

EXHIBIT A - SPECIFICATIONS

DIVISION 01 – GENERAL REQUIREMENTS

01. The Work consists of the construction of residential single-family affordable home at **4600 Robertson Street, Houston Texas 77009**.
02. The Contract forms shall be the standard **NHDP Tri-Party Agreement** between the Landowner, the City of Houston HCDD, and the Builder. The Drawings, the Project Manual, any Addenda which may be issued prior to Bid, and any Change Orders which may be issued after Contract, are part of the Contract Documents.
03. The Contractor shall provide a Performance Bond to the City of Houston HCDD and shall provide documentation of such as a condition of their initial closing documents.
04. The contractor shall carry insurance as described in the Insurance Requirements throughout the duration of the project.
05. The contractor shall provide all permits necessary to complete the work.
06. The owner shall provide all surveys, soil reports, engineering and testing as required.
07. Materials and work shall comply with all applicable building codes. The Contractor shall provide all necessary steel anchor bolts, steel angles, joist hangers, hurricane connectors and miscellaneous connectors as required by code.
Contractors shall provide on-site supervision as required throughout the duration of the project.
08. All work shall be executed in a workmanlike manner, maintaining the highest standards of each trade.
09. The Contractor shall protect adjoining property and site from all damages that may occur during construction.
10. The contractor shall provide the labor and material to keep a clean and safe job site during construction.
11. The contractor shall provide for security of the construction site by erecting a perimeter construction fence and providing guard or monitoring equipment to protect from trespassing and theft.
12. The Contractor shall store all materials in a safe and dry location and shall protect all work, equipment, and materials throughout the construction process.
13. All specified products and systems shall be installed according to manufacturers' written instructions, including but not limited to instructions regarding the preparation of substrates and adjoining construction, weather conditions, and protection after installation.
14. Contractors shall verify all dimensions and conditions shown on these drawings with those on the site. Any variation, which requires design changes, should be brought to the attention of the Architect and Project Manager.
15. All trash and debris will be removed regularly from the job site.
16. Contractor shall provide complete cleanup of the site and structures inside and out at the completion of the project.

DIVISION 02 – SITEWORK

01. Provide all sitework as indicated on drawings.
02. Provide trees, shrubs, plant materials, and sod, as indicated on drawings.
03. Submit and provide an approved irrigation system **ONLY IF DESIGNED FOR THIS AFFORDABLE HOUSING PROJECT**. Such a system shall provide, at minimum, central

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shut off valve, head-to-head coverage, drip irrigation at planter beds, and timer or control for each watering zone.

04. Submit and provide approved non-toxic termite protection. Treat all cellulosic material with borate product to 3' above finish floor.
05. Provide SWPP as required.

DIVISION 03 – CONCRETE

01. Foundation: See Engineer's Structural Drawings for specifications and notes with regard to construction, and any other concrete construction.
02. Concrete Sidewalks, Culverts and Driveways: – Provide all flatwork as indicated on drawings. Coordinate expansion and control joint layout with Architect and ProjectManager.

DIVISION 05 – METALS

01. Structural and Miscellaneous Steel Fabrications: IF ANY, all exterior steel to be shop-fabricated and hot-dipped galvanized. See drawings for sizes and dimensions. Provide shop drawings before fabrication. Any exterior handrails, if shown on drawings shall be with galvanized finish.

DIVISION 06 – WOOD AND PLASTICS

01. Rough Carpentry: See Engineer's Structural Drawings for Specifications and Notes. Provide miscellaneous framing accessories as specified on Structural Drawings such as joist hangers, nails, bolts, screws, etc. Accessories shall be galvanized.
02. Treated Lumber shall be Environmentally Preferable Product, compliant with EPA and all other requirements, and so marked.
03. Plywood roof decking shall have reflective radiant surface.
04. Dimensions are to face of stud or structural member, unless otherwise noted. The contractor shall coordinate Plumbing and Electrical Plans with all joist and framing layouts.
05. The Contractor shall provide all nailers and blocking as required for the installation of gypsum wallboard, trim, rails, accessories, and cabinetry.
06. Exterior trim, rafters, and if applicable, decking, porch framing, stairs, handrails, etc. as shown on drawings. Any painted wood to be back primed before installation.
07. If Applicable, Porch Decking: 2x6 treated, as shown on drawings, attached with countersunk coated decking screws.
08. All interior finishes and cabinets shall be protected during construction.
09. Interior wood:
 - a. Baseboard – 1x4 white pine (not MDF)
 - b. Shoe mould – 1/2" f.j.
 - c. Window and door casing – Finger joint BMC2 casing or comparable.
 - d. Shelves – 1x12 white pine, C grade or better. Each closet to receive one shelf and rod. The kitchen pantry shall receive 5 shelves.
 - e. Rods – wood.
10. Millwork: All interior finish carpentry shall be installed straight, plumb, and level with closely fitted joints and rigidly secured. Blind nailing shall be used to the extent practical; face nailing shall be set and filled with non-staining putty to match finish. Stagger, conceal, or place joints in unobtrusive locations. Protect all millwork before installation and protect against dampness. Moldings and surface areas shall be clean cut, with consistent pattern and joinery. All work shall be cleaned and thoroughly sanded before receiving finish. Sharp corners should be slightly eased. Review seam locations of all

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counters and ledge areas with Architect and Project Manager prior to fabrication.

11. Cabinets and built-ins shall be manufactured or shop-built per Architectural plans. Cabinets shall be pre-finished. Submit cut-sheets for Architect's approval. Counter tops to be granite or granite simulation material, color selections by Architect and Owner.

DIVISION 07 – MOISTURE PROTECTION

01. Damp proofing: Exterior wall vapor barrier shall be heavyweight polyester membrane, 2 lbs. per 100 Sq. Ft., with low-emissivity metallized surface, Tyvek "ThermaWrap" or equal. Membrane flashing shall be "Peel and Seal" self-healing 45- mil. membrane.
02. Insulation: Cellulose insulation as manufactured by various suppliers with a minimum R13 at walls, and R30 at roof. Contractor shall provide certifications as required.
03. Provide metal roof as shown on drawings, with all appropriate fittings, trim, and accessories as required.
04. Provide Hardi-Plank siding and trim as shown on the drawings. Provide WOOD GRAIN FINISH, factory primed product.
05. Sealant/Weather-strip/Thresholds: Vertical exterior joints shall be Urethane Sealant, type 1. Other joints shall be Acrylic Terpolymer, one-part caulking compound. The backerrod shall be polyethylene sponge type.

DIVISION 08 – DOORS AND WINDOWS

01. Exterior doors shall be natural fir six panel, paint grade wood entry doors with aluminum threshold and weather stripping.
02. Interior doors shall be 1-3/8" flush, solid core, Masonite with primed and painted finish. Hinges, knobs, and other hardware to be US26 dull chrome finish.
03. Doors and Hardware shall be installed plumb and true, and fully adjusted to allow free and smooth operation. Doors will not rattle when closed. See door schedule on drawings for specific sizes and properties.
04. Windows shall be ENERGY STAR labeled. Extruded aluminum or vinyl assembly. White finish. All glass be 1" insulated low-e glass with U factor < 0.55, and SHGC < 0.35.
05. Hardware: Provide hinges, latch sets, knobs, deadbolts, pulls, keys, and doorstops as required and selected by Architect and Owner from submittals by Contractor. All hardware is to be brushed silver finish where possible.

DIVISION 09 – FINISHES

01. Gypsum Drywall shall be 1/2" thick throughout, except for 5/8" in the ceilings and anywhere else it is noted/called for. Wet locations shall be water-resistant Hardie Backer Board. Joint compound shall be "Durabond" series or equal. Provide all metal corners, reveals, radius corners, etc. as shown on sections or details.
02. Provide cementitious backer board on walls receiving ceramic tile.
03. Wood floors shall be as selected by the Architect and/or Owner.
04. Paint shall be applied using manufacturer's first line materials and in accordance with manufacturer's label on container. The workmanship is to be of the finest craftsmanship, using skilled employees. Interior paint may be applied by spray, brush, or roller. Exterior paint applied by brush or spray. Method selected must be suitable for the surface receiving application. All adjacent areas to be protected during paint applications. Puttying of nails, holes, cracks, etc. shall be done after the first coat. Sand smooth and remove dust before second coat. Coats shall be thoroughly dry before applying succeeding coats. Pre-prime any exterior carpentry before installing.
05. Exterior: Sand, prep, caulk and clean all exterior finishes and then apply one coat of primer (as necessary) and two finish coats of paint using Sherwin Williams exterior paint

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(or comparable).

06. Interior: Sand, prep, caulk and clean and then prime all wood and drywall as necessary. Finish with two coats of Sherwin & Williams interior latex paint, latex enamel paint, (or comparable) or stain and finish as instructed per plans.

DIVISION 10 – SPECIALTIES

01. Contractor to supply and install all standard bath hardware (to be selected later) in the bathroom areas. Material allowance - **\$2,000.00**.
02. Provide and install cabinets as shown on the drawings.

DIVISION 11 – EQUIPMENT

01. Contractor to furnish and install the specified appliances. Contractor to review appliance sizes/tolerances before installation and bring any inconsistencies to the attention of the Architect and Project Manager.

A. Oven and Stove or Range

The kitchen shall contain a range exhaust hood, vented through wall or roof, and a minimum 30-inch-wide gas or electric range, unless otherwise specified by HCDD. The homeowner shall have an option for an electrical or gas cooktop at no additional cost to the City or to the homeowner. The kitchen may contain a microwave integrated with the range hood and the color shall be either black, white, or stainless steel where all appliances match in color and brand.

**Acceptable oven and stove or range/ range hood shall be LG, GE, Whirlpool, or approved equal Energy Star appliance.*

B. Refrigerator/Freezer

The kitchen shall contain an Energy Star certified refrigerator/freezer, with a minimum of 18 cubic feet capacity, connected to the power supply, in good working order and capable of supplying the service for which it is intended. A refrigerator water line shall be provided to accommodate any refrigerator upgrades. The color shall be either black, white, or stainless steel, where all appliances match in color and brand.

**Acceptable refrigerators/freezers shall be LG, GE, Whirlpool, or approved.*

DIVISION 22 - PLUMBING

01. Plumbing Scope: The work includes a complete plumbing system with water, soil, waste, vent gas fixtures, flashing, etc. as specified in the construction documents.
02. Provide Owner with any instruction manuals and warranties on new equipment.

DIVISION 23 - HVAC

1. HVAC scope: The work includes design and installation of a system based upon a High Efficiency HVAC system with a 11.5 EER/16.00 SEER minimum as specified in the construction documents.
2. Install ENERGY STAR rated exhaust fans in bathrooms.
3. HVAC General Requirements: Mechanical installation and system to meet all applicable codes. Contractor to arrange and pay for all permits and other expenses required for the

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- installation of equipment. The contractor shall thoroughly review all Owner/Architect Architectural and Structural Drawings, and co-ordinate installation accordingly.
4. HVAC Equipment and Ductwork: Furnish and install air conditioning equipment of the type, size and capacity required for appropriate heating and cooling. Equipment to be factory assembled with starters, temperature and safety controls, and control wiring. Verify size of unit with heat load analysis. Submit recommended equipment for approval.
 5. HVAC Ductwork and Installation: Ductwork R-Value R-8. Fabricate rectangular ductwork with glass fiber duct board and insulated Mylar-encased flexible ducting in accordance with recommendations of the ASHRAE Guide, and the latest edition of the SMACNA as required.
 6. HVAC Thermostat and Grilles: Review thermostat type (provide cut sheet) and location with Owner, Architect and Project Manager prior to installation. Supply and return grilles to be aluminum finish.

DIVISION 26 – ELECTRICAL

1. General Requirements: Comply with the most recent edition of the National Electric Code. Arrange for payment of all permits and other charges required in connection with the installation of this work.
2. Electrical Plans and Specifications. The drawings show diagrammatically the sizes and locations of the various outlets, switches, and fixtures. Final locations shall be marked and reviewed by the Architect and Project Manager prior to wiring.
3. Electrical Switches, Receptacles, and Outlets: Wall switches shall be “Decora” series, white. Plugs to be standard white. Electrical Service: New 200 Amp Service to be underground. Panel to be “Challenger” or equal.
4. Light Fixtures: Contractor to install all fixtures as indicated on plans. All fixtures must bear U.L. label for the type of service in which they are installed. Provide and install lamps for all fixtures. Contractor to provide cut sheets for all electrical fixtures used for Architect approval. See Fixture Schedule on drawings. **Allowance for lighting fixtures: \$2,500.** Provide Owner with any service warranties and instruction manuals for equipment installed.
5. Provide smoke detectors as required by the Code. Provide carbon monoxide detectors.

END