## GENERAL REQUIREMENTS:

1. Owner / Client Responsibilities: Reference is made throughout these General Notes to responsibilities and standards of care to be fulfilled by those providing services in the development and construction of this project. Owner / Client shall be responsible for adherence to those requirements by the Owner, Builder, Developer, General Contractor, Subcontractors and other professional Consultants not retained by the Designer.

2. Builder's Set: The scope of this set of plans is to provide a "builder's set" of construction documents and general notes hereinafter referred to as "plans". After formal review and approval by a licensed engineer and or architect, this set of plans is sufficient to obtain a building permit; however, all materials and methods of construction necessary to complete the project are not necessarily described. The plans delineate and describe only locations, dimensions, types of materials and general methods of assembling or fastening. The FreeGreen Specification book received with this plan set specifies the particular products or materials recommended for this home design. The implementation of these plans requires an Owner/ Client/ Contractor thoroughly knowledgeable with the applicable building codes and methods of construction specific to this product type and type of construction.

3. Building Maintenance: The exposed materials used in the construction of this project will deteriorate as the completed project ages unless properly and routinely maintained. Owner / Client shall provide or cause the development of a plan to keep these exposed materials protected and maintained.

4. Codes: All construction shall comply with the most stringent requirements of all current applicable city, county, state and federal laws, rules, codes, ordinances and regulations. If the General Contractor or any Subcontractor performs any work in conflict with the above mentioned laws, rules, codes, ordinances and regulations, then the contractor in violation shall bear all costs of repair arising out of the non - conforming work.

5. Permits: The general building permit and plan check shall be secured and paid for by Owner /Client. All others permits shall be secured and paid for by the Subcontractor directly responsible.

6. Insurance: The General Contractor and every Subcontractor performing work or providing services and/ or materials for the work are required to purchase and maintain in force "All Risk" Builders Insurance prior to commencement of the work and/ or furnishing labor, services and materials. Each "All Risk" policy shall be in can amount sufficient to cover the replacement value of the work being performed and/ or the labor, services and materials being supplied by the General Contractor, Subcontractors, Designer, and all professional Consultants.

7. Insurance: Owner/ Client shall cause the General Contractor and every Subcontractor performing work or providing services and / or materials for the work to purchase and maintain General Liability Insurance.

8. Named Products: The Designer makes no guarantee for products identified by trade name or manufacturer.

9. Scope: The General Contractor and Subcontractors shall furnish all labor, equipment, and material indicated on the plans and reasonably inferred or required by the applicable codes.

10. Substitution: Substitutions of specific materials or products listed on the FreeGreen Specification Sheet shall not be made without written authorization by Owner/ Client. The General Contractor and any Subcontractor shall not make the structural substitutions or changes without prior written authorization from the structural engineer.

11. Changes: Any addition, deletion, or change in the scope of the work described by the plans shall be by written change order only. Any approval from the building official for a change in the work shall be the responsibility of the General Contractor.

12. Intention: The General Contractor shall ensure that all labor, materials, equipment and transportation shall be included in the work for complete execution of the project. The Designer shall not be responsible for the means and methods of construction.

13. Review of Drawings: The General Contractor and all Subcontractors shall review the full content of the plans for discrepancies and omissions prior to commencement of work. The General Contractor and all Subcontractors shall be responsible for any work not in conformance with the plans or in conflict with any code.

14. Use of the Drawings: Dimensions take precedence over scaled measurements. Details and sections on the drawings are shown at specific locations and are intended to show general requirements throughout. Details noted "typical" imply all like conditions treated similarly, unless noted otherwise. The architectural details shown are intended to further illustrate the visual design concept and the minimum recommended weather protection for this project. Building code requirements, structural considerations, trade association manuals and publications and product manufacturer's written instructions shall also be considered in order to complete the construction of the details, and in some cases may supersede the details.

15. Approved Drawings: The General Contractor shall be responsible for coordinating the work between the different Subcontractors and requiring all Subcontractors to use the most current building department approved set of plans.

16. Cutting and Patching: All Subcontractors shall do their own cutting, fitting, patching, etc. to make the several parts come together properly and fit it to receive or by work of other trades.

17. Clean up: All trades shall, at all times, keep the premises free from accumulation of waste materials or rubbish caused by their work. Subcontractors shall remove all rubbish, tools, scaffolding and surplus materials and leave the job in a broom - clean condition. All fixtures, equipment, glazing, floors, etc., shall be left clean and ready for occupancy upon completion of the project.

18. Storage of Materials: The General Contractor and Subcontractors shall be responsible for storing the materials on the site according to material suppliers' or manufacturers' instructions. The materials shall be kept secure and protected from moisture, pests, and vandals. Any loss arising out of materials stored at the site shall be the responsibility of the General Contractor of Subcontractor who stored the damaged or lost materials.

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## ROUGH CARPENTRY:

1. Framing:
   - A. Blocking and Bridging:
     - (1) Stud Walls: Per applicable building code. Full height walls shall have continuous studs from bottom to top plate.
     - (2) Ceiling Joists: Per applicable building code. Use solid bridging.
     - (3) Backing: Provide solid backing at all pendant or surface - mounted electrical fixtures, rails, grab bars, bath accessories, etc.
   - B. Fire stopping: Per applicable building code.
   - C. Stud Walls: Per applicable building code. All studs to have full bearing on plate. All studs to be at 16" O.C. unless noted otherwise. Studs to be sized per requirements of code.
   - D. Use continuous, full height studs in accordance with the highest standard of construction and framing practices.
   - E. All angled walls to be at 45 degrees unless noted otherwise
   - F. Built up roofs, waterproof balcony decks and exterior horizontal areas are to be framed with slope to ensure water drainage without ponding.
   - G. Provide crickets as indicated and as necessary for proper water drainage and to redirect channeled or run off water away from vertical surfaces.
   - H. Provide blocking where required to provide uniform surface where flush joists and beams are different depths
   - I. Use mitered joints at fascia splices.
   - J. All dimensions given are to face of framing, unless noted otherwise.
   - K. Align bottom of all adjacent window and door headers, unless noted otherwise on framing plan.
2. Trusses:
   - A. The General Contractor shall have City/ County approved truss plans on the job site prior to foundation inspection. The Truss Manufacturer shall submit calculations, shop drawings, details, bridging and erection bracing signed by a registered Engineer to the Building Department and Structural Engineer, for their review prior to fabrication.
   - B. Truss manufactures shall provide members of adequate bearing area in such a width to insure against over - stressing of supporting timber, multiple joists, girders and plates or provide bearing plates and details to do same
   - C. The General Contractor shall coordinate with the Truss Manufacturer, Framing, Electrical, Plumbing and Mechanical Contractors at fire protected areas to maintain required fire protection without penetrations unless allowed by code and local jurisdiction.

## FINISH CARPENTRY:

1. Scope:
   - A. Furnish and install all finish carpentry complete, including trim, door frames, paneling and shelving.
   - B. Installation of finish hardware, bath accessories, cabinet pulls, etc.
1. Workmanship:
   - A. All joints shall be tight and true and securely fastened. Corners shall be neatly mitered, butted, or coped, with nails set and surfaces free of tool marks.
   - B. Wood work shall be accurately scribed to fit adjoining surfaces.
   - C. All work shall be machined or hand sanded, sharp edges and splinters removed, and completely prepared for finish.
   - D. Full length continuous boards shall be used wherever applicable or specifically noted.
2. Fitting and Hanging Doors:
   - A. Each door shall be accurately cut, trimmed, and fitted to its respective frame and hardware with due allowance for painter's finishes.
   - B. Clearance at the lock and hanging stiles and at the top shall not exceed 1/8". Clearance at the bottom shall be adjusted for finish floor covering.
   - C. Lock stile edges shall be beveled.
   - D. Door shall operate freely, but not loosely, without sticking or binding, without hinge bound conditions, and with all hardware properly adjusted and functioning.
3. Materials:
   - A. Door frames: Frames shall be set plumb and true, rigidly secured, and protected during the course of construction.
   - B. Door Stops and Casing: Size and profile as selected by Owner/ Client.
   - C. Exterior Trim: Refer to drawings for exterior trim material & sizes. For wood, MDO or fiber cement, all cut sides/faces/edges must be primed and painted. If specific product brand is specified on drawings, see manufacturers specifications and installation instructions.
   - D. Interior Trim:
     - (1) Interior Rails: Clear material, finished to match casework
     - (2) Window Trim: 1x clear wood to match casework or as noted in drawings (verify with Owner/Client).
     - (3) Base Boards: As noted in drawings or approved by Owner/Client.

## INSULATION:

1. Installation:
   - A. Thermal Insulation: Install insulation between joists, below all roof surfaces, and areas including any vertical wall areas separating living spaces from unconditioned space and between studs at all exterior walls. Insulation shall be securely installed and tightly fitted without compressing the normal Loft thickness. Provide insulation stops/ baffles as required to prevent obstruction of vents.
   - B. Sound Insulation: Install insulation between studs, securely and tightly fitted at walls as indicated on drawings.
   - C. Plumbing Insulation: All domestic hot water piping shall have R-4 insulation. Insulation shall be properly installed on all piping allowed to adequately insulate the 90 degrees bend.
   - D. The General Contractor and Subcontractors shall be responsible for storing the materials on the site according to material supplier's or manufacturers' instructions. The materials shall be kept secure and protected from moisture.
2. Materials:
   - A. At a minimum, all insulation installed for the home meets or exceeds the R-value requirements listed in Chapter 4 of the 2009 International Energy Conservation Code and also the Grade I specifications set by the National Home Energy Rating Standards.
   - B. A pre-drywall thermal bypass inspection must be performed by a qualified rater.

## THERMAL & MOISTURE PROTECTION:

1. Foundations:
   - A. Provide adequate drainage away from walls & foundations
   - B. Seal all plumbing, electrical and other penetrations of walls and floors and seal joints
   - C. Slope final grade away from foundation
   - D. Provide capillary break at all concrete slabs (poly not req. if <20" rainfall; gravel not req. for free draining soils = IRC Group 1
   - E. Exterior surface of below grade walls damp proofed or water proofed
   - F. Slope garage floor towards main vehicle entry
   - G. Foundation cont. footing drain with stone covered with filter fabric, drained to daylight.
   - H. Basement foundation walls use porous backfill material.
   - I. Provide cont. crushed stone under footings.
   - J. Provide rigid insulation as specified directly under slab.
2. Walls
   - A. Install windows, doors, exterior cladding, flashings & sealants as detailed in this drawing set.
   - B. All deck ledgers must be pressure treated material.
   - C. All penetrations that pass through exterior cladding into structure must be fully sealed.
   - D. Install materials with proper detailing to control degradation from moisture.
3. Roofs:
   - A. Ice flashing over sheathing at eaves (except climates CZ1-4)
   - B. Metal drip edge at all exposed roof decking
   - C. Bituminous membrane at all eaves, valleys & penetrations (not req. if <20" rainfall)
   - D. Step flashing at all roof/wall intersections & terminated with "kickout" flashing
   - E. Installed system for diverting roof water from house. (e.g. gutters)
   - F. No. 30 roof felt underlayment minimum.
   - G. Reduce ice dams: No non-airtight recessed light fixtures in insulated ceilings.
   - H. Roof insulation as specified in this drawing set.
   - I. Provide cont. crushed stone under footings.
   - J. Provide rigid insulation as specified directly under slab.
4. Wet Rooms:
   - A. Install drains or drain pans to capture leaks under water heaters or use thankless water heaters.
   - B. Properly install washer and water heater drain pans
   - C. Use highly durable materials in wet areas
   - D. Install no carpet in kitchens, bathrooms, spa areas, or within 3' of exterior door.
   - E. Use nonpaper-faced backer board on walls in tub, shower and spa areas.
5. Air Infiltration:
   - A. Install "IC" airtight rated recessed lights in insulated ceilings.
   - B. Complete air barrier between attic and conditioned space & all penetrations sealed.
   - C. Air filter housings must be airtight to prevent bypass or leakage.
   - D. Air seal ventilation ductwork.
6. Interstitial Condensation:
   - A. Clothes dryers vented outdoors.
   - B. Insulate all cold water pipes and avoid plumbing in exterior walls.
   - C. >1 Perm finish on inside of exterior walls (only req. in hot/humid & mixed/humid climates)
7. Heat Loss:
   - A. Insulate all ventilation exhaust ductwork (min R-8) outside of the insulated envelope
   - B. R-5 slab edge insulation break at foundation wall intersection & R-10 slab edge insulation outward of any walk-out slab edge.
   - C. Install insulation wind baffles at attic eave bays.
8. Ultraviolet Radiation:
   - A. Install materials with proper detailing to control degradation from sun.
9. Other:
   - A. Minimum 25-year expected lifetime roof warranty.
   - B. Define "proper refrigerant charge" to be within 10% of manufacturer recommendations.
   - C. Mechanical equipment must be accessible for service, including AC condensate drain pan & trap.
   - D. Use rigid duct or other methods to keep fan back-pressure below 0.2" for EOV systems.

## HEATING, VENTILATION & AIR CONDITIONING:

1. Scope:
   - A. Supply all labor, transportation, material, etc., for installation of a complete heating and air conditioning system to operate according to the provisions of ASHRAE Standard 62.2-2007 and best practices of the trade including, but not limited to: mechanical units, ducts, registers, catwalks, grilles, boots, vent pipes, dampers, combustion air, fans, ventilators, refrigerant, etc. All materials, work, etc., to comply with all requirements of all legally constituted public authorities having jurisdiction including all county and state ordinances. Furnish and install all equipment complete and operable. Verify all material and installation requirements and limitations at fire and sound assemblies.
   - B. Provide rubberized asphaltic membrane materials at all penetrations of the water - resistive membrane at exterior walls.
2. Installation:
   - A. Provide required clearances for duct work and to combustibles.
   - B. Provide a permanent electric outlet and switched light fixture.
   - C. No alterations to the structural frame, diaphragms, connections or shear panels shall be made which would compromise the designed structural integrity of such elements without prior written approval from the Structural Engineer.
   - D. No fuel burning equipment located in garages.
   - E. All combustion equipment shall be directly vented with an outdoor combustion air supply.
   - F. All penetrations of fire assemblies shall meet the requirements of the building code and Section 7D
   - G. All HVAC equipment shall be approved prior to installation per nationally recognized standards and evidenced by listing and label of an approved agency.
   - H. Combustion air from outside shall be supplied to all fuel burning appliances.
   - I. Install air filters with a minimum efficiency reporting value (MERV) ≥ 10 and ensure that air handlers can maintain adequate pressure and air flow. Air filter housings must be air tight to prevent bypass or leakage.
   - J. All fixed appliances are required to be securely fastened in place. Provide seismic bracing or anchor unit to platform where appropriate.
   - K. Install centralized HVAC system equipped with additional controls to operate in dehumidification mode.
   - L. Condenser pad or compressor from ground must not be less than 3" above grade.
   - M. The General Contractor and Subcontractors shall be responsible for storing the materials on the site according to material supplier's or manufacturers' instructions. The materials shall be kept secure and protected from moisture.

## ELECTRICAL:

1. Scope:
   - A. Supply all labor, transportation, materials, etc. for installation of complete electrical system to operate according to the best practices of the trade and including but not limited to: Fixtures, appliances, wiring, switches, outlets, television jacks, services, grounds, temporary power, junction boxes, conduit, sub - panels, etc. All work, materials, etc. to comply with all requirements of all legally constituted authorities having jurisdiction including all County and State ordinances. Furnish and install electrical work complete and operable. Verify all material and installation requirements and limitations at fire and sound assemblies.
   - B. Provide rubberized asphaltic membrane materials at all penetrations of the water- resistive membrane at exterior walls.
2. Installation:
   - A. Provide separate circuits each for dishwasher, garbage disposal, refrigerator, washer, dryer, F.A.U. and microwave oven.
   - B. Switched outlets shall be ½ hot.
   - C. Bathroom and Service Room fans: Install local exhaust systems in all bathrooms and in the kitchen to meet the requirements of section 5 of ASHRAE Standard 62.2-2007. Design and install fan ducts to meet the requirements of section 7 of ASHRAE Standard 62.2-2007. Exhaust air to outdoors and also use ENERGY STAR labeled bathroom exhaust fans.
   - D. For every bathroom exhaust fan, install an occupancy sensor or an automatic humidistat controller or an automatic timer to operate the fan for a timed interval after occupant leaves the room or a continuously operating exhaust fan.
   - E. All fixtures, outlets, receptacles etc., penetrating fire assemblies shall be rated and installed to meet the requirements of the building code. Outlet boxes on opposite sides of fire assembly walls shall be separated by a horizontal distance of at least 24".
   - F. All equipment installed outdoors and exposed to weather shall be weatherproof.
   - G. Provide ground fault circuit interrupters, G.F.C.I., at all baths, garages, out door and wet area outlets. All branch circuits that supply 125 - volt single - phase, 15 and 20 ampere receptacle outlets installed in dwelling unit bedrooms shall be protected by an arc - fault circuit interrupter(s).
   - H. Each conductor of every system shall be permanently tagged in compliance with O.S.H.A
   - I. The complete electrical system shall be grounded in accordance with the presently adopted edition of the N.E.C., Art. #250. Ufer ground requires #4 copper wire, 20' - 0" long, embedded into concrete and provide bond to gas or water line.
   - J. Use only competent and skilled personnel and perform all work, including aesthetic as well as electrical and mechanical aspects to standards consistent with the best practices of the trade.
   - K. No alterations to the structural frame, diaphragms, connections or shear panels shall be made which would compromise the designed structural integrity of without prior such elements written approval from the Structural Engineer.

## PLUMBING:

1. Scope:
   - A. Supply all labor, transportation, materials, etc. for installation of complete plumbing system to operate according to the best practices of the trade and including but not limited to: fixtures, hot and cold water piping, exhaust flues, combustion air, gas piping, log lighters, drains, soil and vent piping, hot water heaters, pipe insulation, meters, valves, vaults, etc. All materials, work, etc. to comply with all requirements of all legally constituted public authorities having jurisdiction including all county and state ordinances. Furnish and install plumbing work complete and operable, including trenching and backfilling. Verify all material and installation requirements and limitations at fire and sound assemblies.
   - B. Provide rubberized asphaltic membrane materials at all penetrations of the water - resistive membrane at exterior walls.
   - C. Protect pipes from freezing. Place all water lines and waste lines within "conditioned" space and where approved thermal insulation is between "line" and unheated area.
2. Installation:
   - A. Roughing-in shall be completed, tested and inspected as required by code before closing -in with other work.
   - B. Openings in pipes, drains, and fittings shall be kept covered during construction.
   - C. Provide solid backing for securing fixtures. All fixtures to be set level
   - D. Provide cleanouts at ends of all lines and where required by codes.
   - E. Copper tubing shall be fully sweated to fittings.
   - F. Black iron and galvanized steel pipe joints shall be made with approved pipe thread compound.
   - G. Provide shut- off valves at each fixture.
   - H. Provide condensate line at each F.A.U location. Provide primary & secondary condensate line to an approved drainage receptacle at attic F.A.U locations.
   - I. Provide cold water line to refrigerator space in recessed box or in cabinet immediately adjacent to refrigerator space.
   - J. Isolate all piping from structure with fiber padding and at all penetrations with elastic caulking or sound isolators.
   - K. All vents to lead to outside air, where possible, locate all roof vents to rear side or ridges. Vents to terminate a minimum of 3'-0" from windows.
   - L. All horizontal A.B.S. piping shall be hung with approved hangers at 4' -0" on center minimum and spaced to permit expansion and contraction without hitting adjoining pipe. Vertical piping shall be supported at 8'-0" on center with wrought steel "U" straps securely fastened to building frame.
   - M. Provide air chambers at lavatory, dishwasher and clothes washer water connections. Set vertically as close to fixture as possible.
   - N. Provide ¾" tee for irrigation at main shut-off.
   - O. Provide water heater with pressure/ temperature relief valve and pan and drain line piped to the exterior of the buildings. All garage installation water heater shall be on a minimum 18" high stable platform.
   - P. All combustion equipment shall be directly vented.
   - Q. No alterations to the structural frame, diaphragms, connections or shear panels shall be made with would compromise the designed structural integrity of such elements without prior written approval from the structural Engineer.
   - R. All penetrations of fire assemblies shall meet the requirements of the building code. Provide elastomeric membrane materials at all penetrations of the water- resistive barrier of exterior walls.
   - S. Provide non- removable backflow device on all exterior hose bibs.
   - T. A 12" minimum access panel to bathtub trap connection is required.
   - U. Provide pressure regulator for water service where pressure exceeds 80 psi
   - V. Provide drain pan under washer with drain in laundry room and shut off valve if washer is located above living space.
   - W. If washer is installed on framed floor above living space, drill screw floor at 4" o.c and reduce spacing of floor truss.

**LUBULA D. KANYINDA**

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REVISION SCHEDULE:

PROJECT NAME:

DRAWING TITLE: C-1600 LDK

GENERAL NOTES

PROJECT NUMBER:

DATE:

DRAWN BY:

CHECKED BY:

SHEET #

# 0.1