KITCHEN, LAUNDRY & BATHROOM DESIGN

In excess of 10% of the total cost of building a house can be spent on the kitchen.

Much emphasis is placed on the visual appeal of the kitchen, and although important, should not be the main consideration.

Performance is paramount to the aesthetics of the kitchen. The design, most importantly, should be the direct result of the users' physical activities.

Designing a kitchen, more so than any other room in a house, can be somewhat daunting to the new home builder or renovator. .

In this chapter we look at important criteria for kitchen design and anthropometric considerations and how our body proportions relate to kitchen workstations and storage requirements providing information for initial design procedures and overall conclusions

The more time spent initially on researching the cook's performance, products and appliances, materials available and the design process, the better the result and happier the user.

WHERE TO START

Consider essential design criteria as follows:-

1. **Make a list** of requirements;
2. **Family numbers** provided for on a daily basis;
3. **Eating** accommodation for morning breakfasts and casual meals;
4. **Age of family members** and special needs required such as feeding areas for small, physically handicapped or elderly persons requiring special illumination, access and space;
5. **Frequency and number** of visitors;
6. **Entertainment formulae** requiring additional space and appliances;
7. **Food preparation** and storage required such as wet, dry, cold, freezer and farinaceous;
8. **Cleaning** at different times of the day and on-going maintenance;
9. **Number of cooks** using the kitchen at the same time;
10. **Size and shape** of designated space whether too large or small;
11. **Orientation** to natural light for day use;
12. **Artificial illumination**, types and their function;
13. **Appliances** such as small toasters, kettles, microwaves, steamers, mixers and coffee machines, blenders and grinders;
14. **Finishing materials** to include a variety of bench tops for each work station, door finishes,

drawer interiors and various types available, carcass finishes and edge treatments;

15. **Aesthetics** such as carcass, bench tops, doors, colour, pediments, drawer hardware and edge treatments; and
16. **Physical condition** of the cook.

Prior to entering into any kitchen supply contract consider all the above and their costs as the budget provided in the contract may be entirely inadequate for your kitchen requirements.

KITCHEN PLANNING

Kitchens are used throughout the day and into the night requiring additional illumination over work stations for evening meals and dinner parties and early morning food preparation for the very young and early risers.

Cooks can spend many hours daily in the kitchen despite their cooking prowess. Good research initially regarding previous experiences when cooking and entertaining is helpful to successful kitchen design.

A previous bench height may have been too low or high, the sink too small or taps too ornate and cumbersome.

Of memorable previous kitchens what aspects were appealing and not so alluring?

Food preparation, cooking and cleaning is time consuming and may be extremely arduous and repetitious to those who cook out of necessity rather than pleasure causing emotional stress and fatigue.

To eliminate fatigue as much as possible, determine where the cook spends most time whilst using the kitchen. Is it at the preparation, washing, or cooking station?

This point then becomes the "**pivotal point**", the point from which the cook radiates to perform tasks when food is being prepared and served. Too much unnecessary deviation from the pivotal point can create fatigue.

Establish how often the kitchen is used, at what time of the day and night and the orientation of the kitchen space in relation to morning, midday and afternoon sun.

A symptom of a badly designed kitchen can be highly polished, light reflective bench top materials reflecting glare and heat on extremely hot days making cooking tasks difficult and uncomfortable especially if the cook is sight impaired.

Interruptions can create confusion when cooking however; there are cooks who love to demonstrate their talents to their hungry, but impressed guests.

Whatever kitchen design preferences, it is essential the pivotal point be awash with natural illumination for day use and artificial illumination at night without glare.

KITCHEN SHAPE & LAYOUT

Contemporary architecture, more so than traditional can be irregular in

shape with kitchen plans reflecting that irregularity. Where possible, avoid semicircular floor plans as the positioning of appliances to work stations is difficult to arrange successfully.

Keep the plan simple in shape, either square or rectangular.

Kitchens must be highly efficient, adequate, easily maintained, comfortable and appealing to the user.

The best kitchens are those that work efficiently in times of stress when specializing in high quality rapid food output.

General observations tell us that successful commercial kitchens are seldom oversized or undersized or irregularly shaped.

In highly efficient commercial kitchens, each attendant has their own work station surrounded by task utensils and produce required, relating to cold and dry storage, cooking stations and refuse areas.

For the home cook, it is also important that spatial requirements be ideally suited to the task and specific user requirements being work station locations, suitable bench top surfaces, appliances and utensils required.

KITCHEN WORK STATIONS

There are basically four task areas and they are **preparation**, **cooking**, **serving** and **washing.**

Cold and dry storage areas are not work stations however, both compartments may be designed as extra work stations when entertaining as illustrated in diagram **M** page 53.

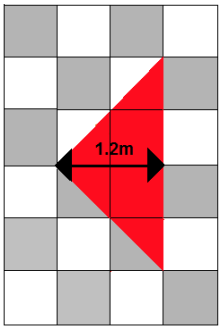
Kitchens may be square or galley on plan.

The square plan with central axis is best as food preparation tasks are performed between equally spaced cooking, washing and preparing stations minimizing physical effort. A galley kitchen is ideal for a single person or smaller dwellings.

Interior pivotal point dimensions of not less than 1.2 metres and no greater than 2.4 metres between work stations are recommended reducing fatigue and emotional stress from unnecessary physical exertion.

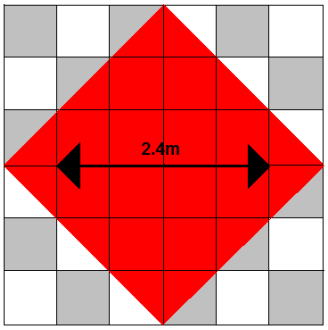
As the proportions of the human body relate to a 1.8 – 2.4 metre anthropometric radius *(body proportions to work surroundings*) and standard cupboard depth is 600mm, the preferred plan dimensions for a kitchen are approximately 3.6 x 3.6 metres.

A.



3.6m x 2.4m galley kitchen floor plan showing 600mm grids and three working station points

B.



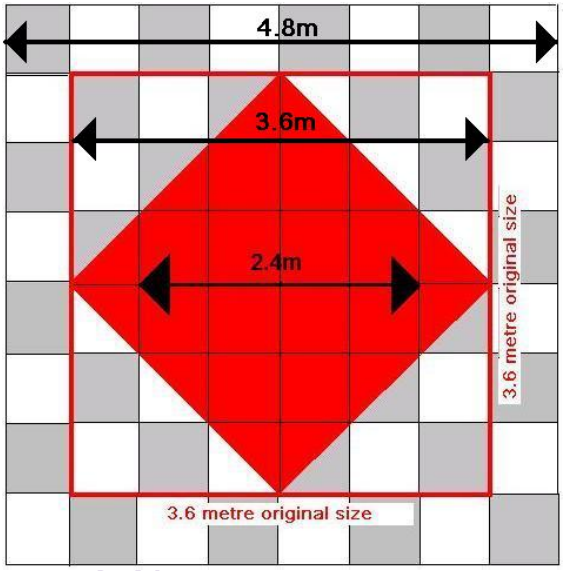
3.6m x 3.6m square kitchen floor plan showing 600mm grids and the four working station points

To plan your kitchen, divide your kitchen floor on plan into 600mm square grids as demonstrated in illustrated in diagram **B**.

Square grids of 600mm are preferred as cabinetwork dimensions and machinery are generally preset to cabinet component sizes.

Cabinetwork component dimensions such as carcasses and bench tops usually relate to 300mm, 450mm, 600mm, 900mm and 1200mm component sizes to minimize material wastage.

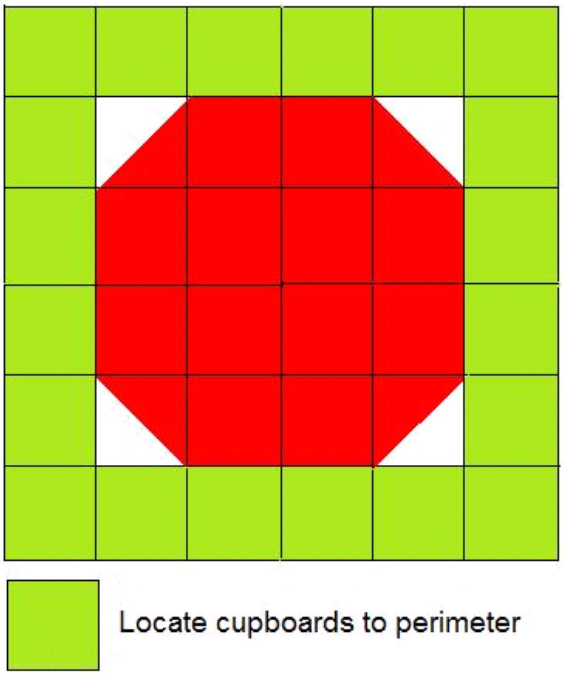
Pre-finished boards are manufactured in sheet sizes of 1.2 x 2.4 metres thus increments of 600mm are preferred.



C. Extend 600 mm square grids over plan.

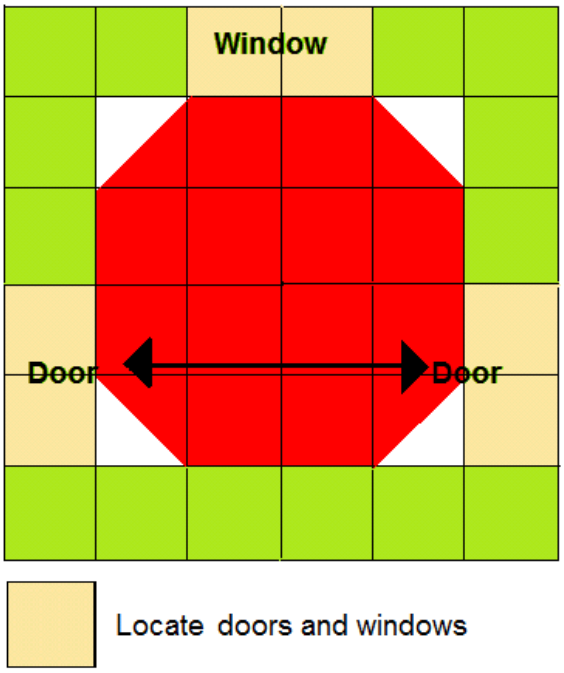
If the kitchen is larger than 3.6 x 3.6 metres, extend the number of grids to kitchen dimensions or reduce if smaller.

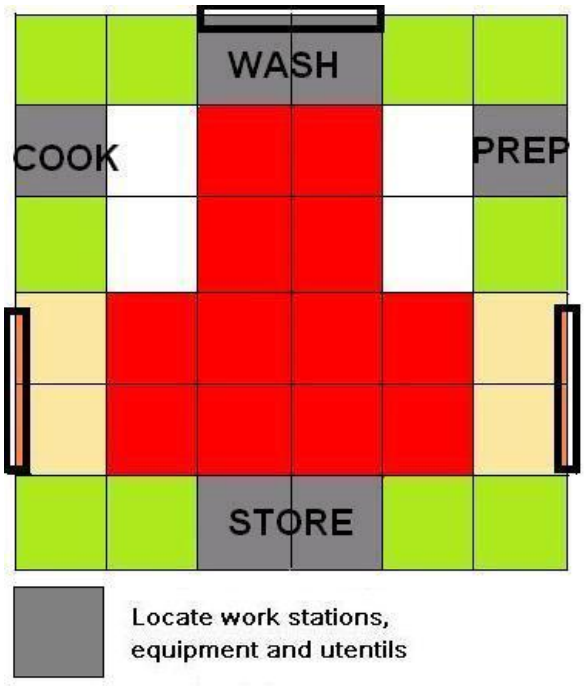
The dimensions in **C** above are 4.8 x 4.8 metres overall, too large in which to work. Therefore it would be recommended that an island cupboard be installed centrally to the kitchen.



D & E.

The above and below plans are 3.6 x 3.6 metres = 12.96 metres square.





F.

ARCHITECTURAL COMPONENTS

Windows

Throughout the day the cook needs as much natural light on the bench top directly in front of the pivotal point or primary working station to eliminate unnecessary use of artificial lighting.

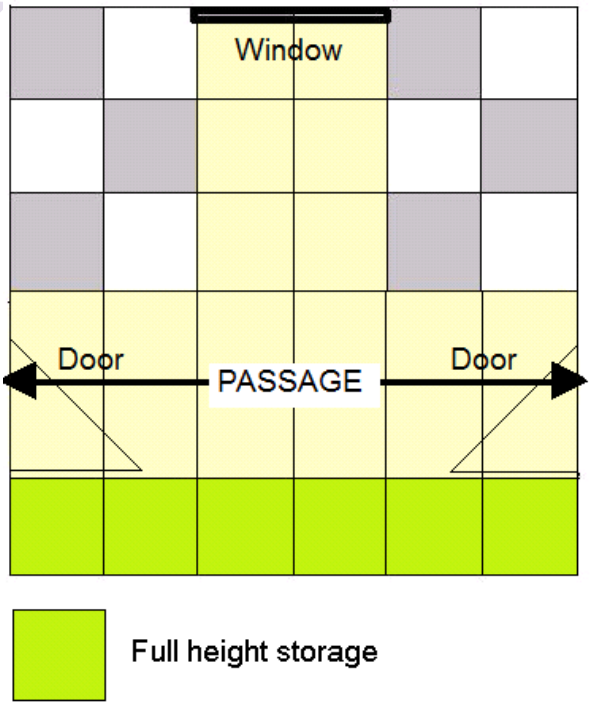
Windows must be protected from direct sunlight and glare from surrounding buildings or building components such as reflective walls, windows and surrounding fences.

Where possible provide more than one window in the kitchen to allow adequate ventilation rather than using artificial ventilation in the ceiling and above cooking appliances. A selection of window types may be the preferred option for ventilation, supervision, illumination and aesthetics. *(See Windows Chapter 6).*

Multiple windows work best when located directly opposite for cross ventilation. If not possible, the selected window type should have two openings such as the double hung window or an ensemble of various window types.

Doors

Doors should be located directly opposite providing easy passage in and through the kitchen allowing other family members access to appliances such as the refrigerator without interfering with the cook or cooking procedures in times of stress.



G. Locate doors directly opposite for smooth traffic flow

Walls

Walls not only define space but can be used for full or half height storage. Locate doors 600mm from corners enabling the use of walls for full height storage as illustrated in diagram **G.**

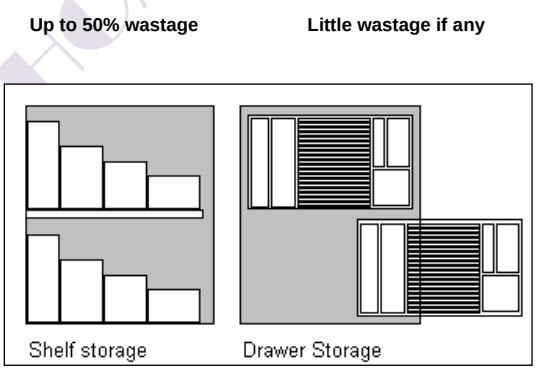
STORAGE GENERALLY

Until now, kitchen storage generally comprised approximately 90% shelf and 10% drawer storage. The introduction of extra heavy-duty cabinet hardware has imposed a new attitude in kitchen design.

The inclusion of large kitchen drawers with telescopic hinges being filled to capacity has eliminated much wasted space and those "difficult to get to backs and corners" and kitchens now comprise approximately 90% drawers and 10% cupboards. This recent innovation is also helpful to users who are aged and/or have physical problems.

In the past, shelf storage wasted around 40% – 50% because of vertical stacking limitations.

Horizontal drawer storage eliminates wastage as the entire volume is utilized as demonstrated below in **H.**



H. Section through General Storage

HOW MUCH SPACE IS REQUIRED?

The amount of storage required is determined by the tasks performed, the size of the family being catered for, the number of appliances and utensils and the amount and type of food being stored and prepared.

Over supply of storage often results in the user filling it unnecessarily with seldom used items and under provision results in using the space available wisely.

Food Products –

Perishables

Highly organized, passionate cooks may prefer minimum cold storage using fresh food obtained every two to three days.

Cooks preferring to bulk shop once fortnightly purchasing packaged or frozen food may require more freezer storage than short term cold storage.

Generally a standard freezer/fridge combination is sufficient for most families comprising two to three children.

The purchasing of bulk meat may require a larger freezer for long term storage.

Wine storage is more critical than horizontal storage above the refrigerator or either side of the oven often seen in new homes. Nothing

spoils wine more than sunlight and heat.

If purchasing wine for regular general consumption, cool, dark storage compartments located away from hot appliances are preferred.

Long term storage for collectable wine requires a temperature and moisture controlled environment such as an underground cellar or electrically controlled wine storage cabinet. However, alternative storage compartments can be under kitchen cupboards at floor level in suitably designed drawers.

Non-perishables

Two door pantries or pull out stackable shelves are easily accessed compartments suitable for non-perishables including packaged, loose foods, nuts, fruits, cereals, tinned and farinaceous foods requiring dark, dry, well ventilated storage.

Average dimensions for each compartment are 0.6m wide x 2.1m high x 0.6m deep per compartment.

Crockery and Cutlery

Cutlery and crockery is best stored in fully extendable drawers on telescopic arms for easy access. Contemporary drawer hardware is extremely strong on smooth efficient rollers. Drawers can now store substantially more heavy pots, stacks of crockery and cutlery.

Small partitions of various sizes are available for drawers providing micro compartments for secure storage of smaller items.

The introduction and manufacture of stronger cabinet hardware enables drawers to be much wider than in the past therefore less stressful on backs when lifting heavy crockery from storage compartments.

Crockery and cutlery drawers are physically more convenient located directly under the bench top between preparation, serving and washing stations.

BENCH SPACE

As a general rule of thumb, bench space can be calculated at 600mm square per diner for preparation and serving excluding kitchen appliances.

Enthusiastic cooks and competitive entertainers would require extra bench space of 600mm square for additional diners.

Preparation and serving bench space for eight people would be calculated at 4.8 square metres **adding** bench top dimensions as follows:-

Dimensions are recommendations only and in millimetres:-

Sink	1.4 - 1.8w x .5d
Cook top	.6w - .9w x .5h- .6h x .6d
Bench top	.6w x .6d x per person
Dry Store	1.5w x 2.1h x .6d
Cold Store	1.0w x 2.1h x 0.5d
Crockery	.5 - 2.0w x .5h x .6d
Pans	2.0w x .5h x .6d
Appliances	1.2 – 1.5w x 2.1h x .6d
Drawers	.5w x .2h x .5d x 2
Pantry stack	.5w x .2.1h x .5d x 2
Oven stack	0.6w x 2.1h x .6w

= 6.3m bench x 0.6m wide
=5.6 of full height cupboards
=under bench drawers

CUPBOARD STORAGE

Pullout pantry stacks and large drawers have almost eliminated the walk-in pantry.

Walk-in pantries often become a handy temporary spot for items such as brooms, vacuums and other bulk items ultimately getting “under foot” making access difficult and irritating.

Therefore a two door pantry cupboard option may be preferable if space is limited.

ILLUMINATION

Kitchens are used throughout the day and into the night requiring natural and artificial illumination.

Establish how often the kitchen will be used, and at what time of the day and night to determine orientation of the kitchen in relation to the morning, midday and afternoon sun.

An east/west orientation would suit a kitchen used mostly in the morning and during the day whereas orientation is not as important for night use except perhaps when the kitchen relates to an outdoor al fresco area or a view.

Be mindful of shadows cast onto workbenches and into cupboards especially if sight impaired. To eliminate shadows the light source should be soft and directly in front and above the user.

Think about kitchens used in the past and how their performance may have been improved, relating to daily routines, unsuccessful dinners and special occasions.

When is the kitchen cleaned? Night cleaning requires additional general illumination rather than task illumination. *(See Lighting Chapter 5)*

Of memorable previous kitchens which design and illumination aspects were appealing and which ones not so alluring?

It may have been the layout of the kitchen, the placement of appliances, amount of light during the day and night, the atmosphere and/or the general visual appeal.

APPLIANCES

The selection of electrical appliances will consume a major part of your time when designing your kitchen.

Prior to selection ensure that you are well informed by researching specifications and warranties.

All too often appliances are chosen for their visual appeal rather than their ability and suitability to the cooks preferred methods of food preparation and production.

Major retailers have well appointed showrooms where purchasers can discuss the different types of appliances available, their cost, advantages and disadvantages offering cooking demonstrations and in some cases, candlelight dinners.

The following information on kitchen appliances has been recommended from an interior designer's perspective and passionate cook at that rather than appliance design objectives.

Dishwashers are normally located under the bench adjacent to the water supply and drainage to the sink to allow easy and convenient hose connections and minimal or unnecessary movement for the user.

However for those with back problems and other disabilities, dishwashers may be bench top mounted.

Refrigerators are best when close to work stations but away from excessive heat producing appliances.

Final refrigerator positions should allow family members access to the appliances without interfering with the cook's routines.

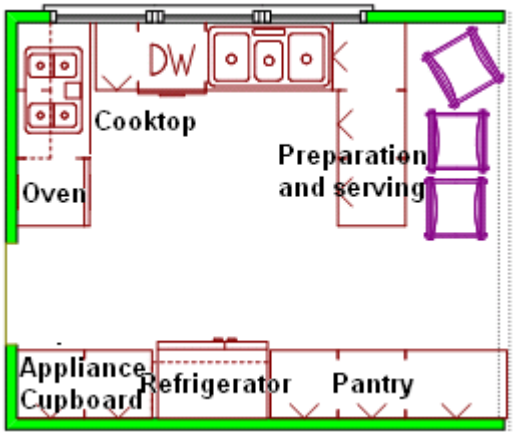
The most regularly used appliance by all family members, it may be advantageous to include a small sink close by which could double as a bar or second wet area in times of crisis. *(See illustration **M)***

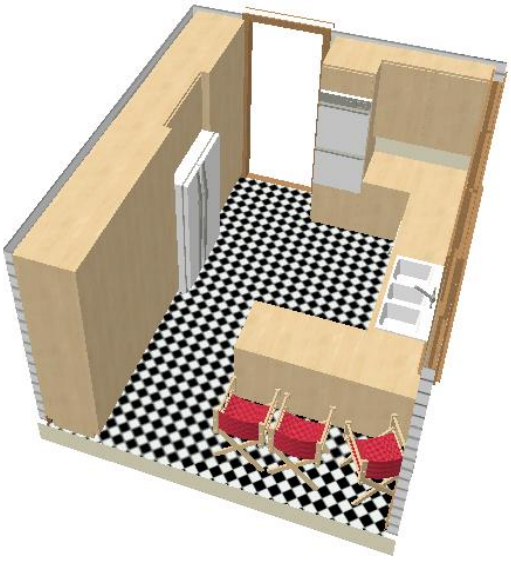
Before establishing a recess for your refrigerator, refer to manufacturer's instructions for critical dimensions and allow sufficient free air space around backs and tops for venting.

No wine racks please!!

DEMONSTRATION KITCHEN

Illustrations I, J & K





The above illustrations demonstrate the final kitchen layout discussed in this chapter.

A **full height appliance cupboard** with pocket doors is located adjacent to the refrigerator providing an additional sink, taps, and work station and bar refrigerator eliminating interruptions to the centre of the kitchen when entertaining or during the day or evening when preparations are under way for family meals.

Ranges may have adjustable legs allowing the height to be varied. The preferred height of the cook top is best fixed at approximately 100 mm below preferred bench top height

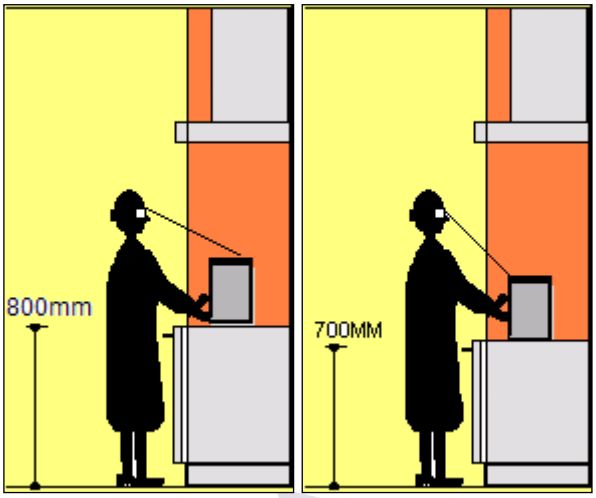
Cook-tops can be manufactured in various sizes but most commonly 600mm – 900mm in width and bench mounted. It may be wise to consider lowering the cook-top height to the preferred height of the cook as mentioned in Ranges above.

The positioning of the cook-top is entirely at the discretion of the user but is generally located within the kitchen triangle.

Cook tops or range tops at 800mm above floor level may impose physical constraints and safety issues for shorter people.

Lowering the cook top height from 800mm – 900mm above floor level to 700mm – 800mm above floor level allows easier visual supervision as illustrated by reducing the risk of accidents. *(See illustration **L**.)*

Allow as much space either side of the cook-top for pick-up and set-down rather than carrying hot cooking appliances across the kitchen.



L. Cook tops at 800mm create visual safety issues for shorter people using large cooking utensils

To establish the correct bench top height rather than the "norm" recommended for the mass housing market, measure just under elbow height whilst standing in flat shoes.

As cooks vary greatly in height and degree of physical health, it is important to ensure that individuals are working at their appropriate height. Incorrect bench top heights can inflict long term, chronic neck, should, arm and back pain.

Ovens can be wall-mounted, under bench or incorporated in a free standing range.

Some ovens can be more sophisticated than others, being gas, electric, microwave, high frequency, fan-forced, char-grill, rotisserie, extracted or combinations of the above. Should cooking prowess be limited it may be advisable to select a basic but reliable oven and cook-top.

For the more adventurous an assortment of the most advanced cooking appliances are available at variable prices.

The selection of cooking appliances does not necessarily reflect the expertise of the cook.

When selecting an oven, cooking style and requirements, safety issues and cost should be the priority rather than the aesthetics but, once again, aesthetics are not to be overlooked.

Cooking appliances should comply with the desired objectives of the kitchen but not override all other issues entirely.

Whether you are a conventional roaster, a Thai expert or broiler and fryer purchase only what is required. There is a tendency to over react to kitchen design and state of the art appliances. Keep it simple and stick to your budget.

The most expensive kitchens available don't necessarily ensure the best quality gourmet outcomes.

Microwave Ovens, from my experiences, are generally used for defrosting and warming. They are difficult to locate and can be dangerous to children when located at heights less than 1.2m.

Safety and ergonomic considerations dictate that microwaves should be located so that the user's eye level, approximately 1500mm above floor level, is at the horizontal centre of the appliance.

Microwave ovens may be small internally therefore unsuitable for substantial meals such as roasts and Christmas turkeys.

Research on microwave and oven internal dimensions is strongly advisable if you intend using your cooking appliances for large scale entertaining or substantial meals.

Small hand appliances are numerous and used regularly.

Kitchen designers may prefer to provide a small appliance cupboard on the workbench close to the pantry and preparation area.

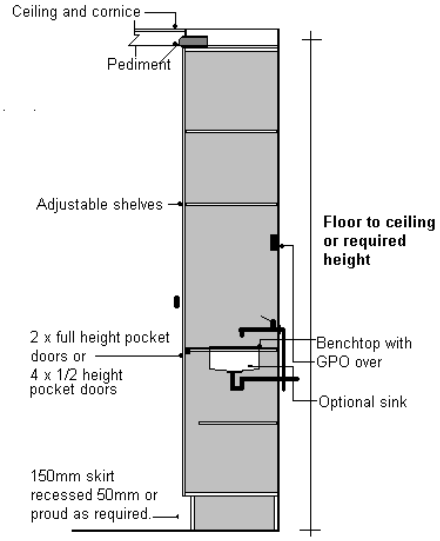
These irritatingly small cupboards provide storage for kettles and toasters only, thus taking up much needed bench space harboring an endless supply of crumbs for cockroaches and mice.

Small hand appliances such as bench top mixers may be somewhat heavy and cumbersome to move and often carried to other work stations not out of preference, but necessity because of lack of bench space.

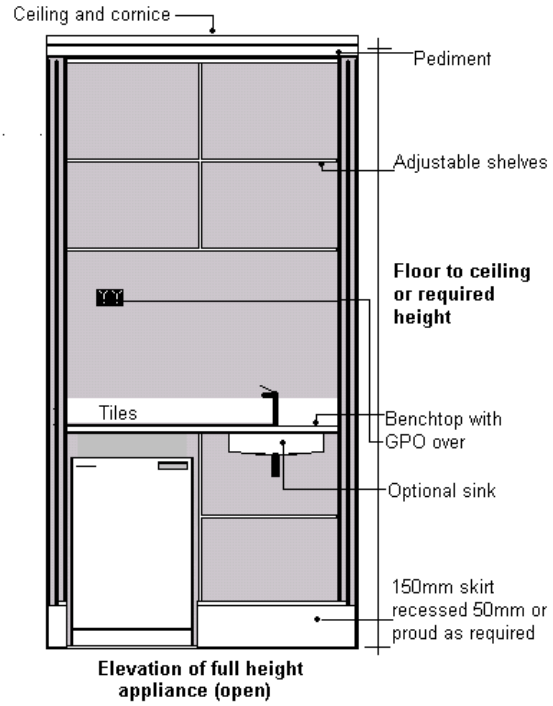
How and where we use small appliances may justify providing a much larger multi function, small appliance cupboard including a sink and taps, an under bench refrigerator and general power outlets.

A full height appliance cupboard inclusive of bench top, sink and taps may be convenient located next to the refrigerator thus allowing family members access the refrigerator for

cool drinks, making coffee, rinsing and/or washing utensils without interfering with cooking procedures underway. The cupboard also doubles as a bar for entertaining with additional bar fridge.



M. Section through full height appliance cupboard



Standard cabinetwork dimensions

Recommended internal dimensions are 800mm - 1800mm wide and 2100mm high.

Doors may be conventional French or pocket doors providing more free space around the cupboard during use with doors open.

Cabinetwork dimensions may alter according to the user's posture health, physical ability and height dimensions. The aforementioned dimensions are to be used as a general guide only.

For optimum comfort whilst working in a kitchen, the cook's body dimensions are primary considerations.

Work bench height is best slightly lower than elbow height to minimize unnecessary strain on hands, shoulders and back.

Overhead cupboards are generally not less than 450mm above bench top and 600mm above heat producing appliances.

KITCHEN DESIGN CRITERIA

1. **Locate triangle** to plan determining areas such as refrigerator, sink/s and stove/s arranged at the points of a triangle;

2. **Relate work stations** and storage facilities;

3. **Storing objects** at point of use;

4. **Select materials** that are durable and easily maintained materials;

5. **Dimensions** - have no more space than required and not less than adequate;

6. **Natural and artificial illumination**; *(See Lighting Chapter 5.)*

7. **Windows** providing light and ventilation;

8. **Elimination of cavities** in which vermin can shelter and breed; and

9. **Beauty and individuality** – highly subjective and not a priority but can lift the cook's spirit and make cooking more enjoyable and perhaps less time-consuming.

CABINETWORK FINISH CONSIDERATIONS

To select from the vast assortment of cabinetwork materials and finishes can be daunting to say the least.
Material selection criteria as follows:-

1. **Cost;**
2. **Maintenance;**
3. **Expertise of the cook;**
4. **Personality of the cook; and**
5. **Character of the home.**

Materials should be impervious to moisture and dirt, somewhat scratch resistant, easily cleaned, maintained and easily restored if damaged.

Select finishes according to a predetermined budget and avoid trendy, intense colours and patterns as these will date quickly.

Some materials available may be ordinary aesthetically but easily maintainable, cost efficient and durable and hold their appeal far longer than expensive, fashionable more delicate products.

Materials best suited for preparing and cooking tasks are as follows:-

BENCH TOPS

Solid timber for cutting and chopping, A mixture of hard woods laminated on end grain are generally regarded by most proficient cooks as being highly practical.

Advantages

Natural beauty;

Warm and soft;

Available in variety of types and natural colours;

Excellent for cutting;

Will not damage knives;

Heat resistant to conducted heat;

Can be moisture, oil and stain tolerant depending on finish;

Edges can be profiled;

Strong and durable;

Life long sustainable quality;

Certain timbers are bacteria resistant; and
Material variation may be advantageous.

Disadvantages

Can warp if soft, split and splinter;
May fade in full sun; and
Can harbor bacteria if not cleaned and maintained adequately.

Stainless steel for cooking and washing stations.

Advantages

Attractive;
Totally impervious to moisture and oil therefore will not stain;
Heat resistant;
Germ retardant;
Integral edges, therefore no joins at edge;
Durable;
No variation in finished material;
Easily cleaned but may need polishing regularly; and
Easily maintained.

Disadvantages

Expensive;
Cold;
Hard;
Will blunt knives;
Scratches easily;
Shows finger marks;
Light and heat reflective; and
Requires support if thin sheets.

Stone for kneading bread and pastry.

Advantages

Natural beauty;
Variety of colours and types;
Adequately sealed can be moisture and stain resistant;
Strong and durable;
Ideal for pastry preparation;
Heat resistant;
Variation in finished product;
Best when used in small quantities for aesthetic contribution to kitchen; and
Life long sustainability.

Disadvantages

Expensive, cold, hard;
Will blunt knives if used for cutting;
Can stain depending on type and colour;
Difficult and expensive to renovate;
Must be constantly polished to restore attractiveness;
Highly reflective; and
Can create glare and reflect heat.

Pre-finished boards for storage and serving.

Advantages

Sub-straight can be moisture resistant;
Laminate finish impervious to moisture and staining;
Variety of colours and textures and patterns available;
Edges can be post-formed, square, ABS or melamine;
Edges can have applied decorative edge such as timber;
Easily cleaned;
Inexpensive;

Ideal for serving stations, breakfast bars and up-stand tops;
Strong and durable; and
No variation in finished material.

Disadvantages-

Scratching;
Not totally heat resistant;
May be damaged by abrasive cleaners; and
Can fade in full sun.

HOMOGENOUS BENCH TOPS

Reconstituted bench tops manufactured from crushed stone and resins.

Characteristics are similar to natural stones

Advantages

Attractive;
Warm;
Hygienic;
Some products are impervious to moisture and oil therefore stain resistant;
Strong and durable;
Some are repairable;
Heat resistant;
Easily cleaned and may be germ retardant;
Generally easily restored when damaged;
No variation in finished material;
Self edging and easily profiled; and
Available in range of generic types, colours and textures (look alike stones etc);

Disadvantages

Expensive;
Blunts knives; and
May scratch and loose their initial attractiveness.

Bench top heights may vary according to task being performed and physical proportions of the cook.

General recommended bench top heights are as follows:-

Preparation -75mm to 100mm below elbow height,

Cooking- 100mm below preparation height,

Washing- 100mm above preparation height

The variation in height of each work station allows for the abutting of different bench top materials enabling the selection of preferred finishes to task suitability.

A variety of materials will add vitality and liveliness to the kitchen incorporating texture, tone and colour.

Colour should be selected according to-

- **Natural light and atmosphere**, light colours reflect light eliminating the need for artificial illumination.

  Light colours can be more hygienic in that we tend to keep them cleaner than dark colours which camouflage dirt, mould and general grime.

- **Temperature at different times of the day.** Kitchens facing east without window protection are subjected to intense morning sunlight in summer and winter and heat in the warmer months whereas a

south facing kitchen may be quite gloomy and poorly naturally illuminated for most of the year.

In cooler, poorly illuminated kitchens, a light reflective, warmer colour would be suitable whereas in a hotter, over illuminated kitchen, a less reflective, cooler colour.

Ideally, kitchens having an east, north and west aspect or all three have an abundance of day light year round. However, windows on any of the three aspects will require solar blind protection or other forms of protection in warmer months.

- **Colour and light influences** from adjacent internal and external areas.

  Town planning regulations enable close proximity to our neighbors creating sun and light reflecting problems from property walls and roof tops.

  Prior to purchasing or building a new home, survey the surrounding properties for troublesome reflecting building materials and colours.

- **Personal colour preferences** may be suitable when used in private areas of the home however it is recommended that strong colour preferences for the kitchen be kept to a minimum.

  It may be a costly mistake to select strong colours for permanent fixtures such as cupboards, bench tops and splash backs.

Colour is best applied to areas of the kitchen that can be changed easily, quickly and inexpensively such as paint to walls. *(See Colour Chapter 3)*

CARCASS

Pre-finished Boards

Pre-finished boards are used more than any other product for general cabinetwork carcasses.

Carcasses are generally manufactured from 16mm melamine surfaced, medium density fibre board.

Care should be exercised to select materials having a 10 year guarantee on the product. Normal wear and tear does not apply to warranties.

Guarantees do not apply to deliberate damage or accidents. It is highly recommended that consumers read carefully all warranties and guarantees.

It is not practical, convenient or economical to consider other materials for carcasses as they do not compare in cost.

Prior to the introduction of pre-finished boards to the cabinetwork industry, solid timber, masonite and plywood or a combination was generally used. Examples may exist today in older homes.

CABINET DOORS

Doors are available in a variety of profiles and manufactured types of which some are listed below.

A general description of each door type is provided for comparison of general cost, quality of finish and recommendation.

There are other types imported from many countries and their degree of quality may be subjective because of timbers used in sub straights, quality and thickness of melamine, vinyl, solid timber and veneers.

1. **Melamine** surfaced medium density fibre board **with square edge melamine** finish.
   Budget range not generally recommended for quality installations.
2. **Melamine** surfaced medium density fibre board **with square ABS** finish edge treatment.
   Budget range highly recommended.
3. **Melamine** surfaced medium density fibre board **with rounded and rolled melamine** finish to edge treatment.
   Medium cost highly recommended.
4. **Vinyl-wrap** medium density fibre board with white melamine on back of door.
   Budget to medium cost not recommended.
5. **Vinyl-wrap** medium density fibre board with colour matching melamine finish to back of door.
   High cost recommended
6. **Painted** medium density fibre board with coloured two pack spray painted finish generally.
   High cost recommended and can be restored or re-coloured.
7. **Timber veneer** medium density fibre board with solid timber finish to edges.
   High cost recommended.
8. **Solid timber** with profiled edge varnish or oil finish
   High cost highly recommended and can be restored.

To conclude, kitchens are highly efficient work areas and expectations are always high.

It is important that kitchens be free from unnecessary embellishment and over designing. Many kitchens are designed to impress visitors to the home, but miss the fundamentals of family requirements.

Good intelligent design will ultimately benefit the user physically, emotionally and monetarily.

But we must never forget that kitchens are only as efficient as the cook, so let's not get carried away with expensive materials and "state of the art" design.

The best kitchens are those that meet the cook's requirements…….nothing more nothing less!!

BON APETITE!!

LAUNDRIES

When designing laundries, bathrooms or storage rooms, apply the same design principles as the kitchen design process.

Following are recommendations on preliminary design issues for a standard laundry. Laundries are best when rectangular or square in shape, with excellent natural light and ventilation, storage facilities and work stations being **washing, drying, ironing**, **sorting** and **folding.**

Initially, make a list of furniture, fixtures and fittings required as follows:-

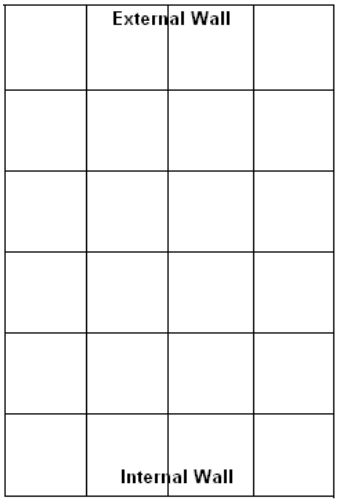
- **Space required** or available;
- **Doors** – privacy and external;
- **Windows** – ventilation - double hung or 2 awnings;
- **Laundry sink** with storage;
- **Washing Machine** and outlets;
- **Drying** and airing;
- **Ironing,** iron station and ironing board;
- **Brooms** and appliance storage;
- **Linen storage** – wet, soiled and clean;
- **Cleaning product** storage;
- **Baskets**, peg and bucket storage;
- **Clothes folding** bench top;
- **Clothes hanging** facility for ironed items;
- **Laundry** duct if two storey home;
- **Natural and artificial illumination** and ventilation;
- **Bulk storage** for large seldom used items; and
- **Folding bench top**.

The process of designing your laundry is as follows:-

1. Determine space required which is approximately 3.6 m x 2.4 m or 3.6m x 3.6 m.
2. Locate the external and internal doors and windows;
3. Designate potential storage areas to walls;
4. Identify working stations to plan such as sorting, washing, drying, ironing and folding;
5. Locate wet stations such as sinks and washing machines to washing station and plumbing outlets on external walls for preference;
6. Nominate locations for electrical appliances such as dryers and ironing stations;
7. Nominate locations for associated cleaning products and utensils to appliances;
8. Locate full height linen store in close proximity to the internal passage door for easy access to other family members;
9. Locate accessories to each working station; and
10. Select appropriate cabinetwork finishes and benchtops.

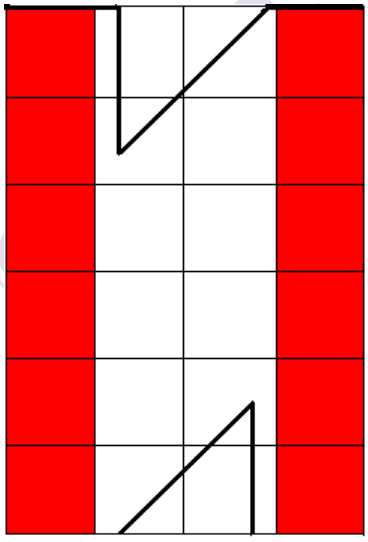
LAUNDRY DESIGN PROCESS

Following is a grid plan of a laundry 2.4 metres x 3.6 metres. Apply the 600mm x 600mm grid to your existing laundry floor plan or preferred floor plan for your new home.



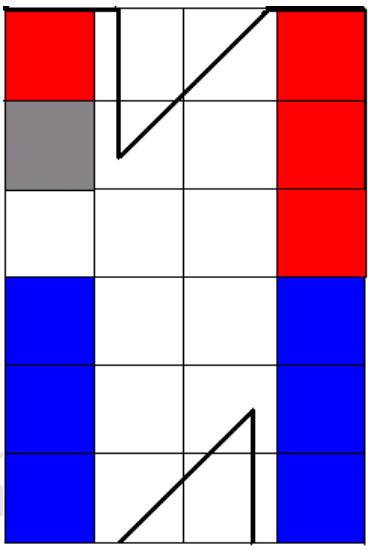
Divide space into 600mm grid
Floor space allocated 2.4m x 3.6m

On the grid plan, locate the doors and windows and any other architectural design components within the room.

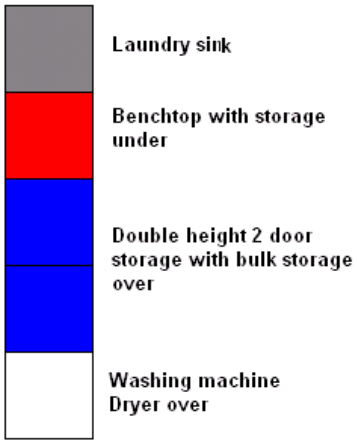


Locate walls, doors and windows

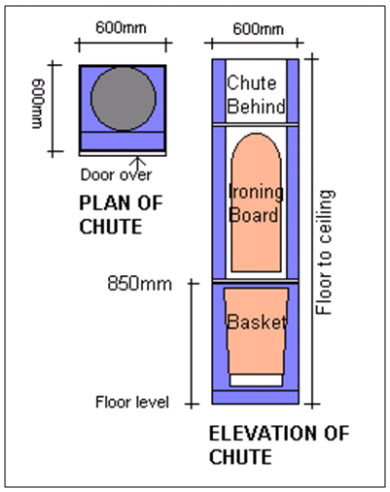
Once all building components have been located on plan, proceed with the placement of the plumbing fixtures such as laundry sinks, washing machine, and dryers as close to external walls as possible.



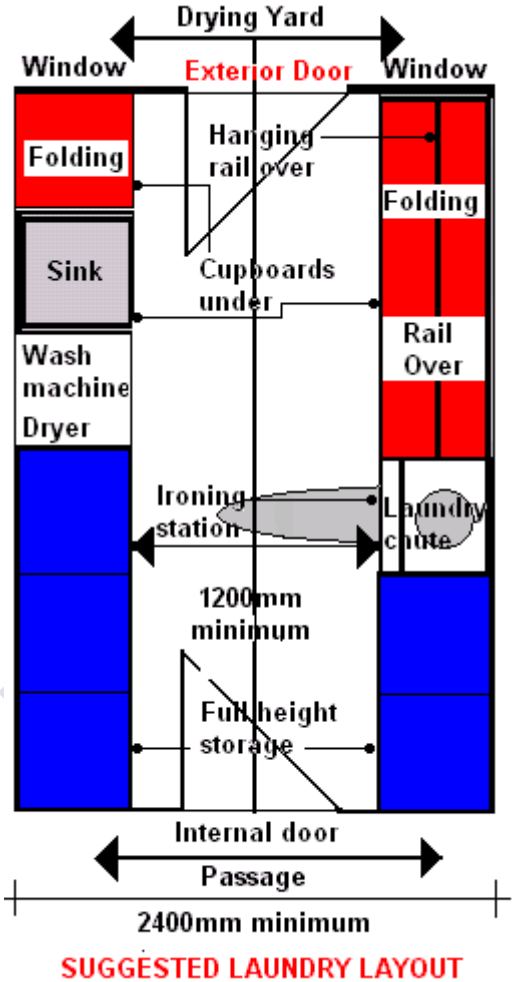
Divide Space into 600mm Grid



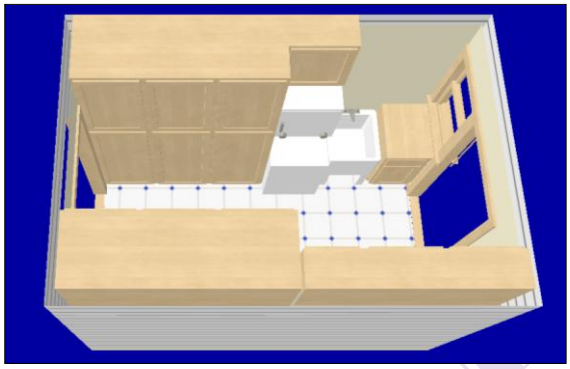
Locate storage units relating to the appropriate appliance or work station such as laundry and cleaning products to sink and washing machine, dirty linen to storage basket or laundry chute, clean laundry to ironing station and hanging rails and shelf storage for baskets and pegs. Clean linen would be housed in full height storage cupboards located to passage door as would cleaning appliances such as vacuums.



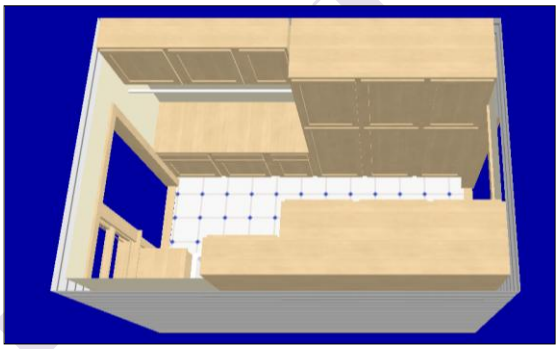
The illustration above demonstrates the detailing of the laundry chute to accommodate an ironing station and dirty linen storage below whether a basket or a lined drawer.



SUGGESTED LAUNDRY LAYOUT



Bird's eye view of laundry



BATHROOM DESIGN

Much emphasis is placed on bathroom finishes but little on bathroom design. Bathrooms are stereotyped, generally too big or too small with little consideration for children's proportions and requirements.

Exotic finishes are usually selected for adult bathrooms with little thought regarding safety, the aging process and ongoing general maintenance.

Children's bathrooms are usually the recipients of outdated, on sale, highly glazed, poorer quality tiles being vulnerable to scratching and chipping.

It is essential that children have ergonomically designed fixtures and fittings at dimensions to suit their

proportions. It is unfair to expect toddlers to have to stand on a box or chair to clean their hands and teeth, or see in the mirror to comb their hair or even worse, at their toilet.

Children's bathrooms should comprise non skid floor tiles, showers and baths. I would recommend also the inclusion of a toilet so they don't have to run with wet feet on slippery tiles to the "loo".

For some reason, small children use the toilet during bath times more so than adults!!

There are now built in cabinet safety fixtures which allow toddlers a pull out extremely sturdy box drawer on which they stand to attend to their daily hygiene issues and I am yet to see one in a new home.

Safety and environmental issues are paramount in bathroom and toilet design but we tend to skip over these when designing possibly the most hazardous areas of the home.

Hot water systems are now low energy consumption, heat regulated and adjustable to suit the young, the old, disabled and the sick. Consult a specialist on suitable systems.

Germ, stain and mould retardant fixing materials, non skid tiles and extremely attractive shower curtains are available to use instead of glass and highly polished finishes.

I am forever bemused by the never ending quest for cleanliness in new homes but I am not sure whether this is from a hygiene perspective or visual impression for guests.

The newest and most comical object to be found in the bathroom is the commercial window cleaner permanently located in the shower recess and yet how often do we clean the house windows?

Many bathrooms have hazardous toweling bath mats in wet areas on the polished floor tiles and hand rails in showers or baths for grips in case we fall on the slippery tiles.

We have become victims to our home environment because of over marketed, expensive, highly finished, super polished, clear and reflecting materials.

Bathroom illumination is improving with the introduction of new lamp types and specialized fittings. The most impressive is the 12v halogen which may be installed in shower recesses.

For the sight impaired or young, dark shower recesses with intensely hot water taps can be dangerous but this is now a thing of the past.

Intense 12v halogen down lighting can be visually obtrusive over vanity basins and yet the main type of lighting used today is the 12v halogen because of its visual appeal.

There should be at least two types of lighting in bathrooms, being general and task over vanities, baths and shower recesses *(See Lighting Chapter 5).*

So, on this basis, it may be an ideal time to rethink your attitude to bathroom design and finishing materials, fixtures and finishes in not so safe wet areas.

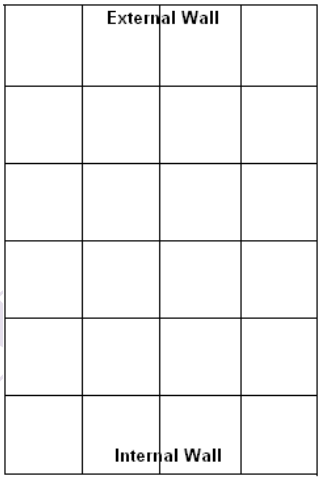
Once again, make a list of fixtures and fittings required as follows:-

1. **Number of people** using the bathroom either individually or together;
2. **Space** allocated or required;
3. **Age** of the occupants;
4. **Condition of health** including eye sight;
5. **Ablution requirements** – bath, shower, toilet and vanity;
6. **Physical disabilities**;
7. **Physical disadvantages** – short or tall, thin or thick;
8. **Storage** to include linen;
9. **Storage** for personal daily essentials;
10. **Storage and electrical points** for electrical appliances such as hair dryers, electric shavers and point of use;
11. **Lockable security storage** for medications and instruments.
12. **Seating required** for youngsters, elderly or sick;
13. **Linen** drying accessories such as rails;
14. **Heating and cooling** requirements;
15. **Natural illumination**; and
16. **Artificial illumination** and outlets.

Using the grid design system, follow design procedure as in laundries and kitchens as follows:-

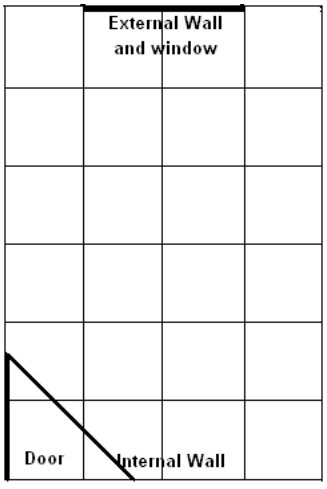
BATHROOM DESIGN PROCESS

Following is a grid plan of a bathroom 2.4 meters x 3.6 meters. Apply the 600mm grid to your existing bathroom floor plan or preferred floor plan for your new home keeping it simple!!



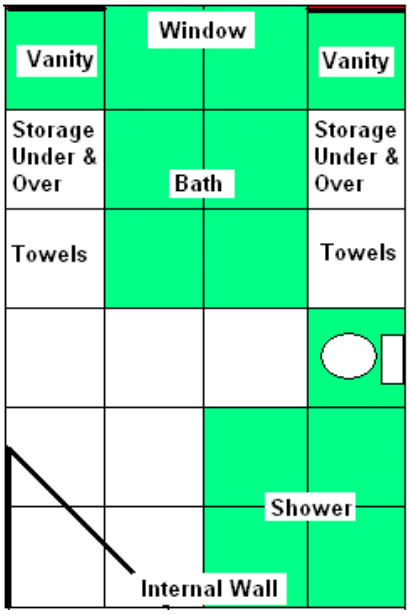
Divide space into 600mm grid
Floor space allocated 2.4m x 3.6m

On the grid plan, locate the doors and windows and any other architectural design components within the room.

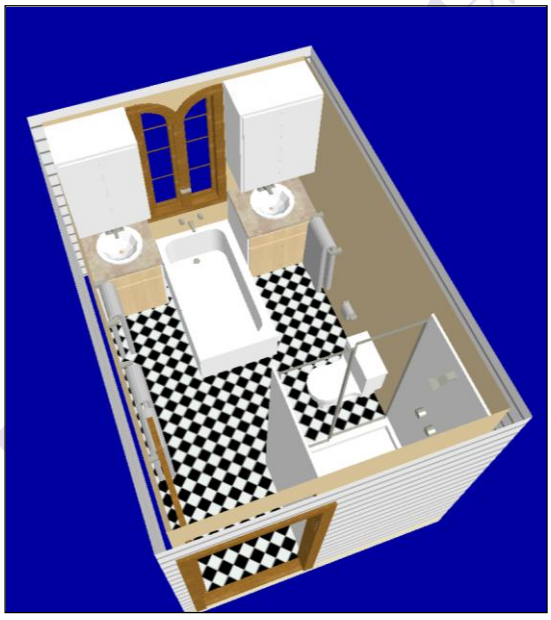


Locate doors and windows

Once all building components have been located, proceed with the placement of the plumbing fixtures such as vanity basins, bath, shower and toilet.



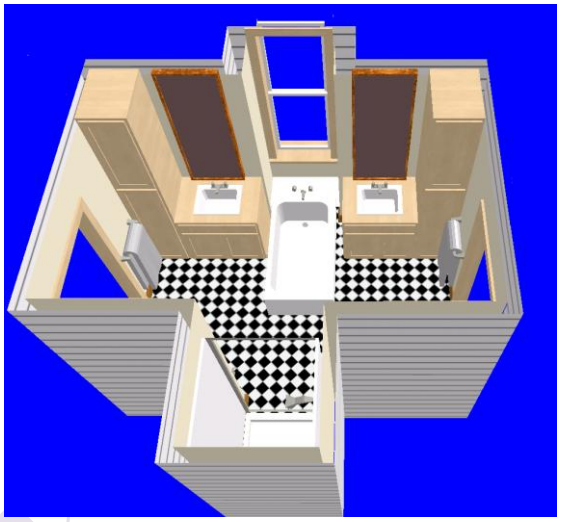
Locate fixture, fittings, cabinets and vanities



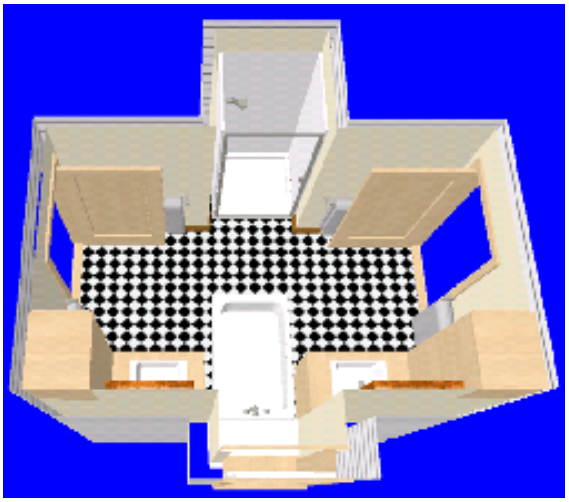
Bird's eye view of bathroom

2.4m x 3.6m

The following illustrations demonstrate the walls expanded to 3.6 metres x 4.2 metres to increase the overall size and capacity of the bathroom accommodating a couple sharing the facility together.



Two vanities are accommodated, both with natural illumination for day use. The bath has been located as a feature with a bay window over for illumination.



Extended plan developed from original