roofing Felt
Drip Edge
Prep for 3-Tab Shingles
  Starter Shingle Lines
  Parallel Starter Lines
  Determining Parallel Starter Lines
  Shingle Layout Chart
  Shingle Details - Parallel Starter Lines
  Place Shingles on Top of the House
  Starter Shingles
  Shingle Exposure
Architectural Shingles
Step Flashing
Vent Boots
Ridge Vent and Ridge Cap

Insulation— updated August 20,2020

Energy Star Ratings
Caulk Bottom Plates of Exterior Walls
Caulk Corners on Exterior Walls
Caulk Ceiling & Floor Penetrations
Insulate Around Windows and Doors
Insulate Exterior Walls
Check Insulation Behind Shower Unit(s)
Install Polyethylene Vapor Barrier on Walls
Insulate Under Attic Floor
Install Cardboard Baffle Boards
Insulate Crawl Spaces
Install Vapor Barrier in Crawl Space

**Drywall** — updated August 20, 2020

Working With Drywall
- Mark Locations of Studs, Trusses & Electrical Boxes
- Plan the Layout
- Install Ceilings Boards
- Install Wall Boards
- Install Drywall Wraps Around Windows

**Concrete** — updated August 20, 2020

Driveways and Walkways
Laying out Driveways
Walkways
Slopes
Steps
Porch pads