Architects are responsible for orchestrating the combination of a complex kit of parts into a sensible whole - your home. We organize the systems of building into 16 general categories, which span the full complement of services and systems that will make up your home.

By grouping the systems of building in this way we're able to neatly catalog all of the disparate components that go into the making of a home. This not only helps to organize our thinking and ensures we don't leave anything out, but it results in a document we call the `specifications'. This is the equivalent of an ingredient list in a recipe and describes to the contractor the exact things we're expecting them to use in construction. The contractor will reference this, along with the floor plans and drawing set each and every day. They'll rely on it early on when developing pricing handing it to each subcontractor and trade. This is another benefit - each trade can look to their specific subsection (electrical for example) and understand immediately the scope and nature of the project without having to develop a long list of questions.

When seeking multiple prices, this set of specifications is key to making sure each trade is pricing exactly the same thing. You don't want one electrician pricing one type of light and another pricing a different type of light - you won't be able to accurately compare their pricing.

This checklist provides the foundation of those specifications. It's general in nature, but it's also granular enough to give you a sense for the level of decision making that's required when embarking on the design of any project. A full set of specifications would expand on each one of these categories to describe how the materials are to be stored and installed along with exact product numbers and key features.

So, here's the checklist - good luck with your project, please let me know if I can help.

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START HERE:

1. SITE (See this tutorial on the building site.)
    a. The first task is to understand the basic site conditions that govern the feasibility of the intended project. There's no sense in conceptualizing a project constrained by a prohibitive location or existing structure. Renovation projects will differ from new construction in their details but they share similar elements.
    b. Existing building
        i. Zoning / Code analysis - determine what's possible.
        ii. Existing conditions survey (develop digital plans of existing structure)
        iii. Engineering survey as req'd
        iv. Site / Building analysis - determine the opportunities
    c. Undeveloped Land
        i. Zoning / Code analysis
        ii. Development restrictions (covenants, wetlands, easements, etc.)
        iii. Site analysis - define opportunities and candidate building sites, access points, etc..

2. BUDGETING (What does it cost to work with an architect?)
    a. Soft Costs
        i. Architecture Fees: 10-15% of construction budget for full services (can be financed) (What are Full Architectural Services?)
        ii. Consultant Fees (engineer, lighting, energy, surveyor)
    b. Construction (Hard) Costs
        i. New Construction: $250 - $350+/SF (2015 Maine Custom Design Costs)
        ii. Renovated Construction: $250 - $350+
            1. These costs include everything in the category list below.
            2. Utility Infrastructure (water, septic, power, communications)

3. Site Preparation (demolition, driveway, clearing, rough grading)
4. All materials, labor, fixtures, and fittings that comprise the home.
5. Waste removal
6. Temporary power / facilities
7. Final cleaning

c. Landscaping (final grading, hardscape, plantings)
d. Permitting costs
e. Site acquisition costs
f. Financing costs

3. PROGRAM SIZE (What size home do I need?)
   a. Project inception: we know very little about the final design or details so we make SF (square footage) cost assumptions based on overall project scope and size. As the project becomes more well-defined we solicit actual cost feedback from contractors to hone in on actual construction cost.
   b. Always use project budget to determine SF size of the project. This doesn't work in reverse.
   c. Construction Budget / SF cost = # of SF you have the budget to construct
      i. $500,000 / $250 per SF = 2,000 SF house
      ii. $500,000 / $350 per SF = 1,400 SF house
      iii. SF cost to use is determined by many things but mostly quality level and complexity.
         1. High quality + complex = $350+
         2. Good quality + simple = $250

4. DESIGN - Divided into 6 basic phases:

    Pre-Design

    Schematic Design

    Design Development

    Construction Documents

    Bidding + Negotiation

    Construction Observation

    See this article for a full description of each phase.

5. ROLES IN DESIGN + CONSTRUCTION - see this article for a detailed description. The Owner has a contractual relationship with the Architect, and a separate contractual relationship with the Contractor.

    a. Architect
        i. Subconsultants
        ii. Observes construction but has no contract with the Contractor.
        iii. Role during construction is to represent the interests of the Owner.
    b. Contractor
        i. Subcontractors
        ii. Contract with Owner. Owner doesn't have a contract with the Subcontractors.
    c. Owner
        i. Separate contracts with each major party.

1 GENERAL CONDITIONS

☐ PROJECT INFORMATION / TEMPORARY FACILITIES / WASTE MANAGEMENT / PRODUCT STORAGE + HANDLING / SPECIAL PROJECT PROCEDURES

A compilation of the general parameters of the project.

2 SITE

☐ DRIVEWAY

Topping materials, base materials

☐ UTILITIES

Power, Septic/Sewer, Phone, Cable, Internet, Water (city/well), dedicated fuel supply for any standby generator.

☐ EXCAVATION/FILLING/GRADING

Where to store material (if site is tight)

☐ BLASTING

If ledge is present or common in your area

☐ DRAINAGE

Subsurface: Foundation Drains, Curtain Drains, Site de-watering

Surface: Swales, ditches, positive drainage around house

☐ RADON CONTROL

Plan for this in your foundation if radon is prevalent in your area.

☐ LANDSCAPING

Lawn, steps, pathways, lighting, terraces., stone /retaining walls

CONCRETE

☐ FOUNDATION

Include forming for integral bulkheads and any deck support piers, walls, retaining walls.

☐ SLABS

Finished slabs in living areas or exposed.

MASONRY

☐ FIREPLACES

Finished surface materials interior /exterior, chimney cladding, firebox materials, hearth materials.

☐ UNIT MASONRY

Brickwork/Blockwork

☐ STONE FINISHES

Countertops, retaining walls, terrace materials.

METALS

☐ STEEL

Structural steel can be included here, enlist the help of an engineer to size any beams.

☐ DECORATIVE METAL WORK

Metal accents, handrails, guardrails, etc.

WOOD

☐ FRAMING LUMBER

Describe any special framing members you require here. If you'd like to use engineered lumber (TrusJoist or Boise Cascade floor joists) or Laminated Veneer Lumber (LVL), or Parallel Strand Lumber (PSL) call for it here. The benefits of these are that they're stronger and don't shrink the way regular wood stud framing members do and over time they will much more stable.

☐ PLYWOOD/OSB

Describe preferences for use of these materials here.

☐ ARCHITECTURAL WOODWORK

Interior/Exterior trim, walls, ceilings, paneling, flooring, decking, wall caps, counter surfaces, siding, paneling.Be specific about window, door, baseboard, and decorative trim profiles; thickness, type and finish required (painted, clear finished, oiled, sealed, primed, unfinished).

☐ STAIRS

Treads, handrail, construction type (open riser, boxed riser, custom). Don't forget your basement stairs too.

☐ CABINETRY

Describe all units, construction, locations, hardware (slides, pulls, knobs)

THERMAL + MOISTURE PROTECTION

☐ INSULATION

a) Type (fiberglass, denim, closed cell foam, blown-in batt system, rigid insulation, hybrids).

b) Describe the R-value expected (call for `cured R-value' when using foam),. Each location will have a different R-value required (Roof/Walls/Floors/Basement Walls/Under-slab), check your State's energy code.

☐ MOISTURE PROTECTION

Vapor barriers/retarders:	Roof/Walls/Floors/Ceilings/Under-slab
Flashing:	Metal, membrane (peel + stick), rubber flashings
Waterproofing:	Foundation walls, decks above/adjacent to living spaces

☐ EXTERIOR WALL FINISHES

Siding, trim, soffits, exposed foundation, veneers.

☐ ROOF FINISHES

Flat roofs, pitched roofs.

☐ SEALANTS
Caulking: Latex, silicone.

DOORS + WINDOWS

☐ EXTERIOR DOORS / WINDOWS
Manufacturer, Size, Type (French, Sliding, Inswing/Outswing) Material (Clad/Wood), Finish, Color(s), Glass type, Hardware.
Access doors, roof hatches, bulkhead doors.

☐ SCREEN DOORS
Wood, clad metal (integral with exterior doors), custom.

☐ INTERIOR DOORS / WINDOWS
Manufacturer, Size, Type (Pocket, Swing, French, Glazed)
Shower doors (swinging glass, sliding glass)

☐ HARDWARE
Knobs, levers, locks, deadbolts, sash lifts, locks,

☐ SKYLIGHTS
Deck mounted, curb mounted, solar powered, electric.

FINISHES

Think of all of the surfaces in your home and list them here along with their expected finish. Some basic categories are:

☐ WOOD
☐ GYPSUM BOARD
☐ TILE
☐ CABINETRY
☐ PAINT
☐ COUNTERS / STONE

SPECIALTIES

☐ SHOWER ENCLOSURES

Glass (clear, etched, cast), hardware, pulls, knobs, towel bars.

☐ MANUFACTURED FIREPLACES / WOOD STOVES

Manufacturer, size, specifics.

Specialized chimney systems (insulated flues, exterior flashing kits, caps)

☐ VENTILATION GRILLES

Exterior grilles, dryer vents, air intakes, exhausts, tank-less vent terminations.

☐ ACCESSORIES (KITCHEN + BATH)

Towel bars, soap dishes, robe hooks, soap dispensers, hooks, flatware organizers, spice trays, pull out racks, trash/recycling bins, medicine cabinets.

☐ SPECIALTY HARDWARE

Murphy bed, specialized brackets, fittings.

☐ STAIRS

Special construction, wood, steel, glass. Pull-down attic access stairs. Handrails, brackets, newell posts, ballusters, guardrails.

EQUIPMENT

☐ APPLIANCES

REFRIGERATOR/FREEZER/DRAWERS
WINE COOLER/BEVERAGE COOLER
RANGE/COOKTOP
VENTILATION HOOD
DISPOSAL
TRASH COMPACTOR
WARMING OVEN
STEAM OVEN
MICROWAVE/MICROWAVE DRAWER
DISHWASHER/DISH DRAWERS
WASHER/DRYER/PEDESTALS (DUCTWORK, OX BOX, DRYERBOX)

☐ CONVEYING SYSTEMS
Elevator, Lift, Dumbwaiter

MECHANICAL SYSTEMS

☐ PLUMBING SYSTEMS
Supply, waste lines, well pump (if req'd), sewer piping, vent stacks, water line insulation.

☐ PLUMBING FIXTURES
Lavatories, pedestal sinks, toilets, sinks, faucets, drains, pot fillers, shower sets, tub spouts, hand-sprays, showerheads,

☐ VENTILATION
Exhaust fans, island hood, ceiling fans.
Whole house ventilation system (specify supply/return outlets), to provide minimum .3 ACH (air changes per hour)

☐ HEATING SYSTEM
FUEL: Geothermal, Solar, Oil/LP Gas/Natural Gas, Wood, pellet, Electric.
DELIVERY: Radiant, hot water baseboard, thermal mass.
ZONES: Specify number of heating zones & Thermostat type/locations

☐ DOMESTIC HOT WATER
Tank-less heaters (fossil fuels/electric), solar, geothermal, boiler-mate (paired with heating system), electric storage tank.

ELECTRICAL SYSTEMS

☐ ELECTRICAL SERVICE + DISTRIBUTION
Determine service panel requirements based on house loading (200/400amp)
Overhead/buried power (as required)

☐ ELECTRICAL CONTROLS, DEVICES, + TRIM
Devices (switches, receptacles,, color, type, dimming/no dimming)
Wall plates (interior / exterior)
Floor receptacles (as req'd)

☐ LIGHTING

List all fixtures, model numbers, type and location.

☐ COMMUNICATIONS

Phone, Internet, Intercom, Satellite, Home Intranet, Cable.

☐ SECURITY SYSTEM

Basic, advanced, monitored, passive. Door/window contacts, glass break detectors, motion detectors, smoke alarms, low temperature sensors, Carbon Monoxide detectors, heat detectors.

☐ GENERATOR

Whole house or partial load (requires a separate subpanel), determines size of genset.
Specify automatic transfer switch, manual transfer switch.
Fuel for generator.

☐ MISCELLANEOUS ELECTRICAL EQUIPMENT

Whole house surge suppression system (installed at the panel).
Lightning protection system.