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**** Habitat Construction employees will be required to familiarize themselves and comply with all aspects of these specifications.**

General Notes:

- 1. These Green Italicized comments are targeted more towards Habitat for Humanity personnel but should be reviewed by Subcontractors also for relative content.*
- 2. All Subcontractors are responsible for calling Miss Utility to mark the jobsite prior to any digging or excavation is performed.**
- 2. No construction work shall be performed that is below the standard performance levels or expectations of any State or Local Building Code. A more stringent specification shall rule when these (HFHC) specifications differ from State or Local building codes. Subcontractors will be responsible for abiding to all State & Local building codes at a minimum and where Habitat specifications exceed the code standards, these (HFHC) specifications are to be carried out. Habitat for Humanity Choptank reserves the right to stop all work on site as necessary, until the violation is corrected and will not be responsible for any loss of time and/or additional expenses incurred by the Contractor in violation. The Contractor will be expected to maintain any predetermined schedules and timelines as agreed.**
- 3. All Contractors are responsible for following all OSHA Guidelines and requirements. Any compliance requests made by a Habitat for Humanity Choptank Project Manager or Construction Supervisor involving a Safety and/or Health issue must be followed and corrected immediately or in a timely manner dependent upon the severity of the violation. Habitat for Humanity Choptank reserves the right to stop all work on site as necessary, until the violation is corrected and will not be responsible for any loss of time and/or additional expenses incurred by the Contractor in violation. The Contractor will be expected to maintain any predetermined schedules and timelines as agreed.**

5. There is absolutely NO Smoking and/or Vaping on a HFHC work site and the use or presence of any Alcohol, Illegal Drugs or Paraphernalia on the job site will be strictly prohibited. Violators will be required to leave the job site immediately and their ability to return to the Jobsite will be suspended permanently or until corrective actions are made and discussed with a Habitat for Humanity Project Manager to determine if satisfactory compliance has been reached. Any prescription Drug use that will knowingly impair or alter the performance of an individual on site, that individual will NOT be permitted on site until the prescription drug is no longer required by the individual. At this point a doctor's note confirming this may be required before the individual is permitted to return to the site. Habitat for Humanity Choptank reserves the right to stop all work on site as necessary, until the violation is corrected and HFHC will not be responsible for any loss of time and/or additional expenses incurred by the Contractor in violation. The Contractor will be expected to maintain any predetermined schedules and timelines as agreed.

6.

Division 01: General Requirements

01010 Daily Cleaning

Proper cleaning tools & supplies necessary for maintaining a clean and safe worksite shall be on site for daily cleaning throughout the construction process. All projects will be cleaned and organized by the end of each workday. This will be required by all workers and trades on site. Adequate time will be allotted each day for this task.

01011 Final Cleaning (Pre-dedication)

A final & thorough cleaning of the entire house will be performed by Habitat for Humanity (either by volunteers or subcontracted) before the home is Dedicated to the new homeowner.

01012 Dumpster

A place for construction refuse must be provided on all active job sites by either Habitat for Humanity or the Subcontractor generating debris (or both). This may include a mobile dump trailer or Roll Off style dumpster. On small jobs, a smaller refuse canister or dumpster may be allowed until such time it is full and then must be removed from the jobsite or dumped off site. At no point will a "trash pile" be acceptable beyond the end of a normal workday without consent of a Habitat for Humanity Construction Project Manager, Critical Home Repair Manager or Construction Supervisor. If special conditions exist where a "trash pile" is generated, it must be removed within 24hrs and must be covered and secured so no wind, rain, animals etc. may tamper and/or disperse the contents.

01020 Sanitary Facilities

Habitat for Humanity shall provide a portable Sanitary Facility to be available on all projects and for all workers on site. On projects where there may be more than one home being built in the same general location, there may be one facility serving multiple sites but within a reasonable walking distance to all the sites. In the event of small projects not exceeding a 72 hr completion period, arrangements might be made with the owner prior to the start of construction but otherwise, if there are no other options available, a portable sanitary facility will also be required.

01021 Electricity Hookup

This cost code is for the Power Utility fee to install the new wire feed and splice for the actual permanent power hookup to the home. This normally includes the power meter on the house.

01022 Temporary Electric

Habitat for Humanity shall provide a temporary power pole installed until such time as the permanent power can be installed. If for reasons out of our control we are not able to supply a temporary power source, the Subcontractor will be responsible to provide their own portable power source. On projects where there may be more than one home being built in the same general location, there may be one power pole serving multiple sites but within a reasonable walking distance to all the sites. Some Rehab and Repair Program projects may use existing power if they are GFCI protected.

01028 Habitat Signage

All new construction and rehab job sites shall have a Habitat for Humanity yard sign posted along with an Informational Brochure Holder (with brochures) yard sign displayed in a strategic location(s). Other signs may be required, as necessary.

Small subcontractor promotional yard signs may be posted but sign size, content and location must be approved by a Habitat for Humanity Construction Project Manager, Critical Home Repair Manager and/or Construction Supervisor. These signs must be easily removed and cannot obstruct daily work activities. These signs must be removed at the end of the completed project by the subcontractor or will be discarded by Habitat for Humanity.

01050 Small Tools

All job sites shall be adequately stocked with all hand tools, small power tools and accessories (saw blades, bits, etc.) required for the work scheduled that day. Any single tool that exceeds \$200.00 in cost must be approved by the Construction Project Manager or Critical Home Repair Manager prior to purchase.

01051 Equipment Rental

This line item is for coding any tool or equipment rental less than \$200/day. Any tool or equipment that exceeds \$200/day or that will be rented multiple days which will exceed this amount, must be approved by the Construction Project Manager or Critical Home Repair Manager. Habitat for Humanity will not rent equipment for Subcontractor use.

01052 Crane Rental

This line item will be for coding any crane rentals hired by Habitat for Humanity. Crane rentals must have a written contractual agreement with Habitat for Humanity approved by the Construction Project Manager or the Critical Home Repair Manager prior to scheduling on site.

01071 Safety Supplies

All Subcontractors shall provide any safety equipment necessary by OSHA requirements to complete their specific task each day until the completion of their scope of work. All job sites shall be adequately stocked with the safety supplies needed for our volunteers and employees (required by OSHA) to complete the tasks assigned for that day. Minimum supply for 15 people.

01073A**Site Plans and Specifications**

This line item will be for any expenses related to Engineered Design of Site Plans and Specifications and copies thereof. Civil Engineering included

01073B Building Plans and Specifications

This line item will be for any expenses related to Engineered Design of Building Plans and Specifications and copies thereof.

01073C Electrical Plans and Specifications

This line item will be for any expenses related to Engineered Design of Electrical Plans and Specifications and copies thereof.

01073D HVAC Plans and Specifications

This line item will be for any expenses related to Engineered Design of HVAC Plans and Specifications and copies thereof.

01073E Plumbing Plans and Specifications

This line item will be for any expenses related to Engineered Design of Plumbing Plans and Specifications and copies thereof.

01073F Fire Suppression Plans and Specifications

This line item will be for any expenses related to Engineered Design of Fire Suppression Plans and Specifications and copies thereof.

01074 Water & Ice

Clean drinking water (Ice will be optional left to the Construction Supervisor's discretion) will be provided by Habitat for Humanity for all volunteers and employees with either water bottles or a water cooler with single use disposable cups for each worker. If using bottles, they should be marked to prevent use by anyone other than the original user. A permanent marker should be provided for marking bottles. Sub-contractors are expected to provide their own water for their workers. Depending on the progression of the project there will be no guarantee that there will be clean running water on the site, so prepare accordingly.

01075 Job Fuel

Fuel cans should follow OSHA standards for safety with a spring-loaded lid and have a funnel designed for use with Fuel. No propane or fuel will be stored in an enclosed structure and nowhere within 25' of any building or materials.

01081 Security and Weather Protection

All materials and equipment that is stored outside in the elements must be securely covered at the end of each day with black poly and/or tarps to prevent water and/or wind damage. All coverings will be adequately secured with mechanical fastening and or weights to withstand winds up to 50mph. If there is concern of damaging weather in the forecast, more drastic measures are to be made to prevent damage to the material, equipment or surrounding structures or property. *All Habitat tools & equipment must be secured against theft or damage at the end of each workday.*

01100 Miscellaneous Fees

All unforeseen administrative fees or fines will be coded here.

01110 Building Permit Fee

All projects shall have a Building Permit when required by local authorities. Any fees related to this permit will be coded here.

01111 Demolition Permit Fee

All projects shall have a Demolition Permit when required by local authorities. Any fees related to this permit will be coded here.

01112 Fencing Permit Fee

All projects shall have a Fencing Permit when required by local authorities. Any fees related to this permit will be coded here.

01113 Permanent Electric Permit Fee

All projects shall have a Permanent Electric Permit when required by local authorities. Any fees related to this permit will be coded here.

01114 Temporary Electric Permit Fee

All projects shall have a Temporary Electric Permit when required by local authorities. Any fees related to this permit will be coded here.

01115 Utility Fees

This is where all ongoing utility expenses (temporary & permanent electric, water, city sewer) shall be charged, not to include initial installation, connection, and hookup fees.

01740 Lawn Maintenance

All Subcontractor costs involving lawn and grounds maintenance will be coded here. Subcontractors will be expected to maintain all lawns and grounds as specified in their contractual agreement including but not limited to lawn cutting and weed eating. Any properties that may not be conducive to lawn mower use due to obstructions from building materials and equipment will need to be maintained regardless with weed eaters or other methods. Any properties that show no signs of growth due to inadequate rainfall shall not be cut (and therefore not charged for) until adequate growth resumes. Lawn and weed growth shall not exceed 5" in height. Any small debris found on lots (within reason) shall be picked up prior to running over with lawn mowers unless a bagger is used to catch shredded debris. Any issues found on site that prevent the subcontractor from carrying out their tasks shall be brought to the attention of the onsite Construction Supervisor before leaving the site. If the Construction Supervisor is not available, then the Construction Project Manager shall be notified.

Division 02: Site Construction Specifications

02200 Site Preparation

Site preparation work shall consist of clearing, demolition, perimeter erosion and sediment controls, temporary/permanent construction entrances.

Clearing shall include but not be limited to removing all vegetative matter such as trees, stumps, roots, buried trees brush, downed timber, and other objectionable materials found above or below the surface of the site. When deleterious materials are encountered below the ground line which may be detrimental to the proposed improvement, they shall be removed to a depth necessary to provide adequate support for the proposed improvement.

Demolition shall include items such as buildings, decks, drainage structures, underground tanks, pipes, pavements, fences, retaining walls, waste dumps and trash, guard rails, signs, etc.

Sediment & Erosion perimeter controls shall be installed in accordance with all State and/or local codes and guidelines to prevent soil runoff during construction. These temporary silt fences are to be removed at the end of each project when there is adequate ground cover to stabilize the surface.

Temporary Construction entrances will typically be located where a permanent driveway will later be installed. The subbase should consist of a material that would be useful as a subbase for the permanent driveway so as not to waste materials.

A more descriptive scope of work for the Site Preparation may be provided per project through documented discussion, written scope and/or a pre-construction site visit.

02211 Civil Engineering

All In-house and Subcontractor labor & material costs related to Site surveying, lot corner marking, foundation staking and pinning and/or as-builts will be coded here.

02300 Earthwork

Earthwork shall consist of all grounds work beyond site preparation such as, but not limited to, site grading, stormwater management, utility trench excavation and backfill and topsoil replacement. All stockpiled soil shall be stored on site and stabilized in accordance with all state and local sediment and erosion guidelines. Location of stockpiled soil shall be coordinated with the onsite Construction Supervisor. A more descriptive scope of work for Earthwork may be provided per project through documented discussion, written scope and/or a pre-construction site visit.

02310 Sewer Main (Infrastructure)

Subcontractor is responsible for following all State & Local codes and specifications. Subcontractor is responsible to meet or exceed all required tests and/or inspections. Subcontractor is responsible for following all detailed information on Site plans pertaining to the Sewer Main. *All In-house and Subcontractor labor & material costs related to installation of the Sewer Main infrastructure will be coded here.*

02320 Water Main (Infrastructure)

Subcontractor is responsible for following all State & Local codes and specifications. Subcontractor is responsible to meet or exceed all required tests and/or inspections. Subcontractor is responsible for following all detailed information on Site plans pertaining to the Water Main. *All In-house and Subcontractor labor & material costs related to installation of the Water Main infrastructure will be coded here.*

02330 Fire Hydrants (Infrastructure)

Subcontractor is responsible for following all State & Local codes and specifications. Subcontractor is responsible to meet or exceed all required tests and/or inspections. Subcontractor is responsible for following all detailed information on Site plans pertaining to Fire Hydrants. *All In-house and Subcontractor labor & material costs related to installation of the Water Hydrant infrastructure will be coded here.*

02340 Street Lighting (Infrastructure)

Subcontractor is responsible for following all State & Local codes and specifications. Subcontractor is responsible to meet or exceed all required tests and/or inspections. Subcontractor is responsible for following all detailed information on Site plans pertaining to Street Lighting. *All In-house and Subcontractor labor & material costs related to installation of the Street Lighting infrastructure will be coded here.*

02450 Foundations

Foundation trenches shall be no less than 24" wide by 24" below grade. All excess spoils in the crawlspace area of the structure shall be removed down to 4" above the top surface of the footers and hauled from site if unusable in other areas on site. Staking of house corners will be provided by Habitat for Humanity. The Site contractor will be contracted with Habitat for Humanity but will coordinate directly with the Construction Supervisor and the Concrete/Masonry contractor for scheduling, deliveries, and inspections. Back filling of foundations will be completed after foundation walls have been waterproofed and inspected. Waterproofing shall be completed by the Concrete/Masonry Contractor.

02510 Water Tie-in

The Site Contractor shall be responsible for tapping into the Water Main, providing a 1-1/4" water supply line (1" line if the Fire Suppression System is required to be independent from the main water line) to a meter pit (supplied and installed by the Site Contractor) for water supply to the new home. This supply line shall continue from the Meter Pit and run under the footers prior to the pouring of the footers and stubbed up and capped in the crawlspace area. If this water line cannot be installed prior to the pouring of the footers, there may be a sleeve installed at the base of the foundation wall to allow passage of the water line. This sleeve must be grouted around to prevent seepage around the sleeve. This method must be approved by the Construction Supervisor or the Project Manager prior to installation. Subcontractor will be responsible for coordinating and complying with all required inspections and/or testing before backfilling trench.

02515 Fire Suppression Tie-in

Where a separate water line is required for the Fire Suppression System the Site Contractor shall be responsible for tapping into the Water Main and providing a 1" water supply line to the new home. This line shall run under the footers prior to the pouring of the footers and stubbed up and capped in the crawlspace area. If this water line cannot be installed prior to the pouring of the footers, there may be a sleeve installed at the base of the foundation wall to allow passage of the water line. This sleeve must be grouted around to prevent seepage around the sleeve. This method must be approved by the Construction Supervisor or the Project Manager prior to installation. Subcontractor will be responsible for coordinating and complying with all required inspections and/or testing before backfilling trench.

02520 Electrical Tie-in

The Site Contractor shall be responsible for supplying, trenching, and installing 3" lateral conduits from the proposed locations of the main power source (either Pole or Pad) to the proposed location of the meter pan on the house. Where required there will be a second conduit installed (same details as the first) for other utility services such as phone and cable. These locations will need to be coordinated with the onsite Construction Supervisor and the local Utility provider. Each conduit will have an approved Pull Line installed from one end to the other. Subcontractor will be responsible for coordinating and complying with all required inspections and/or testing prior to backfilling trench.

02530 Sewer Tie-in

The Site Contractor shall be responsible for tapping into the Sewer Main, providing a 6" lateral line from the sewer main to the property line and then reduced to a 4" line to the new home. This line shall have all required vertical clean outs

as necessary by State & Local code requirements and run under the footers prior to the pouring of the footers and stubbed up and capped in the crawlspace area. If this sewer lateral cannot be installed prior to the pouring of the footers, there may be a sleeve installed at the base of the foundation wall to allow passage of the lateral. This sleeve must be grouted around to prevent seepage around the sleeve. This method must be approved by the Construction Supervisor or the Project Manager prior to installation. Subcontractor will be responsible for coordinating and complying with all required inspections and/or testing prior to backfilling trench.

02540 Sewer Video Inspection

All In-house and Subcontractor labor & material costs related to the Sewer Video Inspection will be coded here. Habitat for Humanity will contract and schedule this inspection directly.

Subcontractors will be responsible for any necessary repairs discovered from video footage pertaining to their scope of work.

02770 Curbs & Gutters (Infrastructure)

Subcontractor is responsible for following all State & Local codes and specifications. Subcontractor is responsible to meet or exceed all required tests and/or inspections. Subcontractor is responsible for following all detailed information on Site plans pertaining to Curbs and Gutters. *All In-house and Subcontractor labor & material costs related to installation of the Curb and Gutter infrastructure will be coded here.*

02771 Permanent Driveway (Aggregate Surfacing)

Most of our driveways are aggregate and not asphalt. In the case of an aggregate surfaced driveway, we will expect 3 stages of installation. They are the Subgrade, the Sub-base, and the Base Layer. If the location of the Temporary Driveway is the same as the Permanent Driveway, the first 2 stages will most likely be installed early in the project.

The Subgrade will be a compacted soil situated at the bottom of the area excavated for the drive. This subgrade should be tamped prior to the installation of the Sub-base and not expected to be tamped from the daily use of the temporary drive by construction vehicles.

If the subgrade soil is not of suitable quality for compaction or has other issues, you will need to apply a layer of good soil to be compacted and act as a firm foundation for the drive.

The Sub-base shall be a bottom layer of crushed stone that sits on top of the subgrade. This layer will consist of a larger crushed stone aggregate (2-3") to help to provide structural strength and integrity for the driveway. More sub-base may need to be added and tamped when the driveway is to be final finished.

The Base layer will be made up of slightly smaller crushed stone than the sub-base layer. Stone dust or fines will be intermixed with the aggregate to reduce voids and better hold this layer in place.

02775 Sidewalks and Driveway Aprons

The subgrade beneath the sidewalk shall be uniformly compacted prior to the installation of the sub-base stone.

The sub-base stone will then be tamped to satisfactory compaction also. In cold temperatures, protect newly poured concrete sidewalks from freezing for at least five days after placement. In warm temperatures, wet curing or the application of a liquid membrane-form curing compound is needed to retain adequate moisture in the concrete while its strength is developing. To minimize cracking, control joints should be cut into the slab at spacings of about 4 feet transversely across the length of the sidewalk and to a depth of about one-quarter the slab thickness. On long spans of walkway, expansion joints should be installed every 12 – 16' and where new and existing concrete walkways or other structures may meet.

Subcontractor is responsible for following all State & Local codes and specifications. Subcontractor is responsible to meet or exceed all required tests and/or inspections. Subcontractor is responsible for following all detailed information on Site plans pertaining to Sidewalks and Driveway Aprons

02820 Fences & Gates (Materials)

Fences will be evaluated for Habitat homes on a case-by-case basis. In instances where fences are approved, they will meet one or more of the following criteria:

1) to clarify property lines with neighbors or the community when there has been a prior use of Habitat owned vacant

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property prior to building. For example, use of the property to park vehicles.

2) to mitigate city fines when property has been used improperly by neighbors or community members.

Dumping of trash would be an example.

3) to prevent the continuation of illegal or dangerous activity on a Habitat owned property. 4) when the Habitat owned property is adjacent to or directly bordering a cemetery. This would not apply to properties that are located across from a cemetery.

All In-house and Subcontractor material costs related to installation of Fences and Gates will be coded here.

02821 Fences & Gates (Subcontractor)

Fencing styles, heights and the placement of gates will be determined by Habitat for Humanity or other parties such as the Town, City or State representatives involved in the project. All labor and materials will be provided and installed by the subcontractor. *Habitat for Humanity will provide the surveying of the property to determine correct property lines.*

Subcontractor is responsible for field measuring and verifying the total linear footage of fencing to be installed and will notify Habitat of any obstructions or unfavorable conditions that need to be resolved prior to the fence installation.

02900 Planting (Trees & Shrubs)

Plantings will be evaluated for Habitat homes on a case-by-case basis. Habitat does not plant any foliage unless required by the Town, City or State or if plants are donated to Habitat for a specific project.

02920 Seed & Straw (Materials)

All In-house and Subcontractor material costs related to installation of Seed & Straw will be coded here.

02921 Seed & Straw (Subcontractor)

The Subcontractor will provide all labor and materials to install grass seed and Curlex (straw) to stabilize the entire property surrounding our home project. The ground surface shall be raked to remove all unwanted vegetation and debris and fresh topsoil will be added as necessary to promote seed growth. Topsoil will be graded in such a fashion to slope away from the house foundations. Seeds such as Kentucky bluegrass, Perennial Ryegrass or Tall Fescue (or combinations of each) mixed with a recommended new-growth fertilizer may be used. Seed should be scattered at a rate of 3 seeds per square inch and immediately covered with a Curlex matting. The Curlex matting shall be liberally secured down with landscape staples on all flat and sloped surfaces. *Habitat will be responsible to maintain proper watering of seed till adequate growth is achieved.*

Division 03: Concrete Specifications

03300 Concrete (Materials)

All In-house and Subcontractor material costs related to Concrete work will be coded here. This includes (but not limited to) in house poured walkways or pads, Sump Pit & pump units etc.

03301 Concrete (Subcontractor)

General Notes: In the event where the Concrete Contractor will not be excavating their own footer trenches or Pad/Sidewalk subgrades but utilizing the services of Habitat's subcontracted Site Contractor, it is imperative that there be an active line of communication between said Subcontractors and the Habitat Construction Supervisor in reference to scheduling of daily scopes of work and necessary progress inspections and/or testing.

1.) Concrete Slab Preparation: (Sheds and Porches) Earth where Slab is to be poured shall be cut out a minimum of 8" below finished grade of concrete slab. The existing earth at sub level shall be tamped for optimum compaction to prevent settling and movement. Once compaction is complete, 4" of compacted gravel is to be installed with a minimum 6 mil clear poly to be installed on top of stone.

2.) Reinforcement: Six-inch Welded Wire Fabric is to be installed and placed on 2" chairs to hold wire in the center of the poured slab. Asphalt Fiber Expansion joints shall be installed where slab meets foundation vertical walls.

3.) Concrete Slab: Concrete shall be 4" thick of a standard premixed material with a minimum 2500 psi rating and a fiber reinforcing. In cold temperatures, protect newly poured concrete sidewalks from freezing for at least five days after placement. No antifreeze additives shall be used. In warm temperatures, wet curing or the application of a liquid membrane-form curing compound is needed to retain adequate moisture in the concrete while its strength is developing. Asphalt Fiber Expansion joints will be installed where daily pour ends, and a new day pour begins. No antifreeze additives shall be used.

4.) Finishes: All porches and walkways shall have a broom finish and 3" border troweling. Control Joints are to be installed every 12' on walkways and wherever necessary otherwise.

1.) Footers Preparation: (House Foundation) All footers shall be a minimum of 10" thick and 24" wide with 2 continuous strands of #4 rebar elevated on 5" chairs to hold bars in the center of the poured footer. Bottom of footer shall be no less than 24" below finish grade. Concrete shall be a standard premixed material with a minimum 2500 psi rating and a fiber reinforcing. In cold temperatures, protect newly poured concrete sidewalks from freezing for at least five days after placement. In warm temperatures, wet curing or the application of a liquid membrane-form curing compound is needed to retain adequate moisture in the concrete while its strength is developing. Pier footers shall be continuous between piers with the same dimensions and depths as above. No antifreeze additives shall be used. It shall be the responsibility of the Concrete Contractor to remove any water or dirt cave-ins in the trenches prior to pouring of footers and/or inspections.

2.) Drain tile: A 4" Plastic drain tile w/ filter fabric "sock" will be installed on top of the footer within the crawl space perimeter side of the foundation wall, leading to the sump pit. *Sump Pit and Pump to be supplied and installed by Habitat for Humanity. Pump hook up and discharge to be completed by Plumbing Subcontractor.*

1.) Final Cleaning: At the conclusion of any concrete work, Subcontractor shall clean down all slab pours, remove all their scaffolding and/or equipment used for the work, clean up all debris, refuse, and surplus material, and remove them from the jobsite. Any damage or traces of contractor equipment, and/or suppliers, that has altered the conditions of the premises shall be repaired or replaced by the Subcontractor. This includes but is not limited to tire ruts, excavated spoils (not wanted by Habitat), concrete wash areas or oil/hydraulic fluid spills.

Division 04: Masonry Specifications

04220 Block & Brick Masonry (Materials)

All In-house and Subcontractor material costs related to Masonry work will be coded here.

04221 Block Masonry (Subcontractor)

General Notes: If other contractors (i.e., Site, Electric, HVAC & Plumbing contractors) need to install sleeves in the foundation walls to provide future access, this must be coordinated with the Habitat Construction Supervisor and/or the Subcontractor involved.

Concrete footers shall be swept clean of all debris prior to laying of foundation block. Masonry foundation block units shall conform to section 202-2.1.1 of the Standard Specifications. Unit size shall be 16"x 8"x 8", the top course of block will be a "Bond Beam" block of same dimension. Half inch Rebar shall be installed vertically every 3'o.c. into the footer, predrilled and epoxied to anchor the rebar firm. These rebars will pass vertically through the foundation wall and into the bond beam, these block cells will be filled from bottom to top with concrete. Anchor bolts shall be galvanized, 1/2"x 7" with an L bend, the anchor bolts will have a minimum 2-1/2" projection from the top of the bond beam block and will be installed every 4'o.c. and between 6" to 12" from the ends of the sill plate (in accordance with a proposed layout discussed with the Habitat Construction Supervisor). The Bond Beam is to then be filled with concrete to create a continuous structural tie-in from footer to Sill Plate. All mortar Joints shall be left clean with all excess mortar to be removed. Blocks shall be cut accurately and/or filled with grout at corners and openings such as crawl space entrance, other access openings, etc... Foundation Piers shall be 16"x 16". Calculating the heights of the piers should account for a sill plate and structural beam width to be set on top of the pier, coordination with the Habitat Construction Supervisor is advised on this matter. The entire foundation shall be 5 courses of blocks in height (this includes the bond beam at top course) and the entire exterior surface shall be parged, with a textured semi-swirl pattern. An asphalt-based waterproofing sealant shall be applied, without void, over the parging, at and below grade down to the top of the footer.

04222 Brick Masonry (Subcontractor)

Brick Units shall be of standard size and a common burnt clay brick, red in color unless otherwise specified. A sample brick(s) will be provided prior to construction for approval by Habitat. Front porch Slab will have a Row Lock of brick around its outer perimeters. The front access stairs shall be matching brick veneer with block foundation and concrete footers. Stairs shall be typically 6' wide and steps will be 11" treads with 7" risers (approximately). Coordinate the exact location & size of stairs with the Habitat Construction Supervisor before installation. The Masonry Contractor will be responsible for calculating the tread and riser dimensions based on elevations of existing porch height and existing pads, walkways and/or sidewalks. Steps will be constructed in accordance with all State and Local building codes. Mortar shall be a standard Type S, sand mortar, light gray in color. Mortar joints shall be a concave style finish. A mortar color sample will be provided prior to construction for approval by Habitat.

Final Cleaning: At the conclusion of work, the Contractor shall clean down all masonry walls, remove all their scaffolding and equipment used for the work, clean up all debris, refuse, and surplus material, and remove them from the premises. Any damage or traces of contractor equipment, and/or suppliers, that has altered the conditions of the premises shall be repaired or replaced. This includes but is not limited to tire ruts, excavated soil not wanted by Owner, concrete wash areas or oil/hydraulic fluid spills. Areas excavated for masonry and concrete related work will be backfilled, sloped away from the foundation, and have a smooth walking surface.

Division 05: Metals Specifications

05090 Metal Fastenings (Materials & Subcontractor)

All metal fasteners such as (but not limited to) nails, screws, nuts, bolts, washers & anchors shall be of proper industry standard and conform to any engineered specification and or State & Local requirements. All manufacturer Fastening patterns and procedures shall be adhered to for proper installation. *All In-house and Subcontractor material costs related to Metal Fasteners will be coded here.*

05091 Metal Ties (Materials & Subcontractor)

All metal ties such as (but not limited to) hangers, brackets, clips, truss spacers, straps & leveling plates shall be of proper industry standard and conform to any engineered specification and or State & Local requirements. All manufacturer installation requirements shall be adhered to for proper installation. *All In-house and Subcontractor material costs related to Metal Ties will be coded here.*

05330 Aluminum Handicap Decks & Ramps (Materials)

All In-house and Subcontractor material costs related to Aluminum Handicap Decks & Ramps will be coded here.

05331 Aluminum Handicap Decks & Ramps (Subcontractor)

The Subcontractor will provide all installation labor and materials and will coordinate with the Habitat Project Manager and/or Construction Supervisor to discuss location and design of Handicap Ramp. Subcontractors will be responsible for all field measurements and material lists for proper order placement. If permitting is required for Ramp installation, the Subcontractor shall provide all specifications and drawings for the premanufactured ramp and submit these to Habitat for Humanity for permitting purposes. *Habitat for Humanity will acquire any necessary Ramp permits unless otherwise agreed upon with the subcontractor or homeowner.*

05520 Metal Handrails and Railings (Materials)

On occasion, Habitat has a need for prefabricated metal handrails, railings, structural brackets etc. These do not include our standard wooden or vinyl handrails. All In-house and Subcontractor material costs related to Metal Handrails and Railings will be coded here.

05521 Metal Handrails and Railings (Subcontractor)

The Subcontractor will provide all installation labor and materials and will coordinate with the Habitat Project Manager and/or Construction Supervisor to discuss location and design of Handrail/Railing. Subcontractors will be responsible for all field measurements and material lists for proper material order placement. The Handrails/Railings and installation will be designed to conform to all State and Local code requirements. If permitting and/or Engineering approval is required for Handrail/Rail installation, the Subcontractor shall provide all specifications and drawings for the premanufactured Railing(s) and submit these to Habitat for Humanity for permitting or approval purposes. *Habitat for Humanity will acquire any necessary Handrail/Railing permits or approvals unless otherwise agreed upon with the subcontractor or homeowner.*

Division 06: Wood & Plastics

06030 Modular Homes

All Modular Home contract costs will be coded here.

06100 Rough Framing (Materials)

Habitat for Humanity will supply all wood framing materials, metal fasteners such as screws, anchors, nuts, bolts & washers & structural metal ties (hangers, straps, clips, brackets, and truss spacers). Nails that are used in subcontractor nail guns to be supplied by Subcontractor.

06101 Rough Framing (Subcontractor)

- 1.) Sill Plates, Beams and Floor Joists: Foundation wall and Piers shall have a layer of 8" sill seal foam laid down on the bond beam or top block first and then a 10" wide layer of Galvanized Termite Shield laid on top, a ½" past the outer edge of the block and then covered with a second layer of 8" sill seal. All sill plates shall be 2"x8" pressure treated lumber installed on top of the second layer of sill seal, pre- drilled over existing ½" galvanized lag bolts and fastened down with galvanized washers & nuts. Sill plates shall be cut to length so that lag bolts are positioned to be no more than 6" from the ends of each board and the remaining bolts will be located 4' on center within each board length. All structural beams shall be made of triple layered 2"x10" SPF lumber nailed together on both sides of the beam. All 2"x10" joints shall be staggered and positioned over the piers for support. Beam(s) shall be level and flush with the top of the foundation sill plates. All shims (if necessary) shall be steel plates, no wood shims permitted. All floor joists (1st and 2nd floor) shall be 2"x10" SPF lumber spanning from sill plate or outer walls to center support beams or bearing walls as indicated on architectural drawings. All joists shall be spaced 16" O.C. and shall overlap over the beam or bearing walls no less than 24" (where necessary) and nailed together on each side. Each joist span shall have wood or metal bridging spacers positioned mid span. The outer perimeter of the foundation wall shall have a 2"x 10" rim joist fastened to the sill plate and the outer edges of the floor joists. 16d galvanized nails will be used to nail rim joist to the pressure treated sill plate. All other nail fastening will be done with 16d common nails.
- 2.) Exterior Wall Framing: Wood framing on all exterior walls will be constructed of 2"x 6"x 92-5/8" SPF studs spaced 2' O.C. with a single bottom plate and double top plates. All exterior corners shall be of open design to allow for insulation fill. Headers shall be (3) 2"x10"'s nailed together on both sides with a 1" (R5) Rigid foam insulation board and a 2"x 6" bottom plate if height allows. A 7/16"x4'x8' OSB sheathing shall be fastened to the studs (over the Simpson Strong Tie Straps described below) horizontally using minimum 2-3/8" ring shank nails installed every 6" on center in the field and 4" on center at the board edges. All exterior wall sheathing shall be 7/16"x4'x8' Zip System OSB (Green board) and all seams will be taped and rolled using Zip Tape approved by the manufacturer. OSB Zip System sheets shall be staggered with a 4' offset as you go up the house wall. Wood blocking shall be installed horizontally between exterior studs using 2"x 6" lumber at all horizontal OSB seams where OSB sheets meet providing a continuous wood nailer to support the OSB between studs. Jack studs at doors and windows shall extend from below the header to the bottom plate. Windowsill plates shall be cut to fit within the jack studs, jack studs will not be cut above and below the sill plate. The number of jack studs per opening shall equal no less than the number of studs that are excluded due to the opening width with an equal number of jacks on each side of the opening (i.e., An 8' wide opening with studs 2' O.C. will displace approximately 3 wall studs. That means we will replace those "missing" studs with 4 Jack studs, 2 on each side of the opening). Additionally, all openings 6' or wider shall have double king studs on each side. All stud layouts on 1st and 2nd floors shall begin from the same starting point so that all wall studs align from 1st to 2nd floor. In addition, these studs shall line up with all roof trusses creating a continuous line of

support from sill plate to roof truss.

3.) Interior Wall Framing: Interior walls shall be 2"x4"x92-5/8" precut studs, 16" O.C. with single bottom plate and double top plate. 2"x6" studs shall be used on all plumbing walls (wet walls) also at 16" O.C. spacing. Headers shall be 2"x10" lumber with a 2x bottom cap & a 7/16" OSB sheathing in between. This will then be nailed together from both sides of header. Header will then be pushed up to the bottom of the top plate. Dead wood (blocking) shall be installed where required for Gypsum Wall Board install. Wood blocking shall be installed for all Wall & Base Cabinets and/or Vanities, Towel Bars, Toilet Paper Holders, Handrail Brackets, Closet Shelving, and any other places, as necessary.

4.) Metal Strapping: Twenty-four-inch metal straps (Simpson MSTA24) shall be installed at each 1st floor exterior wall stud from the sill plate, over the 1st floor band board and continue onto the 1st floor exterior wall studs. Thirty-six-inch metal straps (Simpson MSTA36) shall be installed at each stud from top of 1st floor exterior wall studs over the 2nd floor band board and continue onto the 2nd floor exterior wall studs. OSB shall be installed over the straps. Twist or "U" style hurricane straps shall be installed over the OSB on the exterior plane of the house to attach trusses. The overall idea is that there will be a continuous "rib" structure with straps in line from sill plate to truss connections. All metal straps and connectors shall be fastened with manufacturer approved fasteners and all predrilled fastener holes will be used to fasten. All Porch beams where they tie into an exterior wall shall be pocketed into the wall and adequate 2x framing will be added in the wall to provide proper load bearing points from beam to foundation.

5.) Trusses: *Habitat for Humanity shall order & supply all trusses, brackets, clips and crane services necessary for installation.*

All trusses and accessories will be installed in accordance with all manufacturer specifications and installation instructions. All trusses will be installed in-line with wall studs where possible. Metal spacer brackets will be installed between each truss at $\frac{1}{3}$ & $\frac{2}{3}$ span locations on each top cord. *Coordination of truss delivery and crane rental (if necessary and/or accessible) will be done between contractor and Habitat Construction Supervisor*

6.) Attic Bracing: Attic bracing such as, but not limited to, cross bracing, web bracing, gable end bracing, rafter ties etc. shall be installed as indicated by the truss manufacturer and/or State & Local building codes.

7.) Roof Subsurface: Roof sheathing shall be Zip System $\frac{5}{8}$ "x4'x8' OSB Sheathing (Brown board). All OSB seams shall be staggered on 4' offsets, all seams will be taped and rolled. Zip System roof sheathing will be fastened using minimum 2-3/8" ring shank nails installed every 6" on center in the field and 4" on center at the board edges.

06120 Storage Shed (Materials)

All In-house and Subcontractor material costs related to constructing a Storage Shed will be coded here.

06121 Storage Shed (Subcontractor)

All Sheds shall be built upon a poured concrete slab with a continuous 36"x36" entry door slab attached (See Division 03: Concrete, for more detailed specifications). Shed shall be framed using pressure treated lumber in all areas that are in contact with concrete or the ground. Bottom plates shall be pressure treated and attached to the concrete slab with 1/2" anchor bolts poured into the slab, or with 1/2" wedge anchors spaced no more than one foot from each corner and two feet in the field. Sheds shall be approximately 8'X8'X8' in size with a gable roof (unless otherwise noted). Exterior walls are to be framed using 2x4x92-5/8" SPF studs and double SPF top plates. 2x6 SPF lumber is to be used for rafters and these should line up with the wall studs. Rafters are to be attached to the top plate using nails & hurricane clips. Zip System OSB, 7/16"x4'x8' sheathing (Green board) is to be used on the exterior of the walls and covered with house wrap such as Tyvek. Roof sheathing shall be a Zip System OSB, 5/8"x4'x8' (Brown board). A 3/0 x 6/8, Fiberglass Entry door, with double bore and outswing, PVC No-Rot frame and tamper proof hinges shall be installed. Locks to be keyed alike but unlike the house entry doors. The door shall be centered on the "front" of the shed and on the gable end side. All other exterior finishes, to include Roofing, Siding, and trims, shall match the house. A 1"x6" PVC composite trim

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baseboard shall be installed at the bottom of all 4 sides with a metal Z flashing along the top and then Siding planks starting above. Sheds shall not have windows or gutters installed.

06150 Decks (Materials)

All In-house and Subcontractor material costs related to constructing a Deck will be coded here.

06151 Decks (Subcontractors)

Rear and/or Side porches shall be a minimum 5'x 5' dimension, framed with all Pressure Treated (P/T) lumber fastened with coated deck screws and/or Galvanized 16d nails. Support posts shall be 6"x6" P/T posts mounted on 12" concrete piers above ground. Posts will be notched to support 2"x8" P/T band boards, P/T ledger board shall be mounted to the house band board with ½" lag bolts or 5" Ledger Loc hex head anchor screws every 16" O.C.. Aluminum coil stock or ice & water shield flashing will be installed between the house band board and deck ledger board. Ledger boards will be positioned below the door sill in such a way to allow for the deck boards to be just below the sill for handicap accessibility. Floor joists will be 2"x8" P/T lumber and nailed to band boards 12" O.C. along with Simpson LU28 or G90 joist hangers. Stair stringers shall be 2"x12" P/T lumber attached every 12" O.C. to a band board with Simpson Strong Tie LSSU adjustable joist hangers. Composite deck planks shall be Trex or equivalent (color: Pebble Gray). Composite deck planks shall be installed on the entire deck surface and stair treads using recessed finish screws and matching hole plugs. Main deck area perimeter boards shall be picture framed and shall overhang ¾" at all edges. All exposed P/T band boards, stair stringers and stair risers shall be covered with white, ¾" PVC trim boards. Outer edges of open stairs will be closed with a ¾" PVC trim board running along the stair stringer. All PVC trim boards shall be attached with recessed finish screws and matching hole plugs.

06170 Prefab Structural Wood (Trusses)

All In-house and Subcontractor material costs related to Trusses will be coded here. Trusses shall be designed and stamped by a professional engineer and produced by a company qualified to produce them. All truss packages will have complete sets of drawings that provide all design and structural information along with a layout diagram for installation. All trusses shall be designed to allow for the height of the attic insulations without causing them to be compacted near the eaves. Trusses shall be free of any splits, twists, bows, loose mending plates or defects of any sort. All metal structural clips and/or brackets shall be provided by the manufacturer

06200 Finish Carpentry (Materials)

All In-house and Subcontractor material costs related to Finish Carpentry will be coded here. Habitat will provide all materials and have them delivered on site.

List of finish Trims used in Habitat homes;

- 1.) Window & Door Casing: WM376 Pre-primed
- 2.) Windowsill: WM1021 or WM1021W Pre-primed
- 3.) Extension Jambs: ¾"x 4" or 6" Pre-primed trim board
- 4.) Base Board: WM623 Pre-primed
- 5.) Shoe mold: WM126 or WM105 Pre-primed
- 6.) Wall mounted Stair Rail: WM230 or WM240 Stain Grade
- 7.) Brick: WM180 Pre-primed

06201 Finish Carpentry (Subcontractor)

All Interior trims shall be installed using Power Nailers. Moldings such as Base, Casing, Extension Jambs, Window, & Door trims will be installed using 2-1/4" finish nails, Shoe Molding and Quarter Rounds moldings shall be fastened with 1-1/2" finish nails. Adhesive caulk may be used where necessary on very small pieces to avoid splitting or where there may be a curve in the wall over 1/8". All nails will be driven through the trim piece and into a wood stud or nailer and not just into drywall. Base trims and Shoe moldings shall be nailed into the wall bottom plates and studs and not into the floor, (our

floor systems are “floating” and should be free to expand & contract). All seams and joints will be “tight” with a tolerance of less than 1/32” gap. Any butted end joints shall be cut on 45-degree angles providing an overlapped joint. No trims will be accepted if installed with splits, chips and/or damaged surfaces. All trims will be installed tight against wall surfaces or door and window jambs with voids no greater than 1/16”.

06410 Cabinets (Materials)

All In-house and Subcontractor material costs related to Cabinets will be coded here.

All Cabinets will comply with the following minimum standards;

Wall Cabinets:

- ½” Plywood top and bottom
- ¾” Plywood adjustable shelves (15 lbs. maximum weight/sq. ft.)
- ¾” x 1 ½” solid wood face and frame
- 3/8” plywood sides and back
- Cabinet interior features wood, or white, laminate finish
- Fully concealed, 6-way adjustable, integrated cup hinge with soft-closing feature
- Butt doors on cabinets 27” – 36” wide

Base Cabinets and Vanities:

- Two plywood stretcher rails
- 3/8” plywood back, bottom and sides
- ¾” x 1 ½” solid wood face frame
- ½” half depth plywood shelf
- 3/8” x 4” high plywood recessed toe-kick (recessed 3 3/8” deep)
- Cabinet interior features wood, or white, laminate finish
- Fully concealed, 6-way adjustable, integrated cup hinge with soft-closing feature
- Butt doors on cabinets 27” – 36” wide
- Bathroom vanities shall have a pre-molded vanity sink top with back splash made to fit the base cabinet and separate side splashes, as necessary. Color to be standard off white.

Drawers:

- ¾” nominal thick wood dovetailed drawer sides, front and back with clear topcoat finish
- ¼” thick plywood drawer bottom, fully captured on all sides
- Full extension undermount drawer guides with soft-closing mechanism

06411 Cabinets (Subcontractor)

Habitat for Humanity will provide all Kitchen and bathroom cabinetry.

All Cabinets shall be installed level and plumb. Cabinet faces and heights shall be flush and even, including any spacers needed. Kitchen sink base cabinets shall be centered to window above if applicable. Wall cabinets shall be evenly spaced on either side of window wherever possible. Microwave shall be evenly spaced above the range and the dishwasher shall be located next to sink base cabinet. Bottom of wall cabinets shall be installed 18” above the finished surface of the countertop. All cabinets shall be fastened with a minimum of 2-1/2” Cabinet screws and screwed into either wall studs or pre-installed wood nailers. Wall cabinets shall be fastened with a minimum of 4 screws (on narrow 12” cabinets), 2 on top and 2 on bottom and more on wider cabinets for adequate support. All cabinets shall be joined at face side rails with 2-1/2” finish screws, predrilled and hidden behind door hinges wherever possible. Cabinet spacers shall be installed where necessary to prevent draw faces and doors from colliding in corner areas. Supplied Kick plate panels shall be installed with brad nails and adhesive caulk. All doors and draws shall be adjusted to be straight and aligned when

installations have been completed. All shelves shall be installed at 1/3 & 2/3 heights wherever possible and Lazy Susan shelving shall be set in middle position, adjusted, and tightened. Any left-over shelving clips and touch-up kits shall be saved for homeowner.

06412 Cabinet Hardware (Materials)

All In-house and Subcontractor material costs related to Cabinet Hardware will be coded here.

Cabinet Hardware finishes should match existing hardware finishes throughout the house.

06415 Countertops (Subcontractor)

Bathroom vanity tops shall be provided by Cabinet Supplier unless otherwise indicated.

Countertop board, particle board, made for countertops shall be used as the base for the countertops. Wilsonart self-edge laminate top (or equivalent) shall be used for the surface. Backsplash shall be made from the same material as the countertop and shall run the full length of the counter. Open ends of the countertop and backsplash shall have a radius rather than a 90-degree angle, except where the countertop or backsplash ends at an appliance, partition, or wall. Kitchen sink holes shall be cut by the countertop installer, coordinated with the Construction Supervisor and Plumber for sink templates.

06430 Wood Stairs and Railings (Materials)

All In-house and Subcontractor material costs related to Wood Stairs and Railings will be coded here.

Interior wood stairs shall be premanufactured box style construction with "clear yellow pine" stair treads, bull nose & cove trims, ready for stain finish. Stair risers, stringers & shoe rail shall be primed and ready for paint. Stair tread nosing shall be standard bullnose style. Stair risers and stringers will be covered with a protective wrap type material and the stair treads will have a protective Masonite board (or equivalent) cut to fit each stair tread and fastened with small nondestructive staple fasteners. Stairs and handrail manufacturing shall meet all State and/or Local building codes. Manufacturing Supplier is responsible for field measuring the existing stairwell before fabrication of the stairway. Any onsite conditions that may require alterations to provide adequate landing heights, stair widths, stair run lengths etc. needs to be discussed with the Construction Project Manager and the onsite Construction Supervisor prior to fabrication. A set of drawings and/or specifications of the proposed stairway must be submitted to the Construction Project Manager and approved by the same, prior to fabrication of stairs and/or handrails.

06431 Wood Stairs and Railings (Subcontractor)

All Interior stairways, handrail systems, hardware and materials for installation will be supplied by Habitat for Humanity. No stair or handrail materials shall be delivered or installed prior to the house being in a substantial "watertight" condition free of any evident leaks.

All stairs will be installed following all manufacturer's installation instructions and recommendations and in accordance with all State and/or Local building codes. Any protective coverings that may become unattached or removed will be reinstalled as they were. All stairs shall be installed so that all treads are level and risers are plumb. A 1/2" - 5/8" gap with shims, will be left on either side between the stair stringers and the 2x framing, for drywall installation. All fasteners will be installed in locations that will be hidden from view on the visible side of the stairs. Where stairs and landings meet there will be a reveal at the top step the same height as the flooring material to create a smooth transition from floor to step. All handrail brackets will be installed into a wall stud or wood blocking.

06520 Non-Wood Accessories (Materials)

07100 Waterproofing and Damp proofing

Outside of the exterior walls are to be faced with a house wrap of Tyvek or equivalent product. Waterproofing at foundations in Division 04000

07210 Building Insulation

Foundation Walls are to be insulated with 2" rigid foam board. The product is to be glued and fastened to all exterior perimeter wall areas. Floor systems are to have 2" rigid foam insulation at band boards or spray foam insulated. Spray foam or rigid foam insulation shall have a fire-retardant coating that is tinted a different color. 10 mil minimum vapor barrier is to be installed over pea gravel in the crawlspace. Vapor barrier is to be sealed seams and sealed at exterior foundation walls.

Mud sill is to be applied onto a layer of foam sill sealer as well as a termite shield layer. Any joist configuration that limits future access must be filled with foam board prior to closing that access point. Any gaps that that allow air penetration are to be filled with Great Stuff or an equivalent product.

All walls are to be constructed as to allow maximum insulation value that meets or exceeds current local codes.

Exterior walls are to be sprayed with a minimum of 1 "spray foam. The remainder of the cavity filled with vapor barrier faced insulation for maximum Thermal protection that meets or exceeds current codes.

All windows and doors are to be of a thermal code that meets or exceeds the areas minimum requirements and are to be installed by having a sill protection device and be in-bedded in a sealant of caulk around the perimeter.

The crawl area is to have an air supply from the HVAC system. A dehumidifier is to be installed that matches or exceeds the square footage area of the crawl space.

A gasketed covered sump pump is to be installed to remove any intrusive water and directed to the outside of the footing area. Sump pump shall be located near the crawlspace entrance.

07300 Shingles and Roof Coverings

The roof sheathing (Zip wall system or equivalent) must be applied using 2 3/8" ring shank nails with spacing of 4" at seams and 6" at fields using H clips at all horizontal spans between trusses.

Ridge vent shall have a minimum spacing to meet manufacturers specification. Ridge vent to be Cobra roll vent or equivalent. Hi-definition multi-layered capping shingles shall be used.

Underlayment to be synthetic (tiger paw or equivalent). Installed per manufacturers recommendation. Ice and water shield should be full width at eaves and gable ends and valleys and all slopes at 4/12 and less.

White F5.5 drip edge shall be used at all roof edges. Drip edge shall be installed flush against the fascia board. Lifetime pipe collar with metal collars shall be installed at all roof penetrations.

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3x5 mill finish step flashing shall be installed at all wall intersections.

30-year architectural shingles (CertainTeed landmark or equivalent) installed to meet 130mph wind speeds (6 nails per shingle) A starter shingle row and gable row **MUST** be installed. The starter shingles shall have an overhang of ½" minimum beyond the drip edge at all perimeters.

NO 3-tab shingles are to be used anywhere on the roof.

Soffits and ridge are to be vented as to allow free flow of outside air through the attic area. Ceilings are to be insulated to a code minimum (currently R-49).

Any exposed fasteners must be sealed. No silicone shall be used on the roof.

07460 Siding

James Hardie 8 ¼" lap siding with 7" exposure to be installed with minimum 1 ¾" stainless steel fasteners. Siding shall be fastened at each stud and one centered between studs. Fasteners shall be installed on nail line per manufacturers recommendation and maintain proper distance at field seams. Where there are field seams there shall be a piece of metal flashing installed. Use complimentary colored metal flashing for the siding color. Siding shall be painted to form a seal at all cuts using color match Hardie paint. Starter strip must be installed per manufacturer's instructions. All exposed fasteners shall be painted with color matching paint. All horizontal connection points (over windows and doors) should have a ¼" gap and ends can butt directly to surfaces that are not concrete. 2" gap from siding to roofs and porches/decks. Blind composite corners are to be used. Color matching OSI quad caulking to be used where required, mainly at doors, field seams should not be caulked. Vinyl "J" channel should be used to receive the siding at soffit and around windows. All accessory thru wall penetrations (exterior lights, dryer vents, power outlets, etc....) shall have a siding receiver. Manufacturers recommendation for cutting and handling shall be followed.

Soffits shall be vinyl panels. Under porches shall be all solid. Soffit vents shall be minimum center vent for all breathing areas.

07714 Gutters and Downspouts

All horizontal fascia areas are to have gutters applied with downspouts and splash blocks directing water area from the house footings. Downspouts shall not be located on columns unless no other place can be found.

Division 08 – Doors and Windows

08200 Exterior Doors –

Manufacturer – Therma-Tru

Model – Traditions; Front – S236

Rear – S262 GBGFW

Shed - S

Style – Front Entry; 4 Lite top glass, 4 Panel, Smooth Star surface, Primed, Double bore w/ 2-3/8" backset, Radius x Square (Self aligning) hinges

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- Rear Entry; Half glass w/ 9 lite interior flat grids, 2 Panel, Smooth Star surface, Primed, Double bore w/ 2-3/8" backset, Radius x Square (Self aligning) hinges

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- Shed - 6 Panel, Smooth Star surface, Primed, Single Bore w/ 2-3/8" backset, Radius x Square (Self aligning) hinges

Size – 3/0 x 6/8 Slab, 6-9/16" Jamb, R.O. 38-1/2" x 82-1/2"

Materials – 24ga Steel panel, Wood interior structural frame, Vinyl glazing

Frame – Wood, prehung w/ Standard brick moulding, Mill finish aluminum metal sill w/ Composite adjustable contact strip

Weather Stripping – Q-lon Compression on top & sides, Q-lon "dogs" in lower corners, Rubber multi-finned bottom sweep

Glass Package – Insulated double pane, Clear glass

- Front Entry; .21 U-value, .10 SHGC
- Rear Entry; .25 U-value, .17 SHGC

Warranty – Limited Lifetime

08210 Wood Doors –

Manufacturer – Reeb/Steves

Model – Ovolo

Style – Bedrooms, Bathrooms & Closets - 6 Raised Panel, 1/8" moulded hard board skin, Wood stiles, Hollow core, 1-3/8" Thick, Wood grain textured surface, Primed, Single bore

- Closets – 2 Panel Bi-folds, 2-4 Panel Bi-pass, Hollow core, Primed
- Laundry, Utility – Fully Louvered (1-1/4" wide slats), 1-3/8" Thick, Solid wood, Pine, Primed

Size – 3/0 x 6/8 Slab in Bedrooms and Bathrooms, 4-9/16" Jamb

- As indicated necessary in Closets, Laundry room, Utility room

Warranty – Limited 5 year

08310 Access Doors/ Panel/ Attic Stairs –

Manufacturer – Werner

Model – AH2210

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Style – Type 1AA Folding, Aluminum Attic Ladder

Materials – Wood frame & handrail, Aluminum ladder & rungs

Size – 22.5" x 54" x 8' – 10'

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Weight Load – 375lbs

Description – 3" Non-slip treads, 11 rung, adjustable leg rails

08500 Windows –

Manufacturer - Alside

Model – 1600 Series

Frame – .062 ml White vinyl, Heat fusion welded corners, Beveled master frame, Built in J channel, Continuous nailing flanges, Outward sloped sills.

Glass Package – Double strength Glass, Low-E, Argon gas, ¾" Duralite Spacer, U-Value = .30 or less, SHGC = .30 or less, Interior Grids.

Screen Frame – Half screen, Extruded aluminum frame, Stainless Steel tension springs, Fiber reinforced vinyl mesh screen (color: Gray).

Balances – Constant force style.

Grids (Muntons) – Colonial style, white aluminum.

Weather Stripping – Woolpile w/ finseal, Bulbseal

Sashes – Tilt-in, Interior glazing

Locks – (2) Security locks over 24" window width with Cam action, Recessed tilt-in locks

08710 Door Hardware –

(Interior & Exterior Doors)

Manufacturer – Kwikset, Schlage or equivalent

Style – Curved Leaver Handle

- 4" x 4" Hinges

Finish – Brushed Nickel Handles, Dead bolts, Strike plates, Door viewer and Hinges

Note - Deadbolts on front and rear doors

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Division 09: Finishes 09000

09050 Basic Finish Materials and Methods

Extravagant, costly and/or high maintenance finishes should be avoided. Finishes that have minimal tolerances and place unrealistic expectations should be avoided.

09250 Gypsum Board

Ceiling: 5/8" fire code drywall on all ceilings, fastened with construction adhesive and minimum 1-5/8" screws, 12 inches on center in field and 8 inches on center at edges.

Walls: 1/2" Drywall fastened 12" on center in field and 8" on center at edges.

Moisture Areas: 1/2" moisture resistant (MR) Drywall in bathroom(s), Laundry rooms and bottom half of kitchen behind base cabinets. 5/8" MR Drywall on ceilings in bathrooms and Laundry room.

Use gypsum type construction and follow the USG gypsum board construction manual guidelines. Three coats of gypsum finishing material will be used in exposed applications, both walls and ceilings. Finish coat and sanding will not be omitted in concealed applications. Moisture resistant gypsum products will be used in appropriate areas/spaces. Level of finish will be – Level 4. Textured finishes will not be used on walls or ceilings.

09310 Ceramic Tile

This section includes the following: Ceramic tile floor applications and stone thresholds installed as part of tile installations. An approved cement board to be installed prior to tile. Prepare a solid, squeak-free subfloor and get rid of the high ridges and sink all the fasteners. Embed the cement board in latex-modified thin-set mortar fastening to subfloor every 8 inches with a 1 1/2 inch cement board screw, then tape the seams. Lay the tile in layer of thin set. Ceramic tile should be of an approximate size 12" X 12", plus joint width. Use tiles that provide good traction (DCOF greater than or equal to 0.42). Thresholds will be adhered using an approved adhesive. Keep remaining carton for home buyer.

09640 Wood Floors

A rigid composite vinyl plank flooring will be used. Read and adhere to all manufacturer's instructions before installation. All materials should be placed in area to be installed at least 48 hours prior to installation (if required by manufacturer), to acclimate to the existing temperatures and humidity levels. Always store

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boxes on a flat and level surface and never store boxes on their sides. Transition strips will be installed **only where**

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needed, otherwise there will be a continuous flow of flooring in all rooms throughout the home. A ¾" quarter round (WM105) or ½"x ¾" Shoe moulding (WM126) will be installed at all areas of Base moulding.

Approved Item:

Manufacturer: **Chesapeake Flooring**

Collection: **Essentials Plus**

Construction: **Rigid Waterproof Vinyl w/ Pre-attached Sound Absorbing Pad**

Installation: **2G Click System - Floating**

Nominal Thickness: **5.0mm Total Thickness**

Nominal Plank Size: **7" W X 48.6" L**

Wear Layer: **20mil**

Warranty: **Lifetime Residential Wear**

Surface Finish: **Wood Grain Texture**

Keep one to two cartons of your laminate flooring **so** the home buyer can fix any potential problems in the future.

09910 Paint

Interior paint should be a Sherwin Williams Super Paint indoor latex product or equivalent. Interior walls and ceilings shall be one coat primer & two coats of Sherwin Williams - ProMar® 200 Zero VOC Latex Flat, B30-12600 Series, Shell White color. Interior finish for doors, windows, and miscellaneous trim shall be one coat primer (if needed) & two coats of Sherwin Williams Super Paint latex semi-gloss. Exterior finish for doors and miscellaneous trim shall be one coat primer (if needed) & two coats of Sherwin Williams Duration exterior semi-gloss white paint or equivalent. Exterior surfaces needing a primer should use an exterior grade latex primer. Paint all six sides of doors. Keep some remaining partial cans of paint for the home buyer, both interior and exterior or include spec with homeowner's documents. The Stair Stringers and Risers shall be painted to match the trims throughout the house and the Treads will be stained to match the flooring as close as possible. Handrails going in the stairwells shall be stained the same as the treads. The Balusters and Newel Posts shall be painted to match Stringers & Risers.

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Division 10: Specialties

10430 House Numbers

House numbers should conform to 911 standards for the local jurisdiction, mounted near the front door, and be easily visible from the street. They should be mounted horizontally, but if there are space considerations they can be mounted vertically. They should be manufactured from a non-ferrous metal and be the color black.

10550 Postal Specialties

This section relates to mailboxes. Mailboxes should be constructed of a non-ferrous metal and be key and lock secured, manufactured assemblies, and be the color black, white, or bronze. They will be mounted on the front of the house on either side of the front door or near the street/sidewalk in accordance with Federal postal requirements (see paragraph below).

The United States Post Office has standard guidelines regarding mailboxes. When purchasing a mailbox, the buyer should make sure it has a seal of approval from the Postmaster General. The seal indicates the mailbox design is an approved one. Do-it-yourself mailbox designs should be submitted to the local postmaster before construction. These, too, must meet standard specifications for size and strength to receive formal approval. Also, before a new mailbox is placed on a property, the postmaster needs to be informed about its prospective location. Roadside mailboxes are required to be at least 6 to 8 feet away from the curb. The base of the mailbox must be placed 41 to 45 inches above the ground.

10820 Bath Accessories

All bath accessories should be manufactured from a non-ferrous metal and be a brushed nickel. There should be at least two towel rods, one toilet paper hanger, and one vanity light. A mirror should be installed over the vanity just above the sink countertop. A shower rod will also be installed in each bathroom where there is a shower tub.

10900 Wardrobe & Closet Items

This section includes information related to wardrobe and closet specialties installed during construction. Wardrobe and closet specialties are manufactured assemblies that organize clothing and accessories on/in shelving, rods, baskets and drawers. We will use **white metal** storage shelving assemblies that are used for general storage. Several types of metal storage shelving are available, but we will use products like the diagrams below.



Division 11: Equipment

11450 Residential Appliances

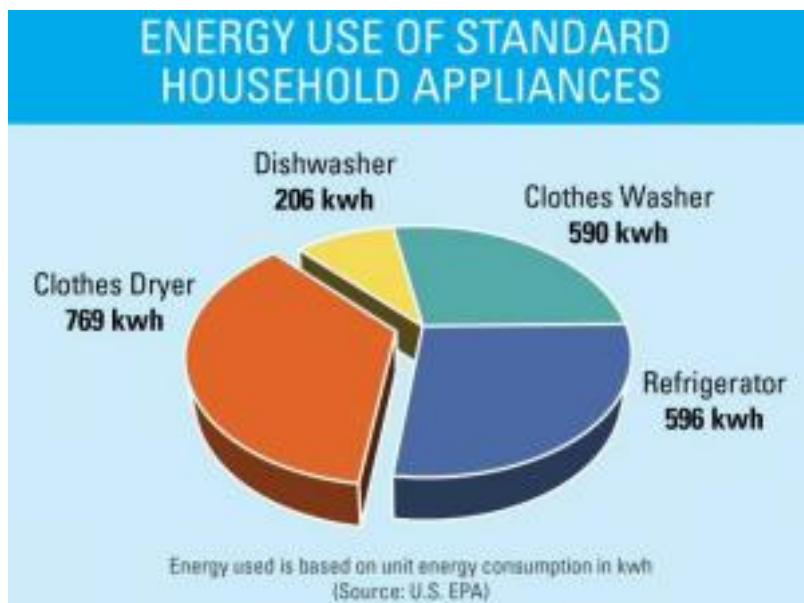
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Product Data: For each appliance type required indicating compliance with requirements. Each appliance must include complete operating and maintenance instructions. To the greatest extent possible obtain residential appliances through one source and from a single manufacturer if possible. If not possible, acquire appliances from the same manufacturer for the kitchen and the same manufacturer for the utility room. Have appliances delivered only after utility rough-in is complete and construction in the spaces to receive appliances is substantially complete and ready for installation. All appliances must meet the Energy Star requirements. Water Heater: Provided by affiliate. Will be a Stiebel Eletron, Temptra 29 Tankless. Refrigerator: Provided by Whirlpool. Must be a minimum 18 cubic feet. Stove/Oven: Provided by Whirlpool. Range should be electric 30" with controls in front. Microwave: Provided by affiliate. Over the range microwave vented to the outside. There are no Energy Star rated microwaves currently on the market. Dishwasher: Provided by affiliate. Clothes Washer: Provided by affiliate. Clothes Dryer: Provided by affiliate. There are no Energy Star rated dryers currently on the



market.



Division 12: Furnishings

12490 Window Treatments

All window treatments will be a louver type blind and should be selected on window type. Horizontal blinds work well for example with double-hung windows. Interior Horizontal louver blinds shall be made of Aluminum, have 1" slats, and be white in color. All blinds are currently donated by Hunter Douglas. Wood blinds should not be used because they are cost prohibited and are combustible.

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Division 13: Fire Suppression 13000

13900 Fire Suppression

NFPA 13D is the standard for the installation of sprinkler systems in one- and two-family dwellings and manufactured homes.

This standard shall cover the design, installation, and maintenance of automatic sprinkler systems for protection against the fire hazards in one- and two-family dwellings and manufactured homes. This standard shall not provide requirements for the design or installation of water mist fire protection systems, which are not considered fire sprinkler systems and are addressed by NFPA 750. This standard shall be based on the concept that the sprinkler system is designed to protect against a fire originating from a single ignition location. The purpose of this standard shall be to provide a sprinkler system that aids in the detection and control of residential fires and thus provides improved protection against injury and life loss. A sprinkler system shall be designed and installed in accordance with this standard to prevent flashover (total involvement) in the room of fire origin, where sprinklered, and to improve the chance for occupants to escape or be evacuated.

Revise Date: 7/1/24

Division 15: Mechanical 15000

15400 Plumbing Fixtures & Equipment

RESPONSIBILITIES OF PLUMBING CONTRACTOR:

Contractor will make connections to supply and drain lines installed by site utilities contractor and connect to riser provided by fire suppression contractor. Fire suppression contractor will provide back flow preventer.

Drain and vents to be PVC material. Joints will be cut square, cleaned, de-burred and glued according to adhesive manufacturer's recommendations, such as clamp times and approved temperature ranges.

Size and location of vent lines to be determined by applicable codes. All lines will be properly supported to prevent sagging. Nail plates will be provided and installed where needed. Contractor will provide neoprene roof flashings, to be installed by roofing contractor. Drain and vent lines and all related accessories to be provided by contractor.

Supply lines to be CPVC material. Piping at joints will be cut square, cleaned, de-burred and glued according to adhesive manufacturer's recommendations as to clamp times, approved temperature ranges for application, and method of pressure testing. Nail plates to be installed where needed. Supply lines and all related accessories to be provided by contractor.

Contractor will install one frost proof hose bib.

Contractor will make connection to the riser manifold supplied and installed by the fire suppression contractor.

Contractor will provide and install one double bowl stainless steel sink with shut off valves and Moen Chateau (or equivalent) kitchen sink faucet.

Contractor will install tub-shower unit as provided by Habitat. Contractor will provide and install Moen bath and shower faucet (or equivalent) and tub drain.

Contractor will provide and install necessary number of A.D.A. compliant toilets to include elongated bowl, seat and shut off valve.

Contractor will supply and install a heat pump water heater. Contractor will provide and install drain pan, condensate drain, shut off valves and expansion tank. The water heater shall be a Rheem, 50gal. Performance Platinum Hybrid Electric water heater, Model # - XE50T10H45U0 or Rheem, 50gal. Professional Prestige Pro-Terra Hybrid with Leak Guard Electric water heater, Model # - PROPH50-T2-RH400-SO.

Contractor will provide and install a main supply shut off valve in a location easily located by homeowner. Contractor will arrange for all necessary inspections.

15700 HVAC Equipment

SPLIT-SYSTEM AIR CONDITIONERS

MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING:

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DESCRIPTION OF WORK

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High-efficiency split-system heat-pump units consisting of separate evaporator-fan and compressor condenser components

CLOSEOUT SUBMITTALS

Operation and Maintenance Data: For split-system air-conditioning units to include in emergency, operation, and maintenance manuals. Also, one trip to train homeowners on use and maintenance of thermostat and units.

MAINTENANCE MATERIAL SUBMITTALS

Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Filters: One set for each return grille.

Gaskets: One set for each access door.

Fan Belts: One set for each air-handling unit fan.

WARRANTY

Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of split-system air-conditioning units that fail in materials or workmanship within specified warranty period.

Warranty Period:

For Compressor: Five years from date of Substantial Completion.

For Parts: Five years from date of Substantial Completion.

For Labor: One year from date of Substantial Completion.

MANUFACTURERS

Basis-of-Design Product: Subject to compliance with requirements, provide high efficiency Indoor Air Handling Unit and Outdoor Heat Pump Unit models as scheduled on the drawings or comparable product by one of the following:

Carrier

Trane

York (Johnson Controls, Inc)

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INDOOR UNITS (5 TONS OR LESS)

Chassis: Galvanized steel with flanged edges, removable panels for servicing, and insulation on back of panel. Insulation: Faced, glass-fiber duct liner.

Filters: MERV-8, throw-away.

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Condensate Drain Pans

OUTDOOR UNITS (5 TONS OR LESS)

Casing: Steel, finished with baked enamel, with removable panels for access to controls, weep holes for water drainage, and mounting holes in base. Provide brass service valves, fittings, and gage ports on exterior of casing.

Compressor: Hermetically sealed with crankcase heater and mounted on vibration isolation device. Compressor motor shall have thermal- and current-sensitive overload devices, start capacitor, relay, and contactor.

Compressor Type: Scroll.

Variable speed compressor motor with manual-reset high-pressure switch and automatic reset low-pressure switch. Refrigerant Charge: R-410A.

Heat-Pump Components: Reversing valve and low-temperature-air cutoff thermostat.

Fan: Aluminum-propeller type, directly connected to motor.

Motor: Permanently lubricated, with integral thermal-overload protection.

DIFFUSERS, REGISTERS, GRILLES

Provide diffusers, registers, and grilles to distribute the quantity of air specified evenly over the intended space without causing dead spots or air velocities exceeding 50 fpm in the occupied zone.

Coordinate location with lighting and ceiling pattern. Perform minor duct modifications to suit. Add internal baffles where necessary to avoid drafts due to air impingement on nearby partitions, columns, etc. Install dryer vents in accordance with manufacturer's recommendations

ACCESSORIES

Thermostat: Deluxe Seven (7) Day Programmable wall--mounted system control to remotely control compressor and evaporator fan, with the following features:

Compressor time delay.

24-hour time control of system stop and start.

Liquid-crystal display indicating temperature, set-point temperature, time setting, operating mode, and fan

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speed. Fan-speed selection including auto setting.

Refrigerant Line Kits: Soft-annealed copper suction and liquid lines factory cleaned, dried, pressurized, and sealed; factory-insulated suction line with flared fittings at both ends.

Snow stand/snow feet to elevate the unit.

Disconnect kit: to disconnect electrical power to the fan coil so service or maintenance

Tests and Inspections:

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Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.

Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.

Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment. Prepare test and inspection reports.

STARTUP SERVICE

Complete installation and startup check according to manufacturer's written instructions.

DEMONSTRATION

Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain units. Installers of the units must be ACCA certified, or the Energy Star Certified test is able to provide an ACCA Certified of the units.

CLEAN UP

Contractor shall clean up and haul off all generated trash and excess materials.

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Division 16: Electrical 16000

All electrical work performed for Habitat for Humanity Choptank will be completed in accordance with the current National Electrical Code approved by the local inspection board for either/or Talbot and Dorchester Counties.

Electrical service:

- Underground service of 200-amp, Square-D Service panel with breakers.
- Rheem Performance Platinum 50gal Hybrid electric water heater needs one 30amp breaker. •
- Wire: 4/0 Al THHN service entrance cable to the panel. (Disconnect if required after the meter). •
- 14 gauge. NM Romex for all lighting circuits. 12 gauge. NM Romex to Kitchen circuits (2 circuit are required). Dining /Laundry areas supplied with 12 gauge. NM Romex also. Required wire size to special circuits as per code.
- Ceiling boxes in Living room, Dining room, Bedrooms and kitchen (over sink for pendant light). Boxes in Living room and Bedrooms will be capable of supporting ceiling fan/light combo and must be **switched separately**. Wall boxes for Bathroom Vanity lights. Bathroom switches will operate Vanity light, Fan & Fan light separately.

Light Fixtures:

- All surface mounted lights, ceiling fans, chandeliers, vanity lights, pendants and porch lights will be supplied by Habitat but installed by Contractor. Locations will be coordinated with a Habitat representative on site.
- One recessed LED light or Pendant light will be installed above the Kitchen sink (To be determined per condition).
- Install Vanity style lighting over bath sinks mounted to wall above mirror. Height of wall box to be coordinated with Habitat representative prior to drywall installation.
- Surface mounted light or 24" - 36" LED strip light in laundry room and/or large walk-in closets (15sqft or larger). Light provided by Habitat.
- Panasonic Whisper Fan model 5505.05, in each Bathroom for required 24-hour air exchange per Energy Star. Must be wired correctly so that circulation fan will run when needed even when switch for fan is in off position.

Electric Devices:

- All light switches to be "rocker" style (White) and located 48" above the finished floor (AFF). Receptacles and cover plates to be (White) in color and located 18" (AFF), per plan and per code.
- HVAC Air Handler equipment will be in the crawlspace with an outdoor Compressor unit that will require a separate disconnect. All 2 story homes will have Mini-Split units on the second floor.
- Install 10-year lithium battery smoke detectors, located per code. (Supplied by Contractor)
- All outlets (White) and covers (White) to be located by code requirements.
- Install two lights in the basement/ crawlspace placed to provide best lighting. Place switch at the access entrance.
- Weather protected duplex GFCI receptacles provided by contractor & located at front & rear porch areas.
- Provide a GFCI duplex outlet in the basement or crawlspace for a sump pump and a dehumidifier located near sump pit and one near the HVAC Air Handler for service.
- All outside, basement, laundry, bathrooms, and kitchen receptacles located within 6 ft of running

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water, shall be protected by a GFCI device or to current code.

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- Provide (4) cable jacks, one in the living room and one in each bedroom. Locations will be coordinated with a Habitat representative on site.
- Install 4 LED CAN lights in the kitchen, all switched together and evenly spaced for proper lighting. One pendant fixture switched separately over the sink. No dimmer switch used. (This is for two story houses – on one story houses the lights will be surface mounted due to insulation in the ceilings. NO CAN LIGHTS WHERE INSULATION IS ABOVE).

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