

Universal Specifications – Green Construction

Prepared April 1, 2009

NHA Properties Inc
d/b/a Housing Nantucket

Table of Contents

Division 1 – General Conditions.....	3
Division 2 – Sitework	5
Division 3 – Concrete	6
Division 4 - Masonry	7
Division 5 – Carpentry.....	8
Division 6 – Thermal & Moisture Barrier	10
Division 7 – Windows and Doors.....	11
Division 8 – Finishes.....	12
Division 9 – Specialties	13
Division 10 – Furnishings.....	14
Division 11 – Mechanical	15
Division 12 – Plumbing	16
Division 13 – Electrical	17
SPECIAL NOTES (By Project).....	18

Division I -- GENERAL CONDITIONS

1. These specifications are in addition to any specific house plans, site plans or schedules.
2. Contractor must carry General Liability (\$2,000,000) and full workers' compensation insurance for all people employed on the jobsite.
3. Subcontractors employed must carry General Liability (\$2,000,000) and if they have employees, complete Workers' Compensation coverage.
4. Contractor will guarantee all work for a minimum of one (1) year from the date of substantial completion and acceptance of NHA Properties. Windows and glazing will be fully guaranteed for two (2) years. All window parts will be guaranteed for ten (10) years and glass will be guaranteed against seal failure for twenty (20) years. Roofs shall have minimum 25 year expected lifetime warranty.
5. All work specified herein and specified or shown on drawings shall conform to Massachusetts State Building Code, the national electrical code, and all other applicable codes and bylaws.
6. The Contractor shall verify all conditions and dimensions in the field and ensure compliance with surveyor's marks and plans.
7. If any work is ambiguous or unclear, contact the Owner or Designer before proceeding with work.
8. Unless otherwise indicated, details shown on drawings are to be considered typical for all similar conditions.
9. Work not included in contract is noted as "Not In Contract" (N.I.C.) or as specified "By Owner".
10. The Contractor shall be familiar with all drawings and specifications prior to bidding. Any discrepancies or contradictory information shall be brought to the attention of the Owner or Designer. Any variation or substitution of materials shall have prior approval of the Owner or Designer and be documented in writing.
11. The Contractor is responsible for obtaining all permits and payment of fees for permitting and approvals required to complete work. Contractor shall successfully complete all necessary inspections as required by the local building department.
12. Contractor shall inspect existing conditions of site and shall report any problems or concerns to the Owner or Designer. Site brush cutting and clearing for construction shall be done by the Contractor in accordance with plans or under direction of Owner.
13. Drawings should not be scaled. If dimensions are required contact the designer or owner.

14. All dimensioning on drawings are to rough framing unless otherwise specified.
15. Unless otherwise noted, project shall comply with LEED for Homes certification at Silver or Gold standard.
16. Designer, owner, and contractor will attempt, as much as possible, to specify/use energy and resource efficient systems and materials and will attempt to specify low-toxicity materials throughout.
17. For construction materials, Contractor will work with waste management firm to either site separate materials into individual containers or use general containers for commingled recovery. The following (including but not limited to) shall be processed and recycled: clean wood, gypsum board cut offs, cardboard packaging, metals, plastics, glass, etc.
18. The Contractor will have the premises professional cleaned at completion to prepare the building for occupancy, including complete house cleaning and window washing. Site shall also be cleaned of all site debris.
19. Contractor shall perform a 48 hour (total, may/may not be consecutive) pre-occupancy flush of house after all phases of construction are complete by keeping all windows open, running a fan, and doors open. Contractor shall replace any filters after flush.
20. Close out submittals shall include the following:
 - a. Operation and maintenance data and manuals including the following:
 - i. ventilation system / heating system
 - ii. water and plumbing systems
 - iii. electric power, telephone, and cable services
 - iv. lighting fixtures and light bulbs
 - v. appliances
 - vi. paint and finishes
 - vii. flooring and tile
 - b. Warranties
 - c. Keys and keying schedule (when appropriate)
 - d. Evidence of compliance with requirements of governmental agencies having jurisdiction, including occupancy permit
 - e. record documents
 - f. construction photographs of all roughed walls and ceilings prior to drywall, keyed to plans, in the form of "roughing books."
21. The Contractor shall orchestrate complete start up of systems and instruct Owner's personnel in the proper operation and routine maintenance of all systems and equipment, or have appropriate subcontractors do so.
22. The Contractor shall provide a punch list of incomplete work at the time of occupancy.

Division 2 -- SITEWORK

1. Site protections of existing landscape features to be determined and generally protect specific plants or natural features as required for their preservation during construction.
2. Strip off all top soil in affected areas, stockpile for reuse and reuse at final finish grading. Construction shall be done in such a way as to minimize site impact.
3. The Contractor shall be responsible for locating all underground septic, water and utility lines prior to any excavation. Relocate or accommodate lines if required.
4. A registered surveyor shall lay out building envelope for excavation and the batterboards for concrete work. The surveyor is to review new construction envelope and setbacks to ensure compliance with zoning bylaws.
5. Excavate for basement and deck footings as shown on drawings: If any unsuitable material is found, it must be removed and replaced with clean compacted fill (considered N.I.C.). Recycle found materials as necessary.
6. Provide level, compacted area as designated on drawings for driveway, walkways, and patio area as shown on plans, unless site topography dictates otherwise, and all paths shall not exceed a 1 in 20 slope.
7. Provide hardener and gravel or crushed shell area for driveway in general location shown on plans.
8. General Contractor to til 6" of soil in any location compacted by construction vehicles. Provide 4" depth of topsoil after finish grading in any disturbed areas. All landscape timbers, walls and final grade levels are to be provided. (All other landscaping/ hardscaping is to be provided by separate Landscape Contractor and Owner.)
9. A LP gas tank is to be installed when shown. If installed underground, delineation of tank on surface and barriers to ensure no driving is done over tank during construction. If installed above ground, a 4" thick concrete pad at grade is to be provided under tank and fencing to screen tank is to be installed.
10. Provide trenching and tie in to septic system or town sewer per engineered drawings.
11. Provide trenching and tie in to new well for water service, provide meters for each unit.
12. Electrical service shall be placed on building with separate meters for each dwelling unit.
13. All drainage shall be sloped away from the house and downspouts shall direct water at least 2' away from home when not tied to rain barrels.
14. All lawn and planting shall be drought-tolerant and limited to 20-40% of total site or less.

Division 3 -- CONCRETE

1. All concrete detailed on drawings shall use a permanent insulating concrete framework (ICF) or shall use 2 3/8" rigid insulation on interior of foundations (incl. crawl spaces).
2. All concrete mixtures and placement shall be in accordance with recommendations of the American Concrete Institute. When possible, use fly ash to as much as 30% of mixture.
3. Consolidate concrete surfaces by finish troweling, free from trowel marks, uniform in texture and appearance.
4. Begin initial curing as soon as free water has disappeared from exposed surfaces.
5. All sonotube footings are to be 12" diameter as specified on drawings and at locations indicated. Sonotubes are to be plumb and true to 48" minimum below grade. Provide appropriate footing as necessary
6. All new footings shall bear on undisturbed soil with min. bearing capacity of 3000 psf.
7. Footings shall be placed on dry, unfrozen soil. If rubble or other unsuitable material is encountered during excavation, remove and replace with compacted granular fill.
8. All concrete shall be quality controlled for not less than 3000 psf compression strength at 28 days of curing.
9. All reinforcing to be new billet steel conforming to ASTM A615, grade 60.
10. Provide 1/2" diameter x 14" long "J" type anchor bolts at top of foundation wall and footings for post bases, if necessary. ICF construction may vary. Ensure compliance with relevant building codes.
11. Top of footings to be level with each other to within 1/4" throughout.
12. Reinforce continuous foundation wall footings with (2) #5 rebar lap spliced 26" min. Provide vertical #5 rebar @ 48 " o.c.. Footings to be poured into 2x12 forms. (ICF Construction may vary.)
13. Provide (2) coats of waterproofing to exterior of foundation wall surfaces below grade.
14. Minimum basement slab is to be 4' thick with 6" sq. wire mesh reinforced throughout on top of 2" rigid insulation.
15. Slab is to be laid on waterproof membrane with a minimum of R-8 insulation value and 6" of clean sand or gravel. Provide expansion joints at all foundation wall.
16. Passive radon venting system with vent pipe to roof as necessary

Division 4 -- MASONRY

1. Work included; foundation walls (if not poured), boxed chimney flue surfacing as necessary, patio surfaces.
2. Masonry is to be cleaned using only approved methods.
3. Concrete masonry units to be C-90, hollow load bearing type, laid true and level. All CMU's shall have same finish texture.
4. Protect materials from weather. Do not lay block in temperatures less than 40 degrees F.
5. Provide durowall joint reinforcing @ 16" vert. Lap reinforcing 6".
6. If detailed on plans, metal chimney flue to be boxed with plywood at roof. Boxing is to be parged surface over wire mesh and ice and water protection membrane.
7. Patio surfaces are to be brick or concrete tile surface. Ensure installation provides for drainage and is detailed to not collect water near house.

Division 5 -- CARPENTRY

1. Work included; rough framing, interior partitions, interior and exterior trim, new areas of sheathing, exterior wall shingling, interior stairs, new decks, installation of doors and windows, all finish carpentry, exterior and interior trim, new flooring, all built in cabinetry and shelving.
2. Material sizes shown in drawings, framing materials to be spruce or fir, clean and seasoned stock. All wood shall be Forestry Sustainability Council certified or otherwise approved by Owner or Designer. See notes on framing plans and sections for specific rough framing specifications.
3. All framing shall use Structural Insulated Panels, Insulated Concrete Forms or 2x6, 24" O.C. framing (Advanced). Other framing options shall be approved by Owner.
4. There shall be no un-insulated cavities in the finished frame.
5. Plywood shall be low-VOC style, if possible, such as AdvanTech or PureBond.

EXTERIOR

1. Floor joists throughout are to be as noted on drawings. Any new 3/4" cdx plywood subfloors to be fully adhered to joists. Follow all relevant fastening schedules by code.
2. Sheathing on roofs and sidewalls to be 5/8" cdx plywood installed per manufacturers specifications.
3. All new exterior decking material to be to be 1 x 4 fir, mahogany or equivalent. Decking is to be hand selected, free of knots.
4. All sills, deck joists, posts and similar items in contact with masonry or concrete shall be factory pressure treated ACQ southern yellow pine.
5. Exterior door and window trim to be 5/4 nominal cedar, unpainted. Ensure that all trim is well seasoned before installation. All rakes, fascias, cornerboards, post and pergola members, soffits and other trim to be cedar. Cedar to be clear, free of knots. Roof trim to be 4/4 nominal cedar or equivalent.
6. Exterior porch ceilings to be 1 x 6 cedar " v-groove" tongue and groove if detailed on plans.
7. Exterior trim is to be uniformly nailed with stainless fasteners, joints to be well matched with uniform cuts.

INTERIOR

1. All kitchen and bathroom cabinetry to be designed and color specified by Owner. Cabinets to use FSC certified woods. All cabinets to use low-VOC plywoods and materials.
2. Cabinetry and kitchen counters are to be as drawn and specified. Countertops shall be no-VOC or urea-formaldehyde free. Preference shall be given for “PaperStone,” concrete, bamboo or Formica kitchen counter tops with no-VOC plywood substraight.
3. See drawings for configuration and locations of all finish built-ins, shelves, and other cabinetry. If possible, use FSC certified woods. .
4. All closets to be finished with wood shelves and wooden rail.
5. Stairs as shown on plans must meet all applicable building codes including rise, run, width, and headroom configuration.
6. New stair treads to be 5/4” bamboo, FSC oak, FSC maple, or FSC ash, stained for main stairs. Risers to be of pine, designed as shown. Wall mounted handrail to match stairs. Stairs for basement or utility spaces shall be southern yellow pine with southern yellow pine railings.
7. Interior window and door trim is to be painted composite board, popular, or pine. All new window and door trim to be molded stock jamb casings and head casings mitered at corners. Interior window sills to be 3/4” bullnosed composite board, popular or pine.
8. Baseboard mouldings are to be 1x6 pine with moulded cap.
9. 1/2” “durock” or equal cement board shall be used under all tiles (bathroom floor, tub and shower enclosures) without paper backing and 5/8” adx/bdx plywood under all linoleum.
10. Install 1/2” plywood layer behind all shower walls
11. Install solid blocking in walls around all toilets and tubs for future grab bars.

Division 6 -- THERMAL AND MOISTURE PROTECTION

1. Wall, ceiling, and roof insulation is to be specified in plans and sections. Thickness to *exceed* energy codes, exterior walls minimum of R28, Attics minimum of R49, Crawlspace minimum of R19, Floors minimum of R 25. Insulation is to be installed in walls between units for sound deadening. Ridge or soffit venting shall be installed based on insulation type selected.
2. Roof shingles to be asphalt 3 Tab in color specified by Owner. Install as per manufacturer recommendations. Install over #30 lb. building paper with galvanized steel nails. Provide (2) layer starter course at all eaves and drip edge.
3. New sidewall shingles to be white cedar, clear grade B, approximately 5” to weather over rain screen, drainable mesh. Install with galvanized shingling nails per manufacturers recommendations. Install “ice and water” splines at all new wall openings. Provide flashing at openings and corners as required.
4. Flashing material shall be 10” copper at roof. Flashing material to be 10” copper at all new window and door openings and at deck and wall connections.
5. Weatherstrip all operable doors, factory installed if possible.
6. Sealant around windows shall be low or no-VOC materials as required for weathertight joints in accordance with manufacturer’s recommendations. Seal all windows, doors, vents, outdoor air ducts, etc to their rough openings with low expansion polyurethane foam. Sealants shall meet Rule 1168 of the South Coast Air Quality Management District and regulation 8/rule 51 of the Bay Area Air Quality Management District and may not exceed 250 grams of VOC per liter of coating as thinned to the manufacturer's maximum recommendation, excluding the volume of any water, exempt compounds, or colorant added to the tint bases.
7. Seal all utility penetrations through exterior walls and ceilings with either low expansion polyurethane foam or acoustical sealant, depending on the size of the hole to be filled. As a guideline, use foam for gaps or holes with a minimum dimension of 1/4”, acoustical sealant for smaller gaps or holes. Seal the copper flange of the plumbing stack boot to the air barrier with acoustical sealant if not using an internal vent. Foam shall be termite resistant.
8. Building will be blower door tested upon completion of the drywall and will be expected to have a natural infiltration rate that does not exceed 10 air changes per hour.
9. Insulate exposed hot and cold water mains with closed cell polyethylene slip on pipe insulation, sized to fit the pipe's diameter. Seal seams with either 5 mil pipe insulation sealing tape or cluster clips designed for pipe insulation placed every 4 inches. Seal all butt joints between sections of pipe with 5 mil pipe insulation sealing tape.

Division 7 -- WINDOWS AND DOORS

1. Windows and doors are to be provided per schedule on drawings. Screen/storm doors shall be cedar, fiberglass or aluminum to match exterior paint colors. Exterior doors shall be insulated fiberglass with an R2.8 or higher rating or solid wood as specified by owner.
2. Windows shall be double glazed windows, clear, argon filled, double low-E coating, insulated glass, simulated divided light (exterior grills), thermal spacer bars. All patio doors or side doors (6 or 9 light) shall be double glazed.
3. Extension jambs are to be provided on all areas of construction that employ 2 x 6 exterior wall framing. Window/patio door pairs to be factory pre-finished in color specified by owner and permanently applied exterior grills.
4. Weatherstrip all exterior doors, factory installed where possible.
5. New interior doors to be 1 3/8" thick x 6'-8" high x width noted on drawings. All interior doors to be Morgan 2 or 4 panel type, in pine. Hardware should be Schlage Jupiter, US10B finish oil rubbed bronze or equivalent knobs or levers.
6. Install aluminum screen units for all new double hung windows. Install all interior grills on windows and 15 light doors.
7. Install hardware on sashes if not factory installed. All new double hung windows are to receive sash locks to match existing.
8. Ensure compliance with wind impact codes – such as pre-numbered plywood inserts or windows that meet impact resistance level – if necessary under wind zone map. (See Building Commissioner.)

Division 8 -- FINISHES

1. All new walls and ceilings to be 1/2" "blue board" with 1" skim coat plaster; or sheetrock taped and prepared. See Owner for finish colors.
2. Allowances for painting are to be included. All joints and fastening areas to be properly taped, mudded, sanded, and smoothed.
3. All hardwood flooring to be bamboo or other rapidly renewable resource; or oak, birch or ash meeting FSC certification. Color and finish to be determined by owner. Wood floor shall receive three coats of water based with satin top coat if specified by manufacturer.
4. All linoleum surfaces, as detailed on plans, shall be natural linoleum / marmoleum.
5. All carpet, as detailed on plans, shall be recycled content nylon or polypropylene (such as Shaw or Mohawk) or natural wool. Carpet shall only be used for bedrooms. Carpet cushion should be Endurance II by Shaw or equivalent. Carpet should meet Carpet and Rug Institute Green Label certification. Stretch carpet to eliminate puckers, scallops and ripples. Include tackless strips, metal edge strips and mending tape to cover entire floor including closets.
6. Carpeting shall not be installed closer than 3' from any exterior entry, or as noted on plans.
7. Provide all shelves, cabinets, pegs, etc., as shown on drawings. Colors selected by Owner.
8. Interior painting shall include all rooms and areas. All painted walls and ceilings are to receive one coat Benjamin Moore vapor barrier primer/sealer paint #06000 and two coats of latex flat finish color using low-VOC or no-VOC paint (such as Benjamin Moore Pristine Eco-Spec), one coat on ceiling. Paints and primers shall meet the Green Seal G-11 Environmental Standard.
9. Interior trim shall be stained and sealed with waterborne polyurethane or sealed and painted with low or no-VOC paints or stains. All edges to be sanded and finish nailing is to be set.
10. Interior trim to be composite, popular or pine throughout. Trim to be moulded stock as specified. Baseboard moulding to be as specified.
11. Exterior decking to be 1 x 4 fir or mahogany. Decking direction as shown on plans.
12. See finish schedule for all room by room finishes.
13. All paint colors selected by Owner.

Division 9 -- SPECIALTIES

1. Provide chrome towel bars, hooks, and paper dispensers to sizes and locations determined. (See special note in carpentry for grab bars.)
2. Provide new mirror / medicine cabinet combinations where shown. Medicine cabinets are to be recessed in wall above bath vanity.
3. Showers to be fitted with expansion type shower rods and vinyl curtains. Owner to select cabinet pulls for all bath vanities and installed by Contractor.

Division 10 -- FURNISHINGS

1. All cabinetry in baths and kitchens is to be installed true and level.
2. Kitchen counter and backsplash are to be "PaperStone," concrete, bamboo, FSC hardwood or formica surfaced, unless otherwise specified by plans.
3. New bath vanity top, to be sized per drawings, style and color to be by Owner. Provide 4" backsplash to match.
4. All new kitchen cabinetry heights to be as shown on drawings, standard where possible. Counter height to be 36". Cabinets should meet Kitchen Cabinet Manufacturers Association Environmental Stewardship Program at minimum or be constructed out of rapidly renewable resources. All plywood/particleboard components shall meet ANSI A208.1 for formaldehyde emission limits or all exposed particleboard edges shall be sealed with a clear low-VOC sealant or have factory-applied sealant prior to installation. Install pulls and knobs on all doors and drawers even when routed finger grooves exist.
5. All new cabinetry shall be installed plumb, level, and square. All doors, drawers, and other moving parts shall be adjusted and in proper working order. All doors shall have concealed European type hinge hardware and magnetic catches to match existing, unless otherwise noted. All drawers and pull-outs to have roller bearing tracks.
6. All new appliances are to be as follows, selection by Owners. Provide allowance for purchase and for installation. New kitchen appliances to be ordered in color specified by Owner. All new and existing appliances must be fully tested after installation. Provide Owner with breakout price for total of all appliances.
 - a. Refrigerator/Freezer: Energy Star, 18 c.f., at least 30" wide
 - b. Range/Oven: 30" wide, elec., self-cleaning, under glass elements
 - c. Microwave/Hood: Energy Star, 30" wide, exterior vented, 150 cfm
 - d. Dishwasher: Energy Star, Sound insulation, 24" wide
 - e. Washer (if installed): Energy Star, front load, knobs at front
 - f. Dryer (if installed): Energy Star, LP gas or electric
2. All cabinets, shelves, and millwork are to be built as drawn and finished as specified.
3. Hardware to be Schlage. All 15 lite exterior doors are to receive handle type keyed hardware. Hardware to be brass finish, keyed knobs or levers on all other exterior doors.
4. All interior doors to have round style knobs or Schlage levers, all bathrooms to have privacy type handles. Door bumpers and hinges to match.
5. Stair handrail is to be wall mounted with brass wall handrail brackets.

Division 11 -- MECHANICAL

1. Heating system preference is geothermal heat pumps, solar assisted thermal underfloor, or L.P. gas using 82% (or higher) efficiency or higher direct vent heat source. Forced hot air using 82% or higher efficiency unit will be accepted after approval by Owner.
2. Domestic hot water shall use wall hung direct vent on demand water heater, propane fired, closed combustion, with a minimum 7 gallon per minute flow rate. Include pressure and temperature relief valve, discharge tube to within 6" of floor, and all venting piping. Provide separate electrical circuit and gas inlet and water inlet and outlet shut off valves. If located in basement, discharge shall be directed toward a drain; if in upper floors, install a catch pan drained to exterior.
3. Provide minimum 80 cfm Fantech or Nutone exhaust fan / light unit (Energy Star rated) in bathrooms for proper venting with 20 minute or programmable timer or humidistat vented to the exterior. Vents shall be placed to provide for whole house air flushing.
4. Heat Recovery Ventilators shall be installed as noted on plans and connected to exhaust fans as necessary.
5. Insulate around vent units for further sound deadening.
6. Provide plumbing vent stacks with copper roof flanges through roof.
7. Clothes dryers to be located in laundry closets and vented through exterior walls, if installed, with rigid materials (no flex duct).
8. Provide Energy Star thermostats, one for each new zone as shown on electrical plans. If noted, provide for whole house energy monitoring system as part of thermostat system.
9. Duct kitchen range hood directly through exterior wall of kitchen. Include metal vent with all seams sealed with duct mastic and roof or wall cap/damper assembly flashed appropriately for the exterior finish.

Division 12 -- PLUMBING

1. All plumbing work must conform to all state and local building codes.
2. Provide piping and connections for water supply to new fixtures on as required on drawings. Supply piping shall be pex type piping and drain and waste to be PVC as permitted by code. Supply piping shall be located inside insulation when in exterior walls.
3. Code requires shut off valves at supply to every fixture and mixing valves to all toilets. Provide as necessary.
4. All new toilets are to be with 1.28 gal/flush (or EPA WaterSense). (Kohler or equal, 1.28 gal flush, upright tank, color; white or equivalent) If dual flush is required, TOTO Aquia CST414M or equivalent.
5. New faucets and mixing valves are to be installed throughout. All faucets are to be EPA WaterSense and/or with low-flow aerators. (Delta Leland Mini-Widespread, 4578-LHP H277, Chrome or equivalent).
6. See Plumbing Brass schedule for all faucet/shower valve types and finishes. Purchase and installation of these is considered to be in contract.
7. If required, all drain, waste, and venting piping to be PVC as permitted by code, with copper outside of roof plane. Roof vents to employ copper roof flashing kits. Add frost free sill cocks as noted on drawings.
8. Tub/shower units to be fiberglass Kohler K1582 Veracruz or equal. Mixing valves to be Symonns # 96-2 temptrol valve, shower head, and tub spout. Ensure mixing valves that have been designed, tested, and verified to function safely at the reduced flow rate. Showerheads should be low-flow <1.75 gpm (i.e. Kohler, K-10240-CP, 1.75 gpm Forte, chrome). Ensure mixing valves can handle low flow fixtures.
9. Bath vanities to have integral oval sinks in composite tops, 22 x 43 with integrated bowl or equivalent.
10. Kitchen sinks to be Elkay, or equal, 25"x22" stainless steel w/ hole for single control faucet; separate spray to be determined by Owner. Faucets to be Delta gooseneck single control, washerless, with 15 year drip free warranty and maximum flow rate of 2 gpm (Delta 470 or similar) chrome; separate spray hose to be determined by Owner.
11. One laundry hookup to be provided in basement or location to be determined by plan.
12. Provide chase, piping, or similar for solar retrofit on south facing roof.

Division 13 -- ELECTRICAL

1. All electrical work shall comply with all state, local and national building codes. Refer to Electrical plans for fixture locations.
2. Provide temporary service as required for construction. Include price in overall budget, including trenching and excavation.
3. Provide all new electrical lines to new electrical panels. Ampere service for each panel is to be 150 Amp. Provide separate exterior electric meters by National Grid. Panels to be installed on units or in shared common space, not visible to the surrounding properties.
4. All lighting fixtures – interior and exterior – to be Energy Star rated with ability to accept Compact Fluorescent Lamps or LED style recessed lighting as detailed.
5. Wiring devices shall be Leviton or equivalent, color, white. All receptacles shall be three prong, grounded, color white. Provide ground fault interrupter receptacles in bathrooms and at kitchen per code. Exterior receptacles shall be water proof, with cover plates. Provide Lutron S603-P slide type dimmers where shown, color to be white, wattages as required, unless controlled by whole house automation system.
6. All outlets on exterior walls to use Lessco poly pan boxes.
7. Light switches to be located between 36” and 44” above floor with each touch rocker switches and programmable thermostats 48” maximum above floor.
8. Connect all new appliances and equipment in accordance with manufacturer’s recommendations. Test all equipment after installation.
9. Smoke and CO detectors shall be hard wired and located as shown on plans.
10. Provide emergency disconnect switch for heating systems, as necessary.
11. Provide CAT 5 cable at each unit, 1 jack per room except bathroom. Provide TV and cable jacks – 1 per living room, 1 per bedroom. Provide one telephone jack per room except bathroom. All telephone and cable lines to be home run.
12. Provide utility lighting in closets as required.
13. Provide 220v service for location of clothes dryers and kitchen stoves.
14. Provide bathroom mirror lighting as shown. Owner to select fixture. See notes 3 & 4 in ventilation for bathroom fans.
15. Provide chase and/or wiring to allow for solar PV or wind retrofit.