



Interior Renovations Info Sheet

If you are planning to renovate the interior of your home, then it is important to understand the overall process which needs to be followed to ensure that your project moves forward smoothly and in a timely manner.

This information sheet is intended to assist prospective clients in the overall process so that they can understand what to expect during the design and approval process, and what to expect from your home designer and/or structural engineer. It is important to be knowledgeable about the qualifications of the home designer that you choose to hire.

If you are thinking about designing your interior renovations yourself, then this information will also help you understand the overall process that you should follow.

Who can design my Interior Renovation Project?

In Ontario, renovations and additions to a home can be designed by a variety of qualified professionals which may include Architects, Designers, Engineers, Contractors (design-builders) Technologists, and Technicians. In fact, even a Homeowner can prepare their own design drawings (as long as the design is for their own home) and then apply for a building permit, provided that the home conforms to the size limitation of Part 9 of the Ontario Building Code (Footprint of house may not exceed about 6000 square feet, up to 3 Stories in height).

Since the skill levels and abilities of home designers varies tremendously, the Province of Ontario decided in 2006 to enact Bill 124 which set up various regulations regarding the qualifications of “Designers” who can “design” homes for clients and also submit those designs to municipalities for building permit applications.

Effective January 1, 2006, the “Ontario Building Code Act” was amended through BILL 124 to require those persons who provide advice and/or design work for projects that require a building permit be qualified to “Ministry of Municipal Affairs and Housing” standards. These persons are required to take a certification course and exam to obtain what is known as a BCIN Number. This can be any project from a deck to a pole barn to a complete housing package.

Persons having a BCIN Number must also carry errors and omissions insurance to protect their clients in the event of a problem with their design.

Note that Licensed Architects and Professional Engineers are exempt from the requirements of BILL 124 since the practice of Architecture and Engineering is already regulated under the Architects Act and the Engineers Act; Architects and Engineers do not require a BCIN Number to offer services to the Public.

The Design Process:

In a broad sense, the overall process that needs to be followed in order to obtain a building permit for an interior renovation involves the following steps:



1468 Danforth Avenue
Toronto, Ontario M4J 1N4
Phone: 416-489-1228
Fax: 416-429-3991
e-mail: mail@khdavis.com
Website: www.khdavis.com

1. **Preliminary Design** – This is when the overall concept design for your project is formally prepared. During this phase, the changes to the interior of the home are established and the functional layout of the design is drawn-out to scale. Some projects are very simple and do not require extensive preliminary design since the extent of the work is well established even before any design drawings are prepared. Nevertheless, documenting exactly what is proposed is a very important first step so that the rest of the process can accurately build upon the preliminary design.
2. **Zoning Review with the Municipality** – As long as the work involves only changes to existing established living areas in a house, and provided that the work does not involve any kind of addition or change to the exterior of the house, then this step is not required.
Note that if any new construction is to be carried out which creates new living areas (such as converting an attic to a new living area) or creates new enclosed spaces, even below existing structures (such as creating a new full basement space below an existing porch, kitchen, or sunroom which does not have a proper enclosed crawlspace below) then zoning review and a variance may be needed.
3. **Detailed Design** – Once the aesthetic and functional design has been completed, we will ask you to “sign-off” on the final layout to confirm that what we have drawn is what you want to build. The next step is for our structural engineer to review the work to provide whatever structural design input may be required.
4. **Structural Design** – One of the last things to do before the design is finalized is the structural design. During this phase, the size of new beams, posts, and floor joists are determined by one of our structural engineers. Once the structural design is complete, the plans are made ready for permit application.
5. **Building Permit Application and Approval** – During this phase, the building permit application is made. This is a straightforward procedural task which involves filling out the application form and submitting it to the Municipality. Fees for the building permit are also usually levied at the time of permit application, and most municipalities have a published schedule of fees which are usually dependent upon the type of work and not necessarily dependent upon the value of the construction project. The Permit application can be done by the Owner themselves or by the Designer. Most applications for a building permit for an interior renovation should take only about 10 business days to process (actually, under Bill 124, a municipality is supposed to either accept or reject a permit application)

Other Permits that you will likely need:

1. **Plumbing:** In most municipalities, a plumbing permit is, upon request, issued along with a Building Permit. To obtain a plumbing permit, it is often only necessary to complete a form which lists the number of plumbing fixtures which are to be installed as part of the proposed work. Some municipalities require more extensive design which documents a drainage system more thoroughly. Examples would include the installation of a septic system, installation of drains which receive storm water (rain water runoff) discharge from a roof, sunken basement walkout, or other paved area which must be drained.
2. **Mechanical (Heating and Air Conditioning):** Most interior renovation projects do not require an HVAC permit since it is assumed that the home is already adequately heated. If you are converting an unheated space to a new heated space, then you may need to have HVAC (Heating, Ventilation, Air Conditioning) Plans prepared which show the size and layout of the existing and proposed heating system, complete with “heat loss calculations” prepared by a qualified HVAC designer. In many renovations the HVAC permit is obtained by the heating sub-contractor directly who is going to supply and install the new heating system (or modify the existing one) for the project, and the



**Professional Engineers
Ontario**



1468 Danforth Avenue
Toronto, Ontario M4J 1N4
Phone: 416-489-1228
Fax: 416-429-3991
e-mail: mail@khdavis.com
Website: www.khdavis.com

individual who prepares the building permit plans may not have much to do with this part of the construction project.

Most new residential heating systems are forced air gas heating systems, however many older homes are heated with hot water (hydronic) heating system which consist of a boilers and radiators located throughout the home. Modern hydronic heating systems often have much smaller boilers and radiators, combined with areas of heated floors (often called “in-floor radiant heating”).

In many cases, it is important to plan the HVAC system with the design of the project, so that heating ducts and floor systems can be designed to accommodate the type of heating system which is to be used.

Radiant Heating: Radiant heating has become very popular due to the very comfortable heat that can be provided through in-floor radiant heating. The Ontario Building Code requires that new homes be equipped with mechanical ventilation (i.e.: ventilation which involves moving the air in the home) and for this reason, a new home with radiant heating, and often a home undergoing a major renovation, also must have a Heat Recovery Ventilator or “HRV” unit which exchanges the interior air with the exterior air at a certain rate. HRV units often utilize a small diameter air duct which is easy to distribute throughout a new home and does not require bulky heating ducts as does a forced air heating system.

3. Electrical

Electrical permits are obtained directly by the Licensed Electrician that works on your home – electrical is under the Electrical Safety Authority (ESA) and is not part of your municipal building permit application – for this reason, we do not provide any electrical design services for most home project.

However, lighting design is an important component of the finishing of your home – you will want to ensure that appropriate lighting, electrical receptacles, switches, and the like, are planned in advance of dry-walling during construction. We can provide design assistance in this regard, or, you can work with an interior designer or your electrical contractor, to help with this aspect of your project.

Please note that unless electrical line diagrams are included as a separate design fee line item in your proposal, it is not included.

How much does it cost to design my interior renovation project?

Once you meet with your designer, they should provide you with a detailed proposal for services. Our firm charges a fixed fee for design services up to and including the point at which you obtain a building permit, however many firms charge their time on an hourly basis.

Typical design fees for the design of an *interior renovation project* would be in the neighborhood of \$2,400 to \$5,000, depending upon the complexity of the project, including structural engineering. Projects such as this are relatively inexpensive to design, since we don’t need to prepare exterior “elevation” views of the house, nor do we need to prepare detailed site plans or carry out zoning reviews – since there are no changes to the exterior of the home. When there are changes to the exterior of the house, design fees are considerably higher.



Professional Engineers
Ontario



1468 Danforth Avenue
Toronto, Ontario M4J 1N4
Phone: 416-489-1228
Fax: 416-429-3991
e-mail: mail@khdavis.com
Website: www.khdavis.com

Note that some companies do not include structural engineering as part of their design fees, but instead charge this out as a disbursement which is payable by the Owner near the end of the project. Make sure that you know whether or not the proposal for design services that you receive from others includes structural engineering. Also note that the designer of your project (and engineer) may also need to carry out site visits during construction to inspect the progress of the work. Site visits during construction are usually charged on a per-site-visit basis, or, on an hourly basis. As of January 2015, our firm charges a fixed fee of \$525+HST per site visit during construction (which includes a written report to the City Inspector). Site visits are always charged on a per-site-visit basis since we never know to what extent we will be asked to inspect by the City Inspector. Sometimes, an inexperienced contractor will make mistakes during construction and in such instances, we may need to attend the site more times than usual – unfortunately this cost must be borne by either yourself or by your contractor.

Unusual Renovation which are actually “Additions”

Adding living area inside what is currently an Attic or Unheated Porch: Often attic spaces or porches are to be converted into living spaces – these qualify as “additions” to your home and as such, a zoning review is always necessary to determine whether or not you will need a minor variance to add the extra living space. We design many such additions and we provide all required design services. As part of our work, we will need to verify that the foundation walls can handle the extra load of the addition, and we also must usually design a new floor system for the former attic space or porch, since floor joists in most of these areas would not comply with current building code requirements for a living space. When designing attic additions or new 2nd or 3rd story additions, the weight of the new floor area is usually transferred to the exterior walls of the home by spanning the full width of the house with engineered floor joists – this way, existing beams, posts, and pier footings on the interior of the original home are not affected by the addition.

Creating living space below a porch or a kitchen:

If you are planning a new living space below a porch or kitchen area that presently is not enclosed with a full foundation wall, then entirely new construction below these areas needs to be carried out – this means that, even though you may have an above-grade living space above the area of proposed work, the new construction below must still comply with local zoning by-laws, and in some cases the new construction does not comply with the minimum property line setbacks. This is common in older homes - an example is when a homeowner wants to create a living space below a front porch area which is currently just a deck supported on brick pillars. The existing deck and pillars were likely constructed before the zoning by-law came into effect (and are therefore an existing non-conforming construction which is “grandfathered”) but often the new foundation wall construction which is now required below the front porch is too close to the front or side yard property lines and will require a “variance” from the Committee of Adjustment before a permit application can be made.

There are many similar variations on the above noted scenario – so make sure that you explain exactly what you want to do so that we can accurately price the design work that you need.

Please call us!



**Professional Engineers
Ontario**



1468 Danforth Avenue
Toronto, Ontario M4J 1N4
Phone: 416-489-1228
Fax: 416-429-3991
e-mail: mail@khdavis.com
Website: www.khdavis.com

If you would like for us to help you with your renovation project, please call us and we can provide a quotation for the preparation of detailed design drawings that you will need to apply for and obtain a building permit from your municipality.

Good luck!



Ken Davis, P. Eng.

Consulting Structural Engineer

President

KH Davis Engineering Consultants Ltd.

KH Davis Construction Ltd.



**Professional Engineers
Ontario**



1468 Danforth Avenue
Toronto, Ontario M4J 1N4
Phone: 416-489-1228
Fax: 416-429-3991
e-mail: mail@khdavis.com
Website: www.khdavis.com