

Step 1 - the building program

Simply put, this is a written description of the rooms and spaces within the home. You list the rooms, describe their function, how many people may use the space, what is its approximate size and area. Finally, show if it relates to another room or space and how it is accessed (through another room or off a corridor).

Examine the rooms in your present home and identify how they work and if they need to be larger, how much larger? Kitchens and baths are sized basically on how many appliances or fixtures they will house.

Add up the areas you have established, add around 20% for general circulation and about 8% for partition walls and you now have an approximate square footage for the home, a good starting point.

ROOM OR SPACE	FUNCTION & FEATURES	SIZE	AREA (SQ. FT.)	RELATES TO:
GREAT ROOM	GENERAL LIVING, TV ROOM FIRE PLACE, COMFORTABLE TO SEAT 8, VIEW TO LAKE AT REAR	16 X 20	320	ENTRY, DINING KITCHEN & SUN ROOM
KITCHEN	LARGE W/ ISLAND & PENINSULA, 2 WALL OVENS, W.I. PANTRY - 2 SINKS			
DINETTE	ROUND TABLE SEATS 4 ROOM FOR PLANTS			
DINING	TABLE SEATS 8 CHINA CABINET & SIDEBBOARD			
ENTRY				
MUD ROOM				
MASTER BED ROOM				
BED ROOM				
BED ROOM				
BATH				
MASTER BATH				
W.I. CLOSET				

EXAMPLE

Step 2 - The building concept

Your home design is a living thing, it grows from simple beginnings, is carefully nurtured and can mature into a thing of beauty. Sometimes it won't work and needs a lot of help developing, it may even have to be discarded to try a fresh approach.

You may have some idea on a finished shape as inspired by a design style or existing structure. Or you will be forming a design on one of these two principals:

form follows function

Usually the design principal behind a contemporary styled home. You can almost put this together like a paper doll, cut out the room sizes and shapes and shuffle them around till they fit your idea. From this you can sketch out a basic plan for your next step in the process. This can produce a dynamic design but can also foster some difficulties in establishing the structural solution to the building. Form follows function allows for ultimate freedoms in design.

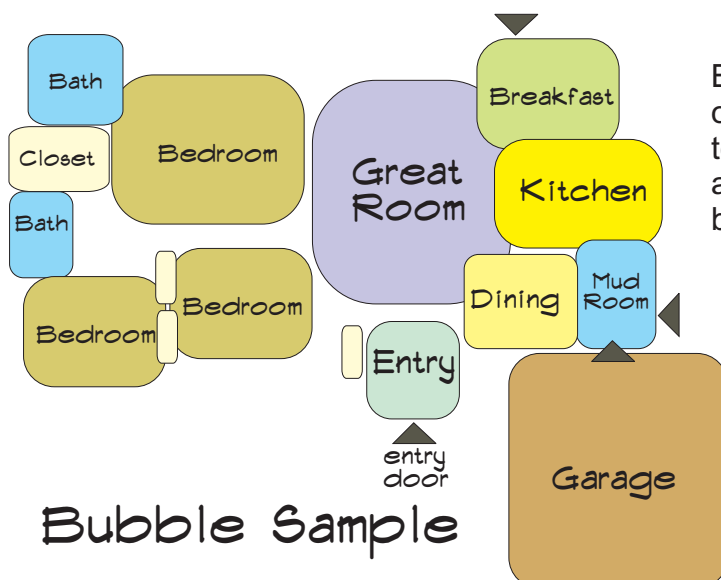
function follows form

This is the design principal behind many traditional styled homes. Homes of this nature follow some definite rules of room placement and follow a distinct architectural style. The design usually contains symmetrical elements where the entry could be a central focal point and all other spaces may radiate from that point.

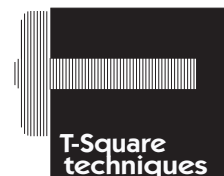
You will be more or less force fitting your plan into a final, predetermined shape of the home. Sketch out that shape and work the rooms into it.

for design tips and rules of thumb see:

HOMEPRO



Bubble diagramming is a method of organizing your room and spaces prior to forming a scale drawing of the overall arrangement. From these humble beginnings - a house is formed.



Step 3 - the preliminary plan

With the design principals chosen and the space planning established you need to think about working a plan to scale. That is - drafting, but this is still a simple step to take but one that may require a bit of skill with a pencil.

Graph paper (quad ruled) works quite well, sketch paper over quad ruled is better. With the semi transparent sketch paper (available from art stores and some stationary box stores) You can produce a number of versions of your plan. Sketch paper saves erasing when the drawing isn't quite right, place another layer of sketch over top, trace what you like and redraw what you don't like. Remember to **include or allow for the thickness of walls** in your design work, always.

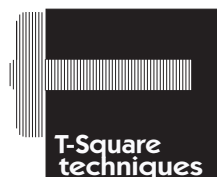
The other alternative is to use a DIY home design software package. We recommend the Better Homes and Gardens - Home Designer package, for it's ease of use with a good degree of accuracy. Files produced with this program are compatible with our design software. You will spend about 12 to 18 hours learning the basics of the program. Once you have that, it is a blast to work with.

When you become satisfied with your preliminary design, you can send it to us for evaluation and a quotation for our work to complete this to a build able stage. If you become frustrated at any stage but still wish to have a custom design for your home, we can take over design tasks any time after your building program is completed.

Step 4 - preliminary planning - by T-Square techniques

Check out our design portfolio and see the samples of our work. We have been active as a virtual design firm producing designs for homes in several countries for over 15 years. No matter where you are , we can communicate our designs to you.

Upon receipt of your design ideas and any sketches you can provide, a quotation for services will be sent back promptly. With your approval of this - we can have a first draft design back in as little as 72 hours. (That's just 3 days!)



See the budget estimator on our web site and after inputting the data required, you will have an estimated cost for the building materials package for your home. At this time the program is calculating materials only, not labor. The following is the list of materials covered in the budget estimate.

100 PRE CONSTRUCTION COSTS

200 SITE WORK

300 CONCRETE WORK

- 310 FOOTINGS
concrete & re-bar, cribbings, through footing drains
- 320 CONCRETE WALLS
concrete & re-bar, floor joist ladder material, 4" perforated drain, foundation damp proof coating
- 330 GRADE BEAMS
concrete & re-bar, beam void form, pile cap forms, rigid insulation
- 340 CONCRETE FLOOR
concrete, 6 mil polyethylene, 4" non-perforated drain line
- 350 SPECIALTIES
sump pit, pump & drain kit, interior wall strapping, adjustable posts with plates

400 MASONRY WORK

- 410 MASONRY MATERIALS
4" brick veneer feature, mortar, flashing & ties

500 CARPENTRY WORK

- 510 FIRST FLOOR FRAMING
pre-engineered floor joists & rim board, pre-engineered floor beams, OSB t&g subfloor, #2 SPF studs & plates, OSB wall & gable sheathing, 2x10 #2 SPF lintels
- 520 SECOND FLOOR FRAMING
pre-engineered floor joists & rim board, pre-engineered floor beams, OSB t&g subfloor, #2 SPF studs & plates, OSB wall & gable sheathing, 2x10 #2 SPF lintels
- 530 GARAGE WALL FRAMING
#2 SPF studs & plates, OSB wall & gable sheathing, 2x10 #2 SPF lintels, Overhead door lintel, frame & brickmold, 2x6 bucks
- 540 ROOF FRAMING
pre-engineered roof truss & gable ladders, 2x6 #2 SPF fascia, OSB roof sheathing & clips, 24" air chutes
- 550 SPECIALTIES
sill plate gasket, silicone caulking, subfloor adhesive & screws, top plate backing, pocket door frame

600 EXTERIOR MATERIALS

- 610 EXTERIOR WALL FINISH
air barrier paper & tape, vinyl siding
- 620 WINDOWS
pvc sliding & fixed, double glazed with argon gas, basement PVC slider
- 630 EXTERIOR DOORS
steel insulated 6 panel prehung doors, single sidelite entrance, PVC patio door, lock sets, dead bolts, door closer
- 640 ROOFING, SOFFITS & RAIN WEAR
25 year asphalt shingles, eave protection, aluminum fascia, troughing & downspouts, soffits, roof vents, flashings
- 650 OVERHEAD DOOR
steel insulated panel door, ½ hp door opener, remote control
- 660 SPECIALTIES
exterior acrylic caulking, flashings

700 INTERIOR MATERIALS

- 710 BATT INSULATION
R-20 exterior wall, R-20 cantilevered floor, R-40 attic, R-12 basement wall
- 720 VAPOUR BARRIER
6mil CGSB poly, vapour barrier sealant
- 730 DRYWALL / SHEETROCK
1/2" standard walls, 5/8" ceilings, 1/2" moisture rated at tubs, joint filler, tape, corner bead, drywall screws
- 740 INTERIOR DOORS
6 panel primed prehung doors, primed bifold & bipass doors, finish hardware
- 750 INTERIOR TRIMS
primed baseboards, door & window casings, closet shelving & rods
- 760 KITCHEN CABINETS & VANITIES
pre finished upper & lower cabinets, plastic laminate counter tops, pre finished, vanity cabinet, cultured marble top & sink
- 770 PAINT FINISHES
PVA primer, interior latex eggshell
- 780 FLOOR FINISHES
carpet & under pad, sheet vinyl flooring, floor underlay, floor adhesive
- 790 SPECIALTIES
bathroom accessories, towel bars, shower rod, medicine cabinet, prefab stair & handrail

800 PLUMBING

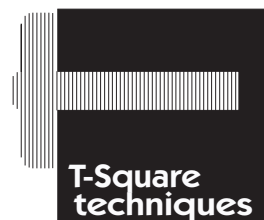
- 810 SEWER & WATER
sanitary sewer, municipal water supply, sewer backup valve, catch basin, water lines, drains & vents, wall hydrant
- 820 FIXTURES & FITTINGS
One pc. Fibreglass tub, flow control tub / shower fitting, low flow shower head, single control basin faucet, toilet, lined tank & seat, double stainless steel sink, single leaver faucet control & spray, electric hot water tank

900 HEATING, VENTILATING, AIR CONDITIONING

- 910 FORCED AIR HEAT
High efficient gas furnace, galvanized duct work, heat recovery ventilator & ducting, air conditioner

1000 ELECTRICAL

- 1010 EQUIPMENT
100amp load center & breakers, multi-media enclosure kit, service entry & meter socket, device boxes, receptacles, switches, plates, phone, tv & security wire, wire cable - 100 & 220 volt.
- 1020 FIXTURES
light fixtures, door chime, smoke & CO detectors, range hood & vent, dryer exhaust vent kit, central vacuum system



Items in blue are options that are not currently included in the estimate.

Step 6 - evolving the design

If you have checked out the draft design package you will have seen that there is sufficient information provided to get a very good understanding of the home's design. This is a first draft because there will be more work necessary. As stated earlier - the design evolves.

From this first draft, you may decide that changes are indeed necessary and we will work with you provide what it is you require. Our basic preliminary design fees allow for you to alter the basic design twice. Usually we can finalize the design within these two additional steps. Some times it can take additional steps if you wish to explore a variety of options in some aspects of the home. There is an additional charge to continue the design further.

If you wish, we can harness the Internet further and arrange a Net meeting where in you will be working directly with us on the design. The design software will appear on your screen and we are able to adjust the design in real time with you. A high speed Internet connection is desirable on your side. Contact us for more information on Net meetings.

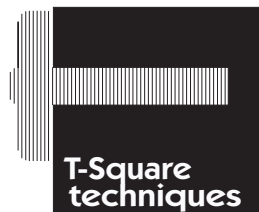
At this point we have been focusing on the interior design portion of you new home. Some thought on the exterior has been given but we generally reserve this part of the design to the latter stage. When you are satisfied with the plan, we can produce the exterior.

Perspective drawings - your point of view...

Elevation drawings are a distortion of what your home will look like, they are a technical drawing to indicate materials for construction. In 2 dimensions you just can't appreciate the actual look of the home.



A perspective rendering gives you the true view of your home and we have the tools to do that for you. Our program allows for multiple views and terrain mapping.



Step 7 - construction drawings

When you have an acceptable preliminary design completed and a draft of the prime elevation of the home, your next step is the construction drawings.

The following is a list of the typical drawings included in this part of the package:

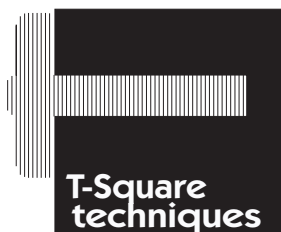
basic construction drawings

- **Floor Plan**
 - All necessary dimensions
 - Notes for special construction features
 - Door sizes and window locations
 - Area of the building
 - All built in items shown
- **Elevations**
 - All exterior sides of the home shown
 - All exterior finish materials shown
 - Floor to floor heights
 - Head heights of non standard window locations
 - Roof slopes
 - Window sizes, window grill patterns
- **Building Section**
 - All building envelope assemblies noted
 - Wall heights shown
 - Stair rise and run shown
 - Foundation wall, footing & slab shown.
 - Roof truss type.
- **Foundation Plan**
 - Foundation dimensions, designed with Engineer's seal
 - Post and beam/s located and noted, floor joists indicated
 - Stair located for framing opening
 - Heating equipment and furnace flue located
 - Basement windows located
 - Rough in plumbing shown (optional)

optional drawings

- **Floor Plan**
 - Scheduling for door and window sizes, room finishes.
 - Special finishes & details
 - Reflected ceiling plan
 - Near photorealistic interior renderings
- **Elevations**
 - Alternative finishes, roof lines, etc.
 - Color Perspective drawings
- **Mechanical & Electrical**
 - HOT2000 analysis
 - Ventilation system design
 - Heating system design, ducting layouts
 - Electrical plans, plugs & switches
- **Building Materials**
 - Comprehensive building materials list available through participating building material dealers only.

Our drawings are produced to fit 11" x 17" (tabloid) paper and available in PDF (portable document format). Any large format printer can reproduce from this or if necessary, hard copies can be shipped to you. As well, we can provide PDF files to suit any size paper, check with your local plotting services on what they can print on, we have no limitations!



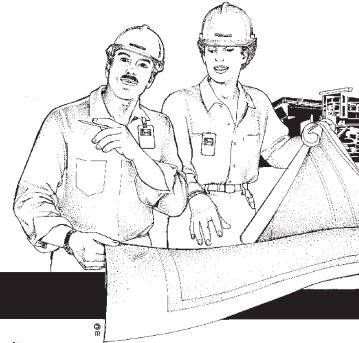
T-Square Techniques Inc.
200-1200 Pembina Hwy.
Winnipeg Manitoba
R3T 2A7

204.287.8580

Step 8 - construction tendering

While our preliminary drawings are sufficient to establish a budget cost for construction, it requires a completed set of construction drawings to obtain a quotation to enter into a stipulated sum contract for the construction of your home.

Your construction drawing set is also necessary to obtain a building permit. Your home builder will be applying for the permit, confirm with the builder on what information is necessary for your local building authority. Additional drawings and engineered design work maybe required beyond our base set of drawings as required by your local building authority.



Tips on obtaining quotations

Short list your builders:

- Review sample work and obtain customer references.
- Confirm that your builders belong to a recognized new home warranty program.
- Confirm that your builder is a member of your local home builders association.
- Select from 3 to 5 builders who construct homes similar to what you want, no more.

Prepare a specification of finishes, be complete on this. You should describe finishes such as all floor coverings, lighting and plumbing fixtures and the type and style of cabinets and counter tops.

The more the builder knows about your home, the better he can establish a complete price. Working with finish allowances is not the best way to shop, allowances may vary quite a bit and you may not be able to compare 'apples to apples'.

Use a bid form so all quotes arrive to your requirements, it will be much easier to make comparisons especially if you want to price out some optional items.

Distribution & timing:

Distribute your drawings and specifications to the builders at the same time and advise of a deadline for a quotation submission. Three weeks to price the job is usually enough, you don't want to be chasing someone for a price.

Info in the quote:

The quotation should include everything in your bid form, plus a proposed construction schedule.

Design Sheet

Date _____

Project _____

Detail: _____

Design by: _____

www.tsquaretech.com

