

# Working Safely Today for a Better Tomorrow

*Together Protecting Homeowners, Independent Contractors and Workers  
in Nova Scotia's Residential Construction and Renovation Sector*



*A Report to  
The Department of Labour and Workforce Development  
Province of Nova Scotia*

*by the  
College of Continuing Education  
Dalhousie University*

*August 2008*



# Safety in the Residential Construction and Renovation Sector

## Final Report

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## EXECUTIVE SUMMARY

The building and renovation of homes takes place every year, on every street and road, and in every neighbourhood, town and city in Nova Scotia. Almost without doubt people are injured because of the unsafe work practices associated with these activities. Homeowners, or members of their families, or those they hire to do the work are the victims. These injuries may require a visit to an emergency room or doctor's office; if muscles are damaged, the person may be debilitated for some time, affecting their productivity in other jobs if not lessening their quality of life in the short or long term. Sometimes such injuries can lead directly or indirectly to long hospitalizations or even death.

Almost \$500 million is spent in Nova Scotia every year on residential construction and renovation work. This involves building houses, putting on additions, shingling roofs, replacing siding and windows, building garages, repairing foundations, tearing out interior walls and constructing decks. It involves climbing on roofs, standing on ladders or scaffolding, using power saws, and carrying lumber and equipment around. It is work carried out by home or property owners themselves and by the small business contractors they engage. The former group likely has no safety training; the latter may have some but in many cases do not bother to put it into practice.

No one is paying attention! There is no information about safe work practices presented to homeowners when they buy lumber, rent equipment or apply for a building permit. When seeking out contractors to hire, the price of the job is often the main criteria, followed by the quality of the work if that can be determined at all; safety on the work site is never a real consideration. Contractors working in the building and renovation sector can easily look the other way where safety is concerned. Contractors doing this work increasingly have no full-time employees to take responsibility for, to supervise, let alone to protect. Everyone is working for and looking out for themselves. This appears to be a trend here and elsewhere.

Much of the work done by others is paid for by home or property owners in cash. It is what economists call the "underground economy" and in the residential construction industry the amount of underground work involved is huge. The "underground" and "above ground" residential construction activity in Nova Scotia involves many of the same individuals and for the most part the same level and kinds of safety risks. However, there is evidence, and a widespread belief, that people are less likely to work safely in the former than in the latter.

**This groundbreaking report is about how to encourage safer work practices in residential construction and renovation.** It is the result of a research initiative involving a review of research on the subject—what they are saying about the subject elsewhere, a survey of homeowners, contractors and workers, and focus groups involving key industry stakeholders. Despite the difficulties encountered generating much new concrete data, the report provides a better understanding of the nature of the health and safety problems in the Province's residential construction and renovation industry and identifies a range of possible measures that can reduce the incidence of injuries through improved safety awareness, knowledge and practices.

Few of the ideas presented in this report are surprising, complex or costly. **Nova Scotia can easily become a leader** in Canada in assisting homeowners, as consumers, in making informed choices and limiting personal liability when hiring contractors. We can become **a leader in preventing accidents in residential home building and renovation work.**

Three things need to happen if we are to reduce the number of workplace injuries in the residential building and renovation sector of the construction industry:

- 1. Homeowners and property owners need to be better informed consumers when making building and renovation decisions and being better informed includes being aware of their responsibility for safe work practices.**
- 2. The established workplace safety associations need to work to change the culture of the industry through creating an open and sustained dialogue amongst contractors and workers about safety practices in residential construction and renovation projects.**
- 3. Government, and specifically the Provincial Department of Labour and Workforce Development and the Workers Compensation Board, must give increased attention to the need for increased level of certification, regulation and enforcement related to residential construction and renovation**

*These three areas are addressed by eleven specific recommendations.* The key to safer practices in residential construction is educating the homeowner, the persons who pay for the work to be done. Homeowners are generally a well educated group and on most other counts are informed consumers. In undertaking a building project, a big financial decision in many instances, they are not aware of their responsibilities and they receive no independent help or advice in planning their project, in assessing their own safety risks or in engaging contractors who will do quality work and do it safely. This problem requires coordinated action on homeowner education. Stakeholders need to work together and must include building supply dealers, equipment renters, realtors, professional engineers, municipal building inspectors, and private home inspectors. We believe that many of these organizations are prepared to participate.

While reaching home and property owners with a strong safety message is the key to a safer working environment in the residential building and renovation sector, there is an important role to be played by the established industry organizations in changing the safety culture. While gains have been made in improved safety in the commercial side of residential construction, the message has not carried over to contractors and workers when they work on their own for home and property owners. Indeed, the practice of everyone being an “independent contractor” is a trend detrimental to good safety practices in homeowner initiated construction projects.

There are in fact two different construction safety cultures, one that abides by good safety practices and one that does not. It is the independent contractor side of the residential construction culture, that is the “*elephant*” in the safety training room.<sup>1</sup> It needs to be named time and time again if the two faces of construction safety are to become one. A focus group participant said that changing the safety culture will not be unlike changing society’s acceptance

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<sup>1</sup> According to Wikipedia the *elephant in the room* is an English idiom for an obvious truth that is being ignored or goes unaddressed. It is based on the idea that an elephant in a small room would be impossible to overlook. It is sometimes used to refer to a question or problem that is obvious, but which is ignored or not discussed openly.

of smoking, it will involve a long term commitment by many and a persistent, and often uncomfortable, message.

We also heard that there needs to be more options for homeowners in terms of insurance coverage and safety training as well as a more concerted effort to insure that supervisory personnel have safety training oriented to their responsibility to ensure safe work sites.

There is an important role for the Department of Labour and Workforce Development. Enforcement of safety practices in residential construction is an important part of the cultural change. While we recognize that resources to support increased enforcement are limited, the cause of improving safety in residential construction needs a few high profile preventive shutdowns not accident investigations.

One idea that we believe also bears further study is the idea of licencing or registration of residential construction contractors as is the practice in British Columbia and some U.S states. Such licencing ought to help homeowners hire contractors who take safety seriously.

The recommendations in this study together help bring the **Internal Responsibility System (IRS)**<sup>2</sup> full circle by bringing the home and property owner into the OHS decision making process where they rightfully belong.

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<sup>2</sup> The Internal Responsibility System (IRS) refers to the responsibility of everyone in the workplace and at the job site to ensure that each other works safely and to report any unsafe situations to a manager, supervisor or owner.

## **ACKNOWLEDGEMENTS**

This study has been funded by a \$25,000 grant from the Department of Labour and Workforce Development.

## **RESEARCHERS**

The principal researcher for this project is E. Grant MacDonald, Associate Professor in the Dalhousie College of Continuing Education.

Mr. David Dahr, an occupational health and safety (OHS) trainer, carpenter for over 30 years as well as an experienced construction foreman and supervisor, is involved as the project's senior occupational health and safety consultant. Indeed, this project is largely due to Dave's deep concern, advocacy and perseverance on this issue.

# 1. INTRODUCTION

The building and renovation of homes takes place every year on every street and road and in every neighbourhood, town and city in Nova Scotia. Almost without doubt people are injured every day because of unsafe work practices associated with these activities. Homeowners or members of their families or those they hire to do the work are the victims. These injuries may require a visit to an emergency room or doctor's office; if muscles are damaged, the person may be debilitated for some time, affecting their productivity in other jobs if not lessening their quality of life in the short or long term. Sometimes such injuries can lead directly or indirectly to long hospitalizations or even death.

In 2007 at least \$2 billion was spent on new residential construction in Nova Scotia<sup>3</sup>. Some of this was spent by homeowners or potential homeowners building their own homes, or contracting with small firms to do so. Hundreds of millions more were spent on countless re-siding, roofing, window installation, garage and deck building projects. It is impossible to know the rate and seriousness of injuries incurred from all this construction work but from the information that is available, it is believed that the rate of injury in this sector is particularly high and as a consequence it impacts on health and social services resources in every jurisdiction.

Addressing the safety issues in this sector poses a particular challenge since it is especially difficult to reach through legislation, enforcement, and traditional occupational health and safety programs designed for larger construction firms.

Much of the work is done by homeowners with no safety training. If it is not done or overseen by homeowners it is carried out by contractors who are set up as small businesses often without any regular employees, or by individuals who work under a registered business name or their own name. Much of the work done is often paid for in cash, taxes are not charged for the labour costs. This is what economists refer to as the "underground economy." It is a sector of the construction industry where work is carried out, for the most part, without regard to the safe work practices that have, with some success and great effort, been adopted in commercial residential construction.

This groundbreaking report provides a better understanding of the nature of the health and safety problems in Nova Scotia's residential construction industry and identifies a range of possible measures to improve safety awareness, knowledge and practices. The ideas presented are not surprising, complex or costly. The ability to do something is not, in this case, dependent on a large chunk of public or even private resources. Serious injuries can be prevented and lives can be saved with less money than it took to do this study. Nova Scotia can easily become a leader in Canada in assisting homeowners in making informed choices and limiting his or her personal liability when hiring contractors.

The report provides some background on what is known about the residential construction and renovation industry, its safety practices and the incidence of injury. It describes our effort to

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<sup>3</sup> Canada Mortgage and Housing Corporation (2008), CHS Residential Building Activity: Construction Expenditures and Building Permits, 2007, Table 33, May.

gather some hard data on the industry, bring stakeholders together, and come up with some recommendations for action.

In the course of doing this study, workplace safety was much in the media locally and nationally. This included reports on increased risk of injury to younger workers (Chronicle Herald, Monday June 16, 2008, p.1), refusal of the Workers Compensation Board of Nova Scotia to comply with an FOI ruling to release a list of repeat offenders as employers fined for safety violations (Chronicle Herald, Monday, June 2, 2008). Then there is the recent ruling by Judge Jamie Campbell under the Occupational Health and Safety Act on the death of Michael Bonvie, an employee of the Town of New Glasgow, an example that reminds us that property owners, in this case a municipality, and home owners are not necessarily the same group although both are named in the OHS Act as having similar safety responsibilities.<sup>4</sup>

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<sup>4</sup> The Provincial Court of Nova Scotia, April 8, 2008 NSPC 15

## 2. BACKGROUND

In spite of the lack of definitive statistical evidence, there is every reason to believe, and most industry players and observers acknowledge, that workplace health and safety is a major problem in small residential construction operations.

Although we indicated in the introduction that *no one is paying attention* to the problem of safety in residential construction, this is not quite true. David Dahr has been a lone crusader for more attention to this issue for more than a decade. This project came about as a result of a partnership between David, long time advocate for workplace safety, and Dalhousie University College of Continuing Education.

David's deep concern for the health and safety of those working in this sector of construction more than anything else was the impetus for the project. Dave is well known to many of the industry players and has been critical of the fact that residential construction safety has too often been ignored. This has not always won him favour; such is the lot of many crusaders for social change!

Dave is the author and publisher of *Protection in a Handbook! A Homeowner's Reference Guide* (2005), perhaps the only book of its kind currently available. Through this handbook, written in plain language, David has sought to assist homeowners in becoming better informed about their legal responsibility as property owners, and, often as contractors themselves, of the legislative environment and the role and relationships among the main government and industry bodies concerned with workplace safety.

To push for greater action, Dave needed an organizational partner and found a willing one in Dalhousie University College of Continuing Education<sup>5</sup>. The College engages in a wide range of education, facilitation, and research initiatives that bring together the resources of the university and the community to address professional, organizational and societal challenges.

Through the years, the College has had a continuing concern for and involvement in, issues relating to workplace health and safety. Following the Westray disaster, for example, the College facilitated several working groups who were reviewing the Occupational Health and Safety Act and various Regulations under the Act. For many years, the College has offered a Certificate Program in Occupational Health and Safety Management. Many staff of the Nova Scotia Workers Compensation Board and Workers Compensation Appeals Tribunal are graduates of the College's program in negotiation and conflict resolution.

The Nova Scotia Department of Labour and Workforce Development provided Dalhousie with a \$25,000 research grant to fund the work. The Department is responsible for shaping the legislation and regulations and enforcing compliance.

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<sup>5</sup> The College, in its current form, was created as a result of amalgamation, in July 2004, of Henson College of Public Affairs and Continuing Education, and Continuing Technical Education of the former Technical University of Nova Scotia. Its history, however, stretches back to the Institute of Public Affairs, created by Dalhousie in 1936 as a bridge between the community and the university.

### 3. RESEARCH METHODOLOGY

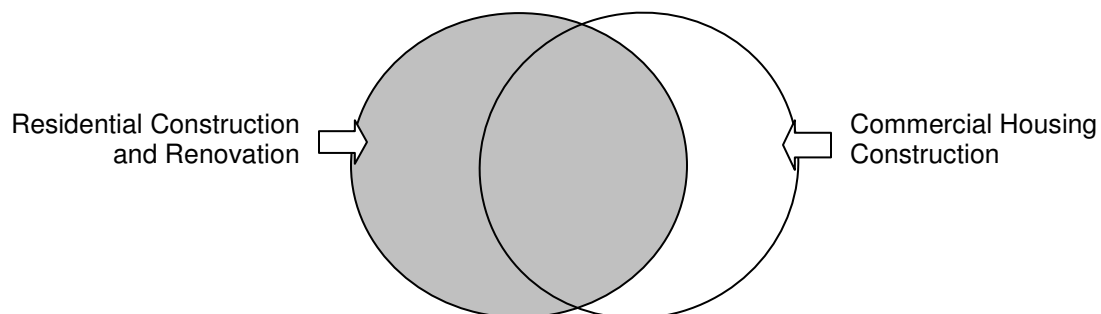
The research involved three components:

- (1) The review of published reports and studies on the residential construction industry and its safety practices
- (2) A survey of homeowners, contractors and workers in this sector
- (3) Focus groups meetings involving key stakeholders.

For the purposes of this study we defined the **residential construction industry** as that portion of the industry that involves home and property owners undertaking themselves and/or hiring independent contractors with fewer than three employees to **build their home, an addition on their home or to undertake renovations**. Fewer than three employees is important because small firms are not required to have injury liability coverage under the Workers Compensation Board. Typically, this work would involve projects with a total value of less than \$250,000 and most often, projects of \$50,000 and less.

We distinguished this work from the **commercial construction of homes** that typically involves the construction of multiple units of family housing or apartments and usually involves contractors with three or more employees.

The study is focused on homeowners and those they engage to do the work for them. The contractors who are involved in this segment of the residential building sector are those generally set up as small incorporated firms often without any full-time employees. They often operate as registered, but unincorporated businesses or involve individuals working under their own name. Many of these businesses also operate in the commercial construction sector. In other words, the same people may work in both economies. When you add to this the likelihood that many builders are also home or property owners, the degree of overlap is likely significant.



Dalhousie University required that the research, because it involved human subjects via a survey and focus groups, meet stringent ethical standards that insure that participants are fully informed of the consequences of their involvement or that protect their confidentiality, and that their participation is voluntary. The study plan, survey, focus group guide and information documents went through an independent ethical review process. The review process, including the

preparation of the 20 page submission document, took about 4 weeks. The survey questionnaire and focus group design was reviewed and approved on April 10, 2008 by the Social Sciences and Humanities Research Ethics Board at Dalhousie University. The Board made some recommendations for change including that women's presence as decision-makers in residential construction projects be more explicitly acknowledged in recruiting survey respondents. This we attempted to do.

### **3.1 Review of Published Reports and Studies**

We conducted a literature review of both academic and popular written material on the safety practices in residential construction, on the underground construction economy, on work related accidents and on the licencing or regulation of residential contractors in other jurisdictions. There was little primary research to draw upon. The details of this review are described in the next section of the Report. Material on these subjects can be found in academic journals and in government reports. There is an increasing amount of information on these topics on the internet.

### **3.2 Survey**

Although our original funding proposal did not call for it, we decided that a survey might help us acquire a clearer understanding of work safety awareness amongst those that operate in the small residential construction sector – homeowners or property owners, contractors and workers. In other words, we were hoping to gain a sense of what people “on the ground” really know about safety practices. We did not have any objective information on how much knowledge there is out there about the responsibilities and practices for worksite safety in residential construction, especially among homeowners or property owners.

Surveying actors in the underground economy is, in any circumstances, immensely challenging. We determined early on in the project that we would certainly not be able to survey a representative sample of the population of homeowners, contractors and workers. These groups were not known. We decided, however, that we would attempt to acquire at least some primary data and that this effort, if advertised and carried out with some cooperation from stakeholders, would generate some community awareness as well as some useful data.

We sought the participation of three groups in the survey:

- **Homeowners and property owners**, particularly those who have undertaken a residential construction or renovation project within the last three years. The home owner or property owner is the person who owns the site, or acts on behalf of the owner, where the work takes place and pays for all the work done on that property. Sometimes the homeowner contracts through a building supply dealer to get the work done.

Homeowners are not just men. Decisions on what work to do and who to hire are often made by spouses. Women generally are the decision-makers behind the renovation side of a residential construction project.

- **Contractors**, either an individual or small business with fewer than three employees. The contractor is the one who bids on and carries out the work. The contractor may operate


under a business name or not, and the business may be registered and/or incorporated or not. The contractor may deal directly with the homeowner or indirectly through an agent such as a building supply dealer.

- **Workers** are those engaged by the contractor as employees or casual help. They may be carpenters, electricians, plumbers, other trades, handymen or handywomen.

The survey questionnaire was developed over the fall and winter of 2007-2008 and went through several drafts. Some of the stakeholders were asked to review the questionnaire, including staff of the Department of Labour and Workforce Development, the Workers Compensation Board, the N.S. Home Builders Association (NSHBA), N.S Construction Safety Association (NSCSA) and Carpenters Union. Both the NSHBA and NSCSA declined to offer any feedback.

The survey questionnaire (See Appendix B) was available for completion on the Internet from May 10 to June 15, 2008. The survey was promoted via three advertisements in the Halifax Chronicle Herald (May 10, 13, 23) directing people to the online study or to a telephone number and message machine (where they could request a paper copy be sent to them). We also placed an advertisement and link to the survey on Kijiji (a popular on line classified advertisement site), sent project posters to building supply dealers (some of which were certainly displayed) and e-mails to at least a dozen other players in the hope that they might be forwarded on to possible survey respondents.

Survey Advertisement (Chronicle Herald)



**DALHOUSIE  
UNIVERSITY**  
*Inspiring Minds*

**Homeowners, Small Residential Contractors and  
Construction Workers**

Dalhousie University College of Continuing Education, in cooperation with the Nova Scotia Department of Labour and Workforce Development is conducting a study of workplace safety in the residential construction industry. We are seeking information via a confidential survey from men and women home/property owners, contractors (with fewer than three employees) and workers who have been involved in home construction and renovation projects in Nova Scotia within the last three years.

Information on the project and an on-line questionnaire can be found at:

**[collegeofcontinuinged.dal.ca/OHS/](http://collegeofcontinuinged.dal.ca/OHS/)**

*Note: The questionnaire does not require your name, address or other identifying information.*

If you would like to receive a paper copy of the survey and a return envelope, or want to know where one might be picked up, you can also call us at (902) 494-6440.

In addition to promoting the on-line survey we also distributed three hundred paper questionnaire packages (questionnaire, postage paid return envelope, overview of the study) and promotional posters advertising the study to willing building supply dealers and union halls throughout Nova Scotia.

A press release on the study and the survey, “Construction May Put Homeowners at Risk”, was issued by the University to all media contacts on May 12 (See Appendix C).

### **3.3 Focus Groups**

In our original design we proposed focus groups involving contractors and homeowners. Instead, we thought it would be more useful, as the third step in the study, to bring government, industry, education and other stakeholders together in one of two focus group sessions. Focus groups provide a means for people with an interest in an issue to provide information that is best gained in a conversational setting. In this case we were interested in:

- (1) identifying a range of perspectives on the issue of safety in residential construction and renovation
- (2) generating some ideas for improving safety practices that stakeholders might support and even take on themselves.

We sought participation in the focus groups from the following groups:

- Construction industry bodies representing employers and employees
- Government bodies with regulatory and education roles
- Businesses that provide goods and services related to home construction and renovation

Thirty people representing the key stakeholders were invited to participate in one of the focus group sessions. All were given a choice of one of two dates. Most received an e-mail notice of the sessions in early May, six weeks in advance of the focus group meetings. All received, in early June, an invitation package including a formal personalized letter, consent form, focus group outline and project information paper (see Appendix 5). Those invited were told that they, or a representative of their organization, were welcome.

We identified 12 main stakeholder organizations and have depicted them in **Figure 1** that follows. They were

#### **1. The Occupational Health and Safety Division of the Department of Labour and Workforce Development**

The Nova Scotia Department of Labour and Workforce Development (LWD) is responsible for the administration and enforcement of the *Occupational Health and Safety Act* and *Regulations*.

As well, LWD administer and enforce legal standards for health and safety in the workplace. The department has 31 inspectors today across the province.

## **2. Workers Compensation Board of Nova Scotia (WCB)**

The Workers Compensation Board provides workplace injury insurance for more than 18,000 employers, representing about 300,000 workers across the province. The WCB strives to prevent injury and illness, but when it occurs, support injured workers, their families and their employers to achieve an early and safe return to work.

The WCB's Prevention Services Department is responsible for health and safety prevention education and in doing so strives to make changes in the way that Nova Scotians think about workplace safety. By working with employers, workers, and partner associations, we will develop ways to create awareness, change behaviours and promote best practices to reduce workplace injury and illness.

The WCB's Prevention Program is driven by four key objectives:

1. Increase awareness and knowledge
2. Promote attitude and behaviour change
3. Support adoption of best practices, and
4. Improve outcomes

## **3. Nova Scotia Home Builders Association (NSHBA)**

The Nova Scotia Home Builders' Association is the voice of the residential construction industry in Nova Scotia. For more than 50 years, the Nova Scotia Home Builders' Association has played a key role in promoting quality, choice and affordable housing for all Nova Scotians. There are similar bodies in other jurisdictions, all committed to increasing professionalism in, and trust of, the industry.

The Homebuilders Association represents over 300 member firms in Nova Scotia made up of professional builders, renovators, developers and many other stakeholders in the residential construction industry. Individually, members stay up-to-date on the latest developments in the industry, and polish their business and technical skills through workshops, courses and information sharing. All members adopt the Association's Code of Ethics and are committed to fairness, integrity and customer satisfaction.

The Home Builders Association members include both large and small employers, including many that operate with fewer than three employees.

## **4. Nova Scotia Construction Safety Association (NSCSA)**

Funded, in part, by the construction industry through a levy which is a percentage of the premiums paid by employers to the WCB, the NSCSA is focused on reducing lost time accidents due to injury by helping to create a positive occupational health and safety culture in the construction industry. Their main vehicle in improving safety practices are training, certification (certificate of recognition) and safety auditing.

The NSCSA is a membership based organization although the majority of their memberships are automatic by virtue of their paying into the workers Compensation Fund. The NSCSA also has Associate memberships that are available to owner operators, small, intermediate and larger construction businesses.

## **5. Building Supply Retailers**

We identified building supply dealers as a key stakeholder group by way of their direct and indirect dealings with homeowners and contractors. These businesses not only sell products but serve as contractors themselves by hiring constructors and installers; among them, Kent Building Supplies as an industry leader in OHS after experiencing a workplace tragedy firsthand. We made contact with Kent at a corporate and local level early on in the study and they indicated a high level of interest. Other building supply dealers in the Halifax area ( Payzants, Pierceys, and LumberMart) were also contacted but too late in the process to involve them significantly.

Building supply dealers have an association, the Atlantic Building Supply Dealers Association ([www.absda.com](http://www.absda.com)) that serves as the collective voice of the building supply and home improvement industry in the region. They also were contacted.

## **6. Realtors**

Realtors' deal with homeowners and they are often involved directly or indirectly in engaging residential contractors to repair houses that are going on the market or have just been purchased. As agents and advisors to homeowners, realtors frequently make recommendations on whom to hire to repair a home that has been purchased or is to be sold.

The **Nova Scotia Association of Realtors**, who were contacted about the study, focuses on the organization of real estate activities for its members and the development of common goals across Nova Scotia. The goals include promoting higher industry standards, providing educational opportunities to ensure members maintain a current knowledge of industry standards and practices, and assuring the general public of a high professional standard of conduct and practice by brokers and salespeople. The Association has a role to play in making realtors more aware of construction safety issues.

## **7. Unions**

Although the residential construction sector is not highly unionized, many individuals involved in the residential and commercial construction are union members. The principal unions involved are the carpenters and millrights, electricians and plumbers. They work in this part of the industry both as employees and independent contractors and as homeowners themselves.

The unions are organized provincially through the Nova Scotia Federation of Labour and the construction unions are organized as well in order to bargain as a group with employers by the Mainland Building Trades Council and the Cape Breton Building Trades Council. Union members, in theory at least, receive a wide variety of safety training (first aid, confined space, fall protection basic and safety orientation) although most of it does not focus on residential construction situations particularly.

## 8. Building Officials

Building officials, or building inspectors, are those who administer and enforce the National Building Code of Canada/Nova Scotia Building Code for municipal governments throughout the province of Nova Scotia. This inspection function was at one time shared by the Federal Government through Canada Mortgage and Housing Corporation (CMHC) when they played a stronger role in protecting homeowners whose mortgages were guaranteed by them.

Building officials have regular contact with home and property owners and contractors both in issuing building permits and inspecting construction work on site

There is a provincial and national association of building officials. The **Nova Scotia Building Official Association** has approximately 150 members. Unfortunately not every municipality has the resources to provide building inspection services, a void that has been created, in part, by CMHC vacating the field of inspection.

NSBOA also have associate members who work in the design and construction industry in the Province representing engineering technologist, housing authorities, home designers and home inspectors.

## 9. Equipment Rental Services

There are a number of firms that provide home and property owners and contractors with the tools and equipment that are necessary for construction and renovation work. This includes ladders, scaffolding, and power tools to mention a few.

Much of this equipment is dangerous if not operated according to manufacturers instructions and/or without training.

Business firms in this industry include MacFarlands, Hertz Rentals, and Bay Equipment Rentals. Some building supply dealers, like Home Depot, are also in the business of renting equipment. There is also an industry Association, the **Canadian Rental Association** ([www.crarental.org](http://www.crarental.org))

## 10. Engineers

Engineers tend to do more work on the commercial side rather than residential side of construction and may be involved with contractors/builders but seldom with homeowners. They are involved with recommending safety equipment and designing buildings with worksite safety features (e.g. anchor points). Residential building plans, whether purchased from a catalogue, produced by a building retailer or created by an architect, usually lack any safety considerations.

While an indirect player, the **Association of Professional Engineers of Nova Scotia** (Engineers Nova Scotia) has a professional interest in public safety and believes it has a role to play bringing this issue to the attention of its members.

## **11. Safety Services Nova Scotia (SSNS)**

Safety Services Nova Scotia (formerly the Nova Scotia Safety Council) is a long established non-profit organization and pioneer in safety education and training in Nova Scotia. They offer a range of OHS training programs, although few are directed to the residential construction sector.

## **12. Nova Scotia Community College (NSCC)**

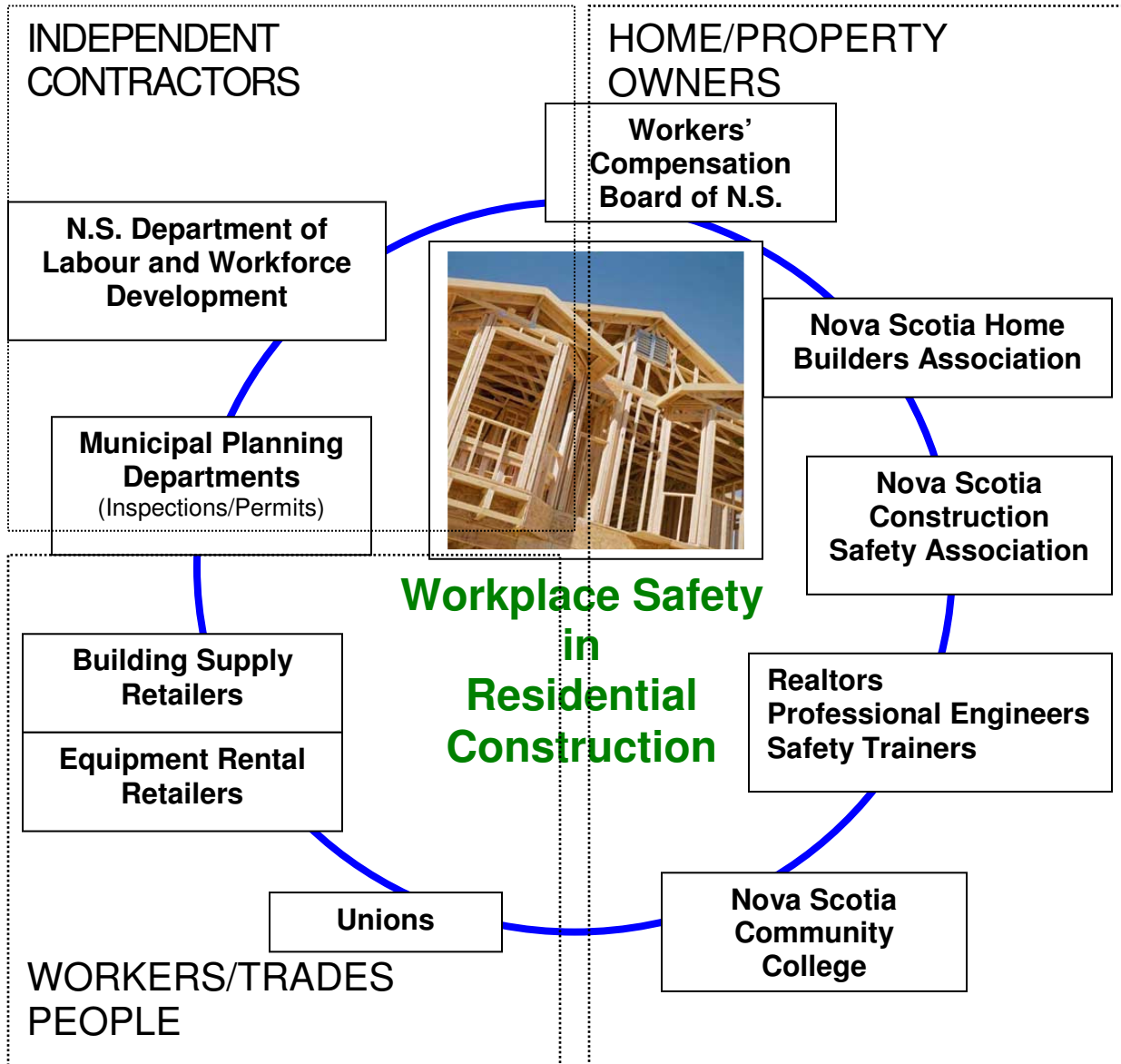
The NSCC provides apprenticeship training to all building trades. Carpenters, who probably make up the majority of small contractors, are not required to be certified in Canada but certification is available to every carpenter who seeks it out.

Safety training is an important but generic part of NSCC's trades diploma programs, although workplace specific training such as confined space or fall protection is available separately from NSCC as it is from other training providers such as the NSCSA.

NSCC does not do much training on the business side of small contracting in terms of educating students about going into business and the role of the Workers' Compensation Board and Department of Labour and Workforce Development in insurance coverage for business and enforcing safety practices.

Figure 1

### A Stakeholder Map



## 4. PROJECT FINDINGS

What follows is a report on what we found in each component of the research project, these being a review of published information relevant to safety in residential construction (secondary sources) and the results of the study's own survey and focus group components (primary sources).

### 4.1 Review of Published Reports and Studies

#### 4.1.1 Workplace Safety in Canada

The literature on workplace health and safety generally suggests that in spite of the many initiatives of industry, government, and private organizations, Canada has an unenviable workplace health and safety record. While there has been some improvement over the past decade in the rate of lost-time injuries, the rate of workplace fatalities has actually risen.<sup>6</sup> In only four OECD (Organization for Economic Cooperation and Development) countries is the fatality record worse than in Canada.

Achieving a significant decrease in work-related injury, disease, and death is a goal which appears elusive in Canada, in spite of the significant education and enforcement initiatives by government, non-government, and private organizations. A December 2006 report by the Centre for the Study of Living Standards (CSLS)<sup>7</sup> indicates that while the level of workplace injuries has fallen, the number of deaths continues to rise. Only four other countries—South Korea, Mexico, Portugal and Turkey—have higher rates of workplace fatalities than Canada. In reporting on the CSLS study, the *Globe and Mail* notes that “the industries where workers have the greatest risk of dying on the job are those that typify Canada’s image: fishing, mining, forestry and construction.”<sup>8</sup>

#### 4.1.2 The Construction Industry

The construction industry accounts for our second-highest number of deaths—nearly 20% of all workplace-related deaths in Canada. The CSLS identifies construction as the industry having the second-highest number of workplace fatalities in Canada (after manufacturing). In the three-year period 2002-2004, there were 2307 reported time-loss injuries<sup>9</sup> and 11 deaths<sup>10</sup> in Nova Scotia’s construction industry—and these figures reflect only claims accepted by the Nova Scotia Workers’ Compensation Board (WCB). Workplace illness and injury sustained by individuals

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<sup>6</sup> Sharpe, Andrew & Hardt, Jill. (2006, December). *Five deaths a day: Workplace fatalities in Canada, 1993-2005*. Centre for the Study of Living Standards, Ottawa, ON.

<sup>7</sup> Sharpe, Andrew & Hardt, Jill. (2006, December).

<sup>8</sup> Picard, André. “Workplace deaths spiking, study finds.” *Globeandmail.com*, December 12, 2006.

<sup>9</sup> National Work Injuries Statistics Program, Association of Workers’ Compensation Boards of Canada. *Number of Accepted Time-loss Injuries, by Industry and Jurisdiction, 2002-2004*.

<sup>10</sup> National Work Injuries Statistics Program, Association of Workers’ Compensation Boards of Canada. *Number of Fatalities, by Industry and Jurisdiction, 2002-2004*.

working in the residential construction and renovation sector, and not covered by WCB, that is work carried out by homeowners or independent contractors is not included.

#### 4.1.3 Residential Construction

As already indicated, we divided the home building segment of the construction industry into two components: commercial home building sector and the residential and renovation sector.

From building permit applications, almost \$2 billion was spent in Nova Scotia in 2007 on all new residential construction – large multi-unit developments and owner-initiated single unit home construction<sup>11</sup>. If one assumes that even 10% of this amount was spent on owner-initiated and/or contracted home construction, then the value of new home construction in the residential and renovation sector is in the vicinity of **\$200 million** a year.<sup>12</sup>

Almost all home additions, garages, new roofs, siding, and internal renovations and alterations are initiated, if not carried out, by homeowners or property owners. The best source of data relevant to appreciating the extent of renovation activity is from Statistics Canada's Survey of Homeowner Expenditures. This is presented in Table 1. Looking only at the figures for additions and renovations, the data indicates that in 2002, on average, individual homeowners in Nova Scotia spent over \$1081 a year on construction work that required hiring someone as a contractor. This is only slightly lower than the Canadian average.

If one multiplies the number of households in Nova Scotia by the average expenditures on additions, renovations or alterations, and assumes that the average and number of households has not dropped from the 2002 level, the data suggests that at least **\$288,108,120** is spent every year in this province on homeowner initiated residential renovation work.

**If one accepts these two estimates, we have a situation where almost \$500 million is spent in Nova Scotia every year on residential construction work that is the responsibility of individuals that are most likely unqualified to assess the safety hazards associated with the work let alone take action to reduce the risks to themselves or others through good safety practices and proper safety equipment.**

While the workplace safety record across the construction industry is of a major concern, there is every reason to believe that the safety problem is particularly acute in residential construction and renovation projects, those undertaken by home/property owners themselves and those that involve contractors with fewer than three employees.

Homeowners make major building and renovation decisions only a few times in their lives. Add to this a concern for the lowest price, a relatively short home project season, little ability to judge the quality of the work done or work practices used by those they hire and we have a situation where safety is most likely to be compromised.

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<sup>11</sup> Canada Mortgage and Housing Corporation, op. cit. The figure in this report is \$1994.5 million.

<sup>12</sup> One estimate is that 25% of homes are owner-built. This figure comes from the New Brunswick Home Builders Association in their *Report on Licencing of New Home Builders and Renovators in New Brunswick*, no date, p. 4

**Table 1: Homeowner Expenditure on Repairs and Maintenance<sup>13</sup>**

Homeowner expenditure on repairs and renovations, by province (Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick)					
2002					
	Canada	N.L.	P.E.I.	N.S.	N.B.
	estimated number of households				
Total homeowner households	<b>8,054,930</b>	157,660	37,600	266,520	220,980
Households with repair and renovation expenditures	<b>6,093,553</b>	130,534	31,582	214,090	164,048
Contract work	<b>3,869,981</b>	59,935	20,117	125,508	85,204
Materials	<b>4,944,779</b>	122,059	26,922	187,624	139,269
	Average expenditure <sup>1</sup> (\$) for contract work and materials				
<b>Total repairs and renovations</b>	<b>2,910</b>	<b>2,708</b>	<b>2,484</b>	<b>2,334</b>	<b>2,344</b>
Repairs and maintenance	<b>1,072</b>	933	1,028	807	716
Replacement of equipment	<b>340</b>	288	440	323	241
<i>Additions</i>	<b>569</b>	500	302	528	576
<i>Renovations and alterations</i>	<b>711</b>	756	518	563	588
New installations	<b>219</b>	230	195	113	223
	Average expenditure <sup>1</sup> (\$) for contract work				
<b>Total repairs and renovations</b>	<b>1,850</b>	<b>1,006</b>	<b>1,575</b>	<b>1,259</b>	<b>1,377</b>
Repairs and maintenance	<b>683</b>	389	659	431	354
Replacement of equipment	<b>206</b>	102	272	179	136
<i>Additions</i>	<b>347</b>	141	189	259	325
<i>Renovations and alterations</i>	<b>478</b>	293	371	355	422
New installations	<b>136</b>	82	84	35	140
	Average expenditure <sup>1</sup> (\$) for materials				
<b>Total repairs and renovations</b>	<b>1,060</b>	<b>1,702</b>	<b>909</b>	<b>1,075</b>	<b>967</b>
Repairs and maintenance	<b>389</b>	545	369	377	361
Replacement of equipment	<b>135</b>	187	168	143	105
<i>Additions</i>	<b>221</b>	359	114	269	251
<i>Renovations and alterations</i>	<b>232</b>	463	147	208	166
New installations	<b>83</b>	148	111	78	83

<sup>13</sup> Average Expenditure: Averages are based on all of the households in the sample including those that reported no expenditure for the category. **Source:** Income Statistics Division, Homeowner Repair and Renovation Expenditure 2002, Catalogue no. [62-201-XIB](#). Last modified: 2005-01-12.

Statistics Canada has identified the residential construction sector, and especially the home construction and renovation portion of it, as the segment of the Canadian economy with the highest level of activity within the “underground economy.”<sup>14</sup> Those involved in the underground economy as contractors are quite *unlikely* to accurately report their activities—whether they are income and expenditure related, or health and safety related.

Thus, workplace injuries which occur among those who are working for cash, “under the table,” are unlikely to be reflected in occupational health and safety statistics. Even in the case of legitimate, properly registered, construction operations, if they have fewer than three employees, they are not required to participate in Nova Scotia’s WCB insurance program. As a result, it is reasonable to assume that we have no accurate record of the safety performance of contractors not insured by WCB. The safety performance of a multi-million dollar segment of our economy, an “employer” of thousands of Nova Scotians, is hidden.

Much of the research on the underground economy in industrialized countries has been focused on the inability of government to tax a significant amount of economic activity. In a 1998 study of “the Underground Economy in Ontario’s Construction Industry” it has been estimated that between 20 and 30% of all income in construction industry is underground, that is not reported. In terms of residential renovation and repair, not new housing, the study estimated that this activity generates over one billion dollars in unreported income per year.<sup>15</sup>

If 30% of expenditures on home renovation and repair involve underground contracting, a conservative percentage given that this does not include any new housing construction the value of which would be higher, Nova Scotians probably spend at least \$86 million per year in residential construction activity employing contractors most of whom are small independent businesses working for cash.

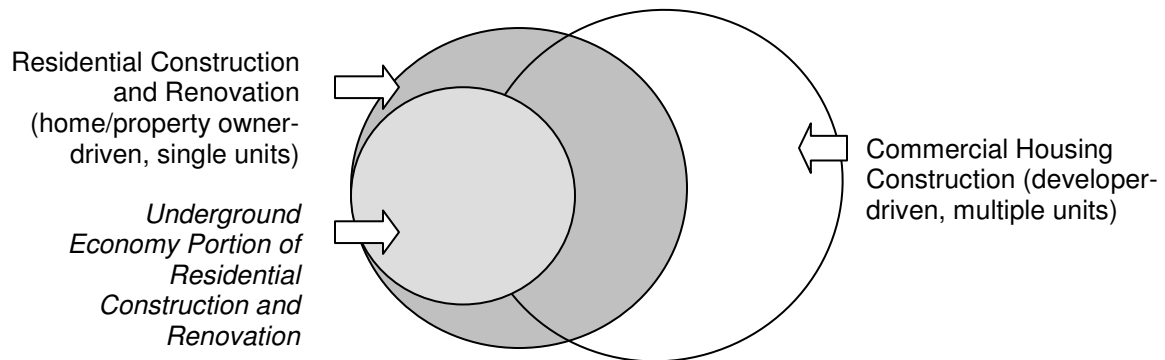
Home building is the largest component of the construction industry; residential construction and renovation is the biggest component of home building activity and the underground economy portion of residential construction and renovation makes up the largest portion of this activity. This is true in Nova Scotia, across Canada, and in the USA and Australia.

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<sup>14</sup> Statistics Canada. May, 1994. *Assessing the Size of the Underground Economy: The Statistics Canada Perspective*. Catalogue No. 13-604-MIB – No. 28.

<sup>15</sup> O’Grady, John , Greg Lampert and ARA Consulting: *The Underground Economy in Ontario’s Construction Industry: Estimate of Size and Revenue Losses to Government and Workplace Safety and Insurance Board (WSIB)*, November 1991, Ontario Construction Secretariat.

Figure 2



As recently as 2007, the Ministry of Labour in Ontario has targeted the underground economy in construction as a problem in terms of undermining the health and safety of construction workers, eroding labour standards, lowering construction standards as well as costing the Province \$1 to 2 billion in lost government revenue, both in general taxes and worker compensation premiums.<sup>16</sup>

There is abundant anecdotal evidence that safety measures are frequently ignored by small residential construction operations. A study of fatal injuries in the construction industry as a whole in Washington State in the U.S.A. found increasingly mortality with decreasing company size.<sup>17</sup> The residential construction industry in most jurisdictions is, of course, dominated by independent contractors.

A recent report on fatal and non-fatal injuries in the Ontario construction industry<sup>18</sup> provides strong statistical evidence that there is a major health and safety problem within this segment of the construction industry. Among the findings of the report, covering the period 1997–2005 in Ontario, are the following:

- Of the total 184 construction fatalities in the period, 34% were in low rise residential construction and 8% in high rise construction (in both cases including both new construction as well as repair, maintenance, and service). Small residential construction operations operate primarily in low rise construction where a large portion of the construction fatalities occur.
- Low rise residential was the segment of the construction industry that saw the highest number of fatal falls: 41% of the total.

<sup>16</sup> Government of Ontario, Ministry of Labour, *Press Release*, May 14, 2007.

<sup>17</sup> Buskin, Susan and Paulozzi, Leonard (2007) "Fatal Injuries in the Construction Industry in Washington State" in the *American Journal of Industrial Medicine*, Vol. 11, Issue 4, pp 453-460.

<sup>18</sup> Construction Safety Association of Ontario. January 2006. *Report on Fatal and non-Fatal Injuries in the Ontario Construction Industry*.

- In contrasting the records of companies of varying size, the report observes, “Note that two fatal falls occurred in firms having more than 100 workers, while 22 fatal falls occurred in companies of 5 workers or less.”<sup>19</sup>
- In examining the relation of fatalities to age, the report concludes, “workers older than 45 years suffer more fatalities than their proportion in the workforce. This means that older workers are more likely than younger workers to die on construction sites.”<sup>20</sup> While we do not have an age and demographic breakdown of those in the small residential construction sector, it would appear that older workers are disproportionately represented.
- Finally, the report concludes that roughly half of the fatal falls could have been prevented by fall-arrest equipment. Larger construction operations, in most cases, employ fall-arrest equipment where appropriate. Once again, it is the small construction operations which are much less likely to have and to use appropriate fall-arrest equipment.

There is a dearth of resources readily available or presented to home and property owners either on their legal liability to ensure others work safely or on working safely themselves. We recognize that the Province’s resources for consumer education are limited but that even their on-line *Consumer Savvy* material on “Hiring a Contractor” fails to mention the work safety issue.<sup>21</sup> More surprisingly, both of the Nova Scotia Home Builders Association’s on-line resources “What Should I Ask a Builder” and “What to Look for in a Renovator” fail to mention safety concerns.

#### 4.1.4 The Rise of Independent Contractors and the Erosion of the Internal Responsibility System (IRS)

Another important theme in current discussions with respect to the construction industry employment is the rise of independent contractors, that is, those working for themselves. Our concern is less about concealing income and avoiding taxes than undermining the employment relationship that involves supervisory and therefore safety responsibilities.

According to Statistics Canada’s Labour Force Survey, self-employment in the construction industry has risen dramatically over the last twenty years. Today one-third of construction workers declare themselves to be self-employed. In fact, self-employment is the second fastest growing employment demographic in Canada, with approximately 16 per cent of 17 million workers in Canada freelancing for their income.

Occupational health and safety laws and organizational practices that flow from them (such as health and safety committees, training) are based on a foundation that an industry is made up of employers and employees. This is changing, especially on residential construction and renovation; there are fewer employers and employees as we might have thought of them a decade ago, but more people are working at this than ever before.

According to Chris Bosch, reporting in the April 2008 edition of Canadian Occupational Safety:

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<sup>19</sup> Construction Safety Association of Ontario. January 2006. Figure 7, Fatal Falls by Company Size.

<sup>20</sup> Construction Safety Association of Ontario. January 2006. Figure 12, Age Distribution.

<sup>21</sup> Service Nova Scotia and Municipal Relations [www.gov.ns.ca/snsmr/consumer/hire.asp](http://www.gov.ns.ca/snsmr/consumer/hire.asp)

*The problem is that while self-employment is rising, safety awareness for this group of Canadians is not.*

*Health and safety training often happens within the traditional workplace setting. Safety committees are set up, policies are set in place and safety training is usually mandatory. But what about the large group of people—such as the self-employed—who work outside the traditional workplace where safety measures are not monitored as closely? Shouldn't Canada be concerned for its growing self-employment population?*

*The Ontario Construction Secretariat (OCS) is concerned. They've been studying the rise of self-employment for some time now, particularly as it relates to the construction industry. Katherine Jacobs, director of research and analysis with the OCS, states, "According to Statistics Canada's Labour Force Survey, self-employment in Ontario's construction industry has increased from 75,000 workers in 1987 to 130,000 in 2006. Not only are we seeing an increasing number of self-employed workers in construction, but their share of total construction employment is also increasing. Almost 20 years ago, 25 per cent of the construction workforce were self-employed. Today, one-third of construction workers declare themselves to be self-employed."*

The purpose of the health and safety legislation is to clarify the duties and rights of workers and employers. The employer is required to assure the health and safety of every person employed, while the employee is under the obligation to take all necessary precautions while working to ensure his safety. The employee is given three basic rights. First, employees have the right to receive proper training and supervision provided by their employer in order to minimize the risk of accidents. Second, workers have the right to participate in safety committees in the workplace and to help identify the possible hazards at their worksite. Finally, workers have the right to refuse work that they reasonably judge unsafe (dangerous to them or to another employee).<sup>22</sup>

When we examine the situation in small residential construction operations against this framework, it immediately becomes clear why the sector experiences problems with respect to its health and safety performance. The role of employer often is unclear: many individuals are self-employed, so the employer and employee are one; in many cases the homeowner may become the employer but, if so, the homeowner is unlikely to be conscious of this role and certainly unlikely to be conscious of his/her responsibility for the health and safety of workers on their premises; and, finally, if the "employer" is operating in the underground economy, the employer is clearly attempting to avoid many of the duties and responsibilities which legally accompany the role. **The impact of this confusion concerning the identity and role of employers and employees is that consequently *no one* is assuming the health and safety role which properly belongs to everyone at or near the worksite.**

While workers in any small construction operation have the legal right to refuse unsafe work, many workers are likely to find it difficult to exercise this right: they effectively have no supervisor or, if they do have one, the supervisor is likely to be a colleague with whom they work directly on a daily basis; they operate in an environment that has limited enforcement; there

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<sup>22</sup> Sharpe, Andrew & Hardt, Jill. p. 60.

is effectively no involvement of labour unions; and they may operate “under the table” in a manner whereby they want to avoid attracting the attention of any government or enforcement body. **The Internal Responsibility System, the cornerstone of our Province’s Occupational Health and Safety Act, increasingly has no effect on contractors working in residential construction and renovation.**

Based on this trend, it appears that homeowners may well, often unwittingly, take on the role of employers and/or constructors within the terms of the Nova Scotia Occupational Health and Safety Act. A clearer understanding of the potential roles, responsibilities, and liabilities of the homeowner are important in the development of mechanisms for improving workplace health and safety in the small construction sector.

#### 4.1.5 Regulation and Licencing of Residential Contractors

Another theme that emerged in our research is the growing interest in greater regulation of the residential construction and renovation sector and, in particular, the extension of regulatory mechanisms to small contractors. Some jurisdictions in Canada, the U.S.A and other western countries with similar housing markets have instituted various licencing, certification or registration regimes. In part, this has been motivated by a desire to capture more tax revenues but there are also examples of licencing designed to protect consumers from the effects of shoddy workmanship. Warranty protection, not safety concerns and safety liability however, are generally the primary reason for regulation in the residential and renovation sector.

Some examples can help shed some light on the kind of regulatory mechanisms in place or being considered:

##### *Province of British Columbia*

In British Columbia regulations stem from the interest in protecting homeowners as consumers. B.C. has established a Homeowner Protection Office (HPO) that requires the licencing of builders including those involved in home renovation work.

Under B.C.'s Homeowner Protection Act, a builder licencing system has been established by the HPO. Provincial licencing is required for the following categories of builder:

Licensed Residential Builder: All residential builders who engage in, arrange for, or manage all or substantially all of the construction of a new home in B.C. must be a Licensed Residential Builder and must provide home warranty insurance.

Licensed Building Envelope Renovator: All building envelope renovators who engage in, arrange for, or manage a building envelope renovation in B.C. must be licensed as a building envelope renovator and must provide the applicable warranty insurance on the building envelope renovation.

The B.C. system does take safety practices in account. When one hires an individual or business to work in or around their home on a full-time, part-time or casual basis they are considered a

'residential employer'. As an employer, one may be required to register with the Workers' Compensation Program of British Columbia (WCB-BC).

If an individual is building a new home for themselves in B.C. and takes on the role of a general contractor in the construction, the owner is required to register with the WCB, even if the subcontractors they hire carry their own WCB registration. If one is hiring contractors or subcontractors for home renovations or repairs a homeowner may also need to register. If homeowners hire contractors who carry their own WCB coverage, they are encouraged to ask to see their WCB account number. Homeowners in British Columbia can verify on-line that contractors are registered with the WCB-BC.

#### *Hamilton, Ontario*

The City of Hamilton, Ontario has a municipal by-law that requires businesses carrying out repairs and renovations such as additions, roofing, siding, decks, and replacing windows to obtain a **Building Repair Contractors Trade Licence** and those doing such work to hold a **Building Repair Master's Trade Licence**.

The municipal licencing process involves a fee and the Master's Trade Licence requires the passing of an exam on the Ontario Building Code. The provisions of Licence By-Law 06-213 do not apply to those engaged in the construction of commercial, industrial, institutional or residential buildings which have been designed by and are under the supervision and review of a Professional Engineer or an Architect licenced to practice in that Province.

#### *New Brunswick Home Builders Association*

The New Brunswick Home Builders Association has recently come out in favour of the establishment of a comprehensive licencing system for all new home builders and residential renovators. In terms of consumer protection, the New Brunswick report states:

*The present residential construction market is confusing and full of potential dangers for the consumer. Most consumers undertake very few construction projects during their lives. The New Brunswick Home Builders Association, along with the Canadian Home Builders Association has worked to help to inform the public about construction processes through public presentations, ad campaigns and home shows. Uninformed consumers are not often aware of the benefits of a good contract or don't know what is to be expected in the way of a warranty or work guarantee. They may also be unaware of building codes and safety regulations and may not realize the liabilities they face when having work done on their property if injuries occur on their job sites.*<sup>23</sup>

#### *State of Tennessee, U.S.A.*

The State of Tennessee established a Board of Licencing Contractors in 1931 to promote quality and fair construction practices in all phases of the industry in order to protect the safety and welfare of the public.

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<sup>23</sup> New Brunswick Home Builders Association (No Date) Report on Licencing of New Home Builders and Renovators in New Brunswick, Fredrickton, , p. 3

The State requires Contractors Licences for projects in excess of \$25,000 and Home Improvement Licences for projects from \$3,000 to \$24,999. Contractors licences require an examination. The state, like some other U.S. jurisdictions, also licences certain subcontracting trades such as plumbers and electricians who carry out home renovation work.

#### *New South Wales, Australia*

Further afield in Australia, the NSW Department of Commerce's Office of Fair Trading plays a major role in promoting fair trading and protecting consumers within the NSW residential building industry. It is responsible for setting and maintaining the standard of competence for builders and tradespeople working in the industry.

The *Home Building Act 1989* requires builders and trades people in NSW to be licensed for the work that they do, and to have proper contracts and insurance in place for most jobs.

The Department provides homeowners and property owners with a range of useful information to help them understand their rights and responsibilities when building or renovating a home.

#### *Province of Nova Scotia*

Nova Scotia is not engaged in regulation of the construction sector either to capture more tax revenues or protect consumers. Service Nova Scotia and Municipal Relations promotes fairness in the marketplace and champions consumer protection through education, regulation and complaint resolution. However, they do provide two useful on-line publications of interest to homeowners: Hiring a Contractor and Buying From a Direct Seller.

Under Nova Scotia's *Direct Sellers' Regulation Act*, any firm that solicits business directly from consumers (i.e. contacts you first), either in person or electronically, must be licensed and bonded. Direct sellers must also provide a written contract for any sale over \$100 and consumers are to be provided with a cooling-off period after signing such a contract.

There is some interest in consumer protection in the residential construction sector. The province is presently studying different mechanisms following complaints from new home and condominium buyers about poor workmanship<sup>24</sup>

We note with interest the example in Nova Scotia of the **Registry of Firewood Vendors**, a voluntary process under the auspices Service Nova Scotia set up primarily as a means to protect and inform consumers. The Registry of Firewood Vendors requires companies listed in a public registry to attest that they agree to operate by a published code of business ethics available for all to see. The registry is voluntary but for consumers interested in purchasing firewood it provides

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<sup>24</sup> The Atlantic Home Building & Renovation Sector Council recently completed three years of research and consultation on the licensing of contractors and the training and certification of carpenters. A Regional Conference on Certification and Licensing in Residential Construction was held on April 6,7, 2006 at the Westin Nova Scotia, Halifax. The Council has a plan and a program and we are ready to move forward with legislation and a new licensing commission.

some comfort. A similar mechanism might work for residential construction and renovation in educating homeowners and establishing clear contractual and safety practices expectations.

## 4.2 Survey Findings

While we anticipated that we would have some trouble attracting homeowners, contractors and workers to fill out the questionnaire, this turned out to be much more challenging than we expected. The press release was not picked up as a story by any media outlet. The newspaper advertisements generated some survey responses but the distribution of 300 survey packages to building supply dealers and union offices did not.

We were hoping for several hundred responses but received only 57, of which only 38 people completed all the questions. Of the 57 respondents, 51 surveys were done on-line, 6 were completed using the paper version. Of the total, 24 were from homeowners, 12 were from contractors and 18 were workers. Of the 38 fully completed questionnaires, 26 were from men, 12 were from women.

We believe we would have had more responses if a number of the stakeholders had taken a greater interest in the project and had encouraged their members to respond to the survey.

Given the disappointing number of responses, **no conclusions can be drawn from the survey data alone**. However, the survey provides a small glimpse into the world of residential construction safety:

1. The majority of residential construction projects involve work by homeowners or independent contractors such as repair work, renovations and improvements which could include additions. These types of projects are usually under \$20,000.
2. At least half of this work is carried out without a municipal building permit. A building permit is not required for every project undertaken by a home/property owner. When a building permit is obtained, it insures that the work is done properly and is inspected by a professional.
3. Half or more of those working in the residential construction and renovation workforce do so as independent contractors, not as employers and employees.
4. Fewer than half the projects undertaken that involve independent contractors involve a written contract between the parties. A verbal agreement and handshake is the norm.
5. Where there are worksite safety concerns, the three major ones reported are:
  - fear of falling
  - use of Personal Protective Equipment (PPE)<sup>25</sup>
  - housekeeping<sup>26</sup>

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<sup>25</sup> PPE includes safety boots, hard hats, safety glasses and gloves

<sup>26</sup> Housekeeping concerns on construction sites include gathering up and removing debris; adequate disposal of scrap, waste and surplus materials; keeping stairways, passageways, ladders, scaffold and gangways free of material, supplies and obstructions; securing loose or light material that is stored on roofs or on open floors; removing or bending over nails protruding from lumber; keeping hoses, power cords, welding leads, etc. from laying in heavily traveled walkways or areas; and ensuring structural openings are covered or protected adequately (e.g. railings)

6. The majority of people who responded to the survey believe that safety issues in commercial and residential construction are the same, one kind of work is not inherently more dangerous than the other.
7. Awareness of safety issues and practices and the likelihood of attention to them on residential work sites increases with the amount of safety training and/or having received a workplace injury.
8. Homeowner awareness is low or the situation is misunderstood concerning the need for insurance as protection from the legal liability of a workplace injury.

### ***4.3 Focus Group Results***

We were surprised and disappointed in the number of stakeholders who participated in the focus group sessions. Fewer than half of the invitees even bothered to acknowledge our invitation. We ended up with twelve responses to the invitation of which nine were confirmations and in the end only eight people participated.

The focus group sessions were held on June 17 from 10 to 12 noon and on June 19, 2008 from 2 to 4 pm at the College of Continuing Education's Dresden Row site.

As indicated earlier, the main goals of conducting focus group interviews were to (1) identify a range of perspectives on the issue of safety in residential construction and (2) generate some ideas for addressing safety problems that stakeholders might support and even take on themselves.

We were pleased by the level of interest and the quality of the discussion from those that did participate in the focus group sessions. Although some key stakeholders did not participate, the results outlined below, given the kind of questions asked, are important findings.

## **Perspectives on the Issue of Residential Construction Safety from Stakeholder Focus Group Sessions**

1. Safety practices in the underground economy will be slow to change
2. We need a cultural change at the grassroots. It will take time and multiple efforts by multiple players. We have seen such change with smoking and the use of automobile seatbelts.
3. Education is key but legislation is also essential. Enforcement helps cultural change; it sends a message too; legislation reflects what the society deems is important.
4. Enforcement applies to contractors and workers; education is mostly relevant to homeowners.
5. We need greater awareness – that is, education, training and information.
6. The current suite of safety training that is available (i.e. one and two day courses) is not doing the job; we are “banging at the same old nails.” We need a larger suite of educational opportunities including shorter (e.g. 3 hour) courses and workshops targeted to a wider audience.
7. A significant proportion, at least half of the homeowner initiated residential construction work, is done without municipal building permits. In HRM the value of this work has been estimated at over \$21 million dollars per year. The primary reason home/property owners do not obtain permits is their belief that any work they report to the municipality will end up costing them more in property taxes, that is, their assessment will go up to some extent if not by the value of the work they undertake.

## **Ideas for Action on Residential Construction Safety from Stakeholder Focus Group Sessions**

1. Building officials need to find new ways of promoting how they add value as third party advisors to homeowners undertaking construction projects.
2. Not much will change in terms of safety practice in the residential construction sector unless homeowners begin to ask questions of those they hire. Just by asking questions about safety, homeowners are acting with due diligence.
3. Homeowners need to be in a position to ask the appropriate questions of themselves or contractors they hire about working safely in different construction and renovation situations. They do not initially need the answers or to know what specific safety controls need to be in place.
4. Safety awareness must start with the ones who pay and this is the home/property owner. This is the “golden rule.”
5. Building inspectors could play a greater educational role if more homeowners applied for building permits. There needs to be progress severing the assumed connection between building permits applications and property tax increases (or else strengthen the connection such that failure to obtain a permit will increase your taxes)!
6. Building inspectors can do little to educate contractors. More often than not, when they are on the worksite there is no one to speak to with supervisory responsibility.
7. Building inspectors depend on the Department of Labour and Workforce Development OHS field officers. The Department has a bigger role to play.
8. Nova Scotia may want to consider the licencing of contractors as they have in other provinces such as B.C and in several states in the U.S.A.
9. Project management training also does not get much attention and could help small contractors better understand how to incorporate safer practices and save money.
10. We will likely only make a difference if there are some government-industry association partnerships. The Homebuilders Association is an important player, not so much that they are involved directly in the residential construction sector, but that given their professionalism they could be more intentional about influencing small contractors indirectly. With a sustained effort by the major players, it is possible to begin to change the culture of the industry.
11. Other players such as retailers and equipment suppliers, realtors and building inspectors have an important role to play in getting a safety message to homeowners.

## 5. RECOMMENDATIONS

Based primarily on our **review of published reports and studies** and our **focus group conversations**, we offer a number of recommendations that we believe will reduce the number of injuries to homeowners, small contractors and workers in the residential construction and renovation sector. Our recommendations focus mostly on education, but we also believe there is an important role to be played by the licencing or registration of small contractors and more focused enforcement of safety practices.

Although we believe there is widespread acknowledgement that safety is a problem in residential construction and the renovation sector as we have defined it here, despite our invitations, the research was carried out without the benefit of the knowledge of a number of the **established stakeholders**, leaders in promoting workplace safety in the Province. Whether this reflects little will to look at the problem, or a lack of faith that anything can be done, we are not sure.

We were pleased to uncover genuine interest in this issue in other quarters. Retail building supply dealers, equipment suppliers, realtors, building inspectors and engineers have, up to now, been left out of the residential construction safety practices equation. It is through the efforts of these latter groups, the **new stakeholders**, that much needed change will be possible.

Our recommendations are directed in most cases to groups or to specific stakeholders. They fall into three distinct categories:

1. Homeowners and property owner education
2. Changing the culture of the industry
3. Increased enforcement of occupational health and safety legislation and the introduction of some form of certification.

### ***5.1 Homeowner and Property Owner Education***

It is very clear that the residential construction and renovation economy is ultimately driven by home and property owners. They have the power and the responsibility when it comes to working safely. If it is problematic that homeowners do not work safely themselves when working on their own home, it is even more of a problem when they hire others to do construction work for them who do not work safely. Homeowners may be financially liable, if not criminally responsible, if those working on their properties are injured. This information, if put in the hands of homeowners, will help drive change.

Homeowners need to have easy access to information on how to work safely themselves when doing work on their homes and they must understand how, in hiring others to work, they could be considered an employer and therefore be responsible for any injuries. They also need to understand that their homeowners' insurance is unlikely to cover them unless they have taken

measures to ensure that the contractors they engage carry WCB coverage and work safely or have explicitly delegated (as in a written contract) this responsibility to them.<sup>27</sup>

Our first recommendation is the most important one and in some respects the easiest one to take action on. **Homeowner education will be the most effective lever in making improvements in safety practices in residential building and renovation sector.**

### **Recommendation One: New Stakeholders**

There should be a coordinated and sustained safety information campaign on workplace safety at all points where home and property owners come in contact with retailers, municipal planning departments, realtors and home inspection services.

This consumer information campaign should provide print and on-line guides to assist homeowners, as consumers, deal more effectively with small contractors, in particular:

- Greater homeowner awareness of their liability responsibility
- What questions to ask contractors about working safely
- Sample contracts or agreements
- Instructions on the proper set up and use of key pieces of rental equipment

As we noted earlier in the report, there is a relative dearth of resources now in front of home and property owners either on their liability or on working safely. Homeowners need to encounter resources on the Internet, at the help desk of every building supply dealer and at municipal planning departments. **This situation needs to be addressed by stakeholders collectively and individually.** The resource *Protection in a Handbook* serves as a reference for homeowners wanting to know more about the legal framework around safety and their place in Internal Responsibility System.<sup>28</sup> This resource will also assist industry stakeholders in developing their own, complementary resources.

There also needs to be information for homeowners who are doing some or most of the work themselves, in particular:

- What kinds of risks are present in home building and renovation projects
- What safety controls and practices can be put in place
- Who should be consulted on safety equipment

The stakeholders involved in implementing these recommendations should take note *that most home building and renovation decisions, including what contractor to hire, are made or strongly influenced by women* and that they may take safety concerns more seriously than men.

If implemented, this recommendation would see a range of safety brochures and guides at every building supply dealer and on every website that might get looked at by homeowners. The modest cost of any consultation, brochures and web design work should be borne entirely by the

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<sup>27</sup> See Dahr, *Protection in A Handbook: A Homeowners Reference Guide*, pages 9-10 & 31-31.

<sup>28</sup> David B Dahr, see earlier reference. This resource is currently in its second edition. We recommend the addition of a new cover and the additional use of graphics to the third edition.

stakeholders and since this can be seen as a way to add value to their services, we believe most players will see it in their interest to assist customers on this issue.

For there to be action on this recommendation, there needs to be support for the cost of facilitating, over a period of one year, a **stakeholder working group**.

### **Recommendation Two: Involve Other Stakeholders**

Efforts to promote a coordinated education campaign for homeowner and property owner education should seek to incorporate some other stakeholders.

In conducting the research, we realized that there are other stakeholders that might have been included and should be in any subsequent efforts. One obvious group is the **Atlantic Home Building and Renovation Sector Council**, one of a number of industry bodies funded in part by Service Canada's Labour Market Partnerships program.

Another is the home inspection industry made up of individuals and firms that offer services to home buyers. The industry, through the **Canadian Association of Home and Property Inspectors** (CAHPI) has adopted Standards of Practice and Code of Ethics and supports a ten module certificate program on the construction of a house, what may go wrong, and how to address problems that arise regarding structure, roofing, heating, electrical, air conditioning/heat pumps, plumbing, insulation, interior, and exterior elements. Educating homeowners on safety practices associated with repairs and maintenance should play a prominent role in the work of this emerging profession.

Other stakeholders may include the Nova Scotia Real Estate Commission and Canadian Mortgage and Housing Corporation (CMHC).

### **Recommendation Three: All Stakeholders**

Key stakeholders, new and established, should establish a working group on homeowner education with clear action plan and goals and that this group show results within one year.

This group's sessions should be facilitated and funding should be sought for a ¼ time secretariat to arrange meetings and help members of the group prepare homeowner educational materials. We are certain that a number of stakeholders we talked to are interested in being part of such a working group.

### **Recommendation Four: Safety Training Provider Stakeholders**

We heard the message from some of the stakeholders who participated in the study that the suite of safety training presently available in the industry is not varied enough to appeal to all needs and certainly not those of homeowners and those in a position to advise homeowners in their building and renovation decisions.

Established industry training bodies should develop safety education training for customer service staff, building inspectors` and realtors and others so that people in these positions are

confident and able to advise homeowners and contractors on the importance of working safely and advise them of where to turn for expertise when it is needed.

### **Recommendation Five: Workers Compensation Board of Nova Scotia (WCB)**

Home and property owners currently do not have access to safety liability insurance that could protect them in the event someone was injured in the building or renovation of their home. We recommend that:

The Workers Compensation Board of Nova Scotia offer time-limited or project specific safety liability insurance coverage to homeowners which does not require a business number and to small independent contractors.

We would like to see an economical product developed similar to medical insurance for travelers and trip cancellation insurance. While we are not in a position to judge whether it would be a money maker for the Board, we are certain it could be an important safety awareness builder in the residential and renovation sector. The Board could have a section on its website for home/property owners with a safety questionnaire which would answer the question: do I need occupational safety coverage? British Columbia should be looked at as a jurisdiction where the Workers Compensation Board does a good job making information available to homeowners and property owners.

### **Recommendation Six: Workers Compensation Board of Nova Scotia**

We believe that small contracting businesses that take safety seriously should be brought under the WCB's wing. We recommend that:

The WCB offer incentives in the form of discounts on WCB premiums for contractors who invest in certified safety equipment.

### **Recommendation Seven: Workers Compensation Board of Nova Scotia**

The Workers Compensation Board of Nova Scotia undertakes an excellent annual safety advertising campaign using television and radio media. We recommend that:

Homeowner or residential construction safety situations be added to the WCB's advertising campaigns.

### **Recommendation Eight: Building Officials**

We believe that building inspectors and municipal planning departments have an important safety role in education in their dealings with homeowners and contractors. We would recommend that:

Building inspectors and municipal planning departments do more to change the building permit application process from one that emphasizes granting "permission" to one that emphasizes third party assistance to home owners in insuring the quality of the work done and safety practices employed.

Improvements to the building permit application process across Nova Scotia should include are the development of more separate user friendly applications for renovation projects that do not involve structural changes such as re-roofing, siding and decks. In support of the above recommendation we would also recommend that:

Building officials engage in training on workplace safety to deal effectively with different homeowners and contractors scenarios at the point of permit application and on site building code inspections.

## **5.2 Changing the Culture of the Industry**

### **Recommendation Nine: Nova Scotia Construction Safety Association (NSCSA)**

Given that the Construction Safety Association did not formally participate in the study we are reluctant to make any recommendations to them. However, they have had, and continue to play a key role in changing the culture of the industry. Culture change involves the explicit and relentless attention to the *elephant in the room*, namely the discrepancy within their membership between commercial and residential safety cultures. We recommend that:

The NSCSA increases awareness of the two safety cultures, independent contracting practices and the safety implications for homeowners and independent contractors in all its safety training and certification efforts.

## **5.3. Regulation, Enforcement and Certification**

In examining the factors which may influence the level of workplace fatalities, the Centre for the Study of Living Standards has noted:

*Workplace fatalities can be influenced by the nature of the regulatory framework that governs workplace health and safety issues. A framework with lax health and safety regulations for employers and/or poor enforcement may ... [result] in a greater number of fatalities than a framework with stringent regulations and/or strong enforcement.<sup>29</sup>*

The stakeholders we spoke to were unanimous in their view that the enforcement of the Occupational Health and Safety Act and Regulations was critical to improving safety in the residential sector.

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<sup>29</sup> Sharpe, Andrew & Hardt, Jill. p. 60.

**Recommendation Ten: N.S. Department of Labour and Workforce Development**

The Department change their enforcement policy to include residential construction and renovation projects and undertake a modest campaign to police safety in this sector with the view to making an example of homeowners and involving them in the process of enforcement.

**Recommendation Eleven: Province of Nova Scotia**

We believe that the idea of licencing or the registration of small home building and renovation contractors is an idea that has merit from a consumer protection perspective and that under a consumer protection rubric, workplace safety issues should be addressed. As noted in this report some other jurisdictions have undertaken some form of licencing, including British Columbia, Ontario and several U.S. and Australian states. We recommend that:

The Government of Nova Scotia investigate the licencing or registration of residential contractors and renovators perhaps through a mechanism administered through Service Nova Scotia and Municipal Relations.

## APPENDICES

### Appendix A: Researcher Biographies

#### **E. Grant MacDonald, Associate Professor and Project Director**

Grant is an Associate Professor (Continuing Education) at Dalhousie University College of Continuing Education and Director of the Non-Profit Sector Leadership Program and the Negotiation and Conflict Management Program

Grant is one of Canada's leading researchers and adult educators in the field of non-profit and voluntary sector leadership. He has worked with many organizations throughout Nova Scotia as a coach, advisor and trainer. His research focuses on volunteer board dynamics and government-nonprofit contracting relationships. Grant also teaches in the areas of negotiation and conflict resolution, collaborative relationships, difficult conversations, public participation and citizen engagement. He is a trained mediator with an interest in board-staff conflict in non-profit organizational settings.

Grant has worked with both unions and management and has facilitated a number of multi-stakeholder processes in the area of occupational health including the fall arrest and workplace violence working groups associated with the 1996 review of regulations under the Nova Scotia Occupational Health and Safety Act.

He holds a Master's degree in Public Administration from Dalhousie University and Bachelor's degrees in Arts and Business Administration from the University of New Brunswick. He has also done graduate work in education at OISE (University of Toronto).

Grant has served on a number of volunteer boards including Dalhousie Legal Aid, Community Health Promotion Network Atlantic and the North Woodside Community Association in Dartmouth. He is presently on the board of Ecology Action Centre.

#### **David Dahr, Senior Occupational Health and Safety Consultant**

David is a passionate advocate of workplace health and safety! Having worked as a carpenter, foreman, and site supervisor for thirty years, he has an intimate knowledge of construction practices and safety issues.

Since the introduction of Nova Scotia's new Occupational Health and Safety Act in the mid-1990s, David has been working tirelessly to promote measures which would strengthen the internal responsibility system within workplaces. He has taken particular interest in the issue of fall protection. This has led him—through study, design, experimentation, and testing—to invent and develop the Genesis Safety System (patent pending), which has set a benchmark standard in Nova Scotia for bracket scaffolding. The system has proven to be effective in the construction industry and is certified by Innova Corporation.

David has completed a wide range of construction safety programs through the Nova Scotia Construction Safety Association and, in 2002, was certified as an Occupational Health and Safety Trainer by the Nova Scotia Safety Council now known as Safety Services Nova Scotia.

David's deep concern for the health and safety of those working in construction has led him to research and publish *Protection in a Handbook! A Homeowner's Reference Guide*. Through the handbook, David has sought to assist homeowners in becoming better informed concerning their particular role and, in turn, more active in promoting sound health and safety practices on their own premises.



## Appendix B: Survey (Paper Version)

### Workplace Safety in Residential Construction

# Survey of Homeowners Contractors and Workers



This is a survey of workplace safety in residential construction projects. It is designed to find out your experience with residential construction and your awareness of the safety issues involved.

The questionnaire starts on the next page and will take you about fifteen minutes to complete. Question one seeks your agreement to participate. Question two asks that you identify whether you are a home/property owner, a small contractor (with less than three full time employees) or a construction worker. The questions that follow, and there are about 25, are different for each group.

Some questions ask you to make one choice, others to select several responses. If "other" is sometimes your best choice you can use the line(s) below the question to add in a written response. The lines can also be used for longer comments if you have any. Comments made will not be quoted in any report. Please answer from your experience, not what you think the researchers want to hear. The value of the survey depends on us getting honest answers.

Before submitting your completed survey, make sure that all of your answers are as you would like them. You may want to use a pencil so you can make changes more easily if you need to.

Your responses are confidential. There are no questions that ask for your own or your business name, home or work address, or other identifying information that would allow the researchers or anyone else to know who is answering. If you are at all concerned about providing the information requested feel free to skip over particular questions. We think you will find the survey interesting and valuable.

*Thank you!*

**Q1.** I have read the enclosed information about the research project, the description of the questionnaire and the researcher's assurances about the confidentiality of my responses. I voluntarily agree to participate in this survey.

- € Yes (please continue)
- € No (please discontinue the survey)

**Q2.** I will be answering the remaining questions from the perspective of:  
(Choose one only)

- € Home Owner/Property Owner  
Complete Sections 1 and 4 only
- € Contractor (bidder & manager of the work site)  
Complete Sections 2 and 4 only
- € Construction Worker (employee or casual worker)  
Complete Sections 3 and 4 only

**Please complete and mail this  
survey in the enclosed  
envelope by  
May 30, 2008**

### **Section 1 - Home/Property Owners**

The following questions are for those responding as a home owner or property owner

who has hired a contractor (with less than three employees) to build a new home, put on an addition to an existing home, or undertake a major internal or external renovation. You should try to answer the following questions based on your memory of one recent (within the last three years) construction project.

- Q3.** Approximately what was the dollar cost of the construction project you undertook? (Choose One)
- € Less than \$20,000
  - € Between \$20,000-\$100,000
  - € Between \$100,000-\$200,000
  - € Over \$200,000

- Q4.** When was the project undertaken?
- € Presently underway
  - € Completed in 2007
  - € Completed in 2006
  - € Completed in 2005

- Q5.** From whom was the building permit obtained?
- € Halifax Regional Municipality (HRM)
  - € Another municipality
  - € No building permit obtained

- Q6.** Who did you directly engage to do the work? (Choose one)
- € A construction business with a company name (with less than three employees)
  - € An independent contractor or individual
  - € A building supply dealer or retailer (they subcontracted the work)
  - € Other (please specify)
- \_\_\_\_\_
- \_\_\_\_\_

- Q7.** Did you sign a written contract to have the work undertaken?
- € Yes
  - € No

- Q8.** What were the characteristics of the project? (Choose one)
- € New house
  - € Addition or garage
  - € Internal renovation (kitchen, bathroom, new flooring, internal partitions)
  - € Exterior walls (example: new siding or windows)
  - € Roofing
  - € Other (please specify)
- \_\_\_\_\_
- \_\_\_\_\_

- Q9.** A residential construction project often involves work by a number of trades persons, (e.g. carpenters, plumbers, electricians). What statement best describes your relationship or arrangement with the contractors on this project? (Choose one)
- € The contractor managed the whole project including hiring all of the trades people
  - € I dealt directly with the trades people
  - € Other (please specify)
- \_\_\_\_\_
- \_\_\_\_\_

**Q10.** What statements BEST describe the financial arrangements you had with the contractor and workers? (Choose all that apply)

- € I paid the contractor for everything
- € I paid the contractor and the sub trades separately
- € I received written invoices for ALL of the work done
- € I received written invoices for SOME of the work done
- € I received no written invoices at all
- € I paid for everything using cash
- € I paid for everything by cheque
- € I paid both by cash and by cheque

**Q11.** Did you have any concerns about the safety of the contractor, the workers, or you and your family, during the construction project?

- € Yes
- € No (Go to Section 4 on the last page)

**Q12.** If yes, what situations did you have concerns about? (Choose all that apply)

- € Fear of falling (ladders, roofs, stairway, ramps, scaffolding)
- € Use of personal protective equipment (hard hats, workboots, safety glasses)
- € Electrical hazards (extension cords, grounding)
- € Use of tools (including power tools)
- € Handling of materials
- € Sanitation (access to water and toilets)
- € Housekeeping (e.g. cleanliness of worksite)
- € Other (please specify)

\_\_\_\_\_

\_\_\_\_\_

**Q13.** Did you speak to the contractor or workers about your safety concerns?

- € Yes
- € No (skip to Q16)

**Q14.** If yes, why did you bring up the safety issue? (Choose all that apply)

- € Concerns about worker safety
- € Concerns about my legal liability
- € Other (please specify)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Q15.** When you spoke to the contractor or workers about your safety concerns what was their reaction? (Choose the best answer from this list or choose "Other" and describe)

- € Thanks for bringing this to my attention, I will address it immediately
- € We always work safely; do not worry
- € Construction work always involves risks
- € Mind your own business
- € Other

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Q16.** If you did NOT speak to the contractor or workers, why not? (Choose the closest reason from the list or select "Other" and describe)

- € It was none of my business
- € They should know their job
- € I was afraid of offending them
- € I was afraid of appearing stupid
- € Other (please specify)

\_\_\_\_\_

\_\_\_\_\_

**Thank you for completing this section of the survey. Please go to Section 4 on the last page.**

## **Section 2 - Contractors**

This section is for contractors (with less than three employees); those who earn some or all of their income in residential construction, bidding on and undertaking work for home/property owners. You may also be involved in some commercial work (work for developers or larger contractors) but that is not the focus of the research.

- Q17.** As a contractor with less than three employees which of the following best describes your business?
- € Limited company (incorporated and registered company name)
  - € Sole proprietorship or partnership (registered company name that is not your own name)
  - € Independent (carrying a business under your own name)
- Q18.** How long have you been in the residential construction business as a contractor? (Choose one)
- € Less than 5 years
  - € Between 5 and 10 years
  - € More than 10 years
- Q19.** How many residential construction projects would you undertake in an average year?
- € One
  - € Two
  - € Three to five
  - € Six to ten
  - € More than ten
- Q20.** Do you work on commercial projects **and** on home/property owner projects which is the focus of this survey?
- € Yes, commercial and home/property-owner projects
  - € No, just on home/property-owner projects
- Q21.** How much of your home/property owner work comes via building supply dealers or other retailers where you are the subcontractor?
- € None (The home/property owner is always our customer)
  - € Quarter
  - € Half
  - € Three quarters
  - € All
- Q22.** When working directly for the home/property owner how often do you ask for a written contract before undertaking the work?
- € Never
  - € Occasionally
  - € Most of the time
  - € All the time
- Q23.** What is your own construction trade? (Choose one)
- € General carpenter
  - € Handyperson
  - € Plumber
  - € Electrician
  - € Other ( please specify)
- \_\_\_\_\_
- \_\_\_\_\_
- Q24.** Are you certified in your trade (licensed to practice in Nova Scotia or other provinces)?
- € Yes
  - € No
- Q25.** In the last three years on what basis did you most often engage other workers? (Choose one)
- € As casual workers
  - € As full time workers (12 or more weeks of work)
  - € As independent contractors themselves (i.e. by the job, not hourly pay basis)

- Q26.** How many full-time workers, in addition to yourself, did you hire in the past year?
- € One
  - € Two
  - € Did not employ any full-time workers
- Q27.** Have work safety concerns been an issue on any residential construction projects you have been involved with in the last three years?
- € Yes
  - € No (skip to Q32)
- Q28.** If yes, how frequently over the past three years have work place safety issues been a concern (yours or someone else's) on your work sites? Please be honest. (Choose one)
- € Just once
  - € Several times
  - € Frequently
  - € Most of the time
- Q29.** If safety has been a concern or issue, which situations have most often given rise to them? (Choose all that apply)
- € Danger of falling (ladders, roofs, ramps, stairways)
  - € Use of personal protective equipment (hard hats, workboots, safety glasses)
  - € Use of tools (including power tools)
  - € Handling of materials
  - € Sanitation (access to water and toilets)
  - € Housekeeping (e.g. cleanliness of worksite)
- Q30.** Who has raised safety questions or concerns on your work sites? (Choose all that apply)
- € I have raised the issue myself
  - € Another worker
  - € A home/property owner
  - € N.S. Occupational Health and Safety Officer
  - € Other (please specify)
- \_\_\_\_\_
- \_\_\_\_\_
- Q31.** In looking back over the past three years what actions have you taken to address the safety issues raised? Please be honest; we do not want to know what you should have done. (Choose all the actions you have taken)
- € Ignored the issue (no action taken)
  - € Had a conversation about whether the concern was legitimate
  - € Conducted safety orientation on the work site for everyone (e.g. toolbox meeting)
  - € Asked a worker when hiring them what they know about working safely (training certification)
  - € Spoke privately to individual workers about their safety practice
  - € Other (please specify)
- \_\_\_\_\_
- \_\_\_\_\_

**Q32.** Where do you believe the level of risk of injury is higher in construction?

€ On commercial projects (please explain)

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€ On home/property owner projects (please explain)

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€ Both pose similar risks (please explain)

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**Q33.** Which statement best describes your main opinion about safety in residential construction work? (Choose one)

- € Safety concerns are overblown
- € Safety is an issue but it is the nature of the beast, part of the industry culture
- € Using safer practices would cost me and my clients more money; I would not be as competitive
- € I am already doing the best I can making my work sites safe
- € I could probably do more to improve safety on my work sites
- € Other (please specify)

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**Q34.** Is it wrong to refuse a worker the safety controls (equipment and training) that could protect him/her from injury because of the cost or time it takes to put them in place?

- € Yes
- € No

**Q35.** Do you carry N.S. Workers Compensation Board employer's coverage?

- € Yes
- € No

**Thank you for completing this section of the survey. Please go to Section 4 on the last page.**

**Section 3 - Workers**

This section is to be completed by those who make a living on a casual or full-time basis working in residential construction mostly working for small contractors, rather than being contractors themselves.

**Q36.** Is residential construction work your principal occupation?  
 € Yes  
 € No

**Q37.** How many years have you been doing residential construction work?  
 € Less than 5 years  
 € Between 5 and 10 years  
 € More than 10 years

**Q38.** Do commercial construction and residential construction projects possess the same risk in the causes of workplace injury?  
 € Yes  
 € No

**Q39.** Do you work both on commercial and residential projects?  
 € Yes  
 € No

**Q40.** What is your primary construction trade? (Choose one)  
 € Carpenter  
 € Handyperson  
 € Electrician  
 € Plumber  
 € Other (please specify)  
 \_\_\_\_\_  
 \_\_\_\_\_

**Q41.** Are you certified in your trade (licensed to practice in Nova Scotia or other provinces)?  
 € Yes  
 € No

**Q42.** In your construction work experience over the past three years, have you had any safety concerns for yourself or others on a work site?  
 € Yes  
 € No (please skip to Section 4.)

**Q43.** How often in the past three years has safety been an issue for you on a work site? (Choose one)  
 € Just once  
 € Several times  
 € Frequently  
 € More often than not

**Q44.** What situations have given rise to your safety concerns? (Check any that apply)  
 € Danger of falling (ladders, roofs, stairways, ramps)  
 € Use of personal protective equipment (hard hats, gloves, workboots, safety glasses)  
 € Handling of materials  
 € Electrical hazards (extension cords, grounding)  
 € Sanitation (access to water and toilets)  
 € Housekeeping (e.g. cleanliness of worksite)  
 € Other (please specify)  
 \_\_\_\_\_  
 \_\_\_\_\_

**Q45.** When you have had a safety concern, what have you done about it? (Choose all the actions you have taken)  
 € Did nothing  
 € Made sure that I was working safely  
 € Spoke to the contractor  
 € Spoke to the home/property owner  
 € Quit  
 € Other (please specify)  
 \_\_\_\_\_  
 \_\_\_\_\_

**Thank you for completing this section of the survey. Please go to Section 4 on the next page.**

**Section 4: Homeowners, Contractors and Workers**

The questions in this section are for everyone – home/property owners, contractors (with less than three employees) and construction workers. We want to know some basic information about who is responding to the survey, and their first-hand experience with workplace safety and their knowledge of the legal environment surrounding the issue.

- QA1.** What is your sex?
  - € Male
  - € Female
  
- QA2.** What is your age? (Choose one)
  - € 30 years old or younger
  - € Between 31 and 40
  - € Between 41 and 50
  - € Between 51 and 60
  - € Over 60
  
- QA3.** What is the highest level of formal education that you have attained?
  - € Less than high school
  - € High school/Trade school
  - € Some university or community college
  - € University degree or College diploma
  - € Advanced degree or diploma
  
- QA4.** Have you ever had any professional first aid or safety training?
  - € Yes (please describe)  
\_\_\_\_\_  
\_\_\_\_\_
  - € No
  
- QA5.** Have you ever been injured at your workplace?
  - € Yes
  - € No
  
- QA6.** If yes, did the injury require professional medical attention?
  - € Yes
  - € No

- A7.** Who do you believe is responsible for insuring that a residential job site and the work undertaken on it follow established safety practices?
  - € Home/property owner
  - € Contractor
  - € Worker
  - € All of the above
  - € Not sure

- QA8.** What type of insurance do you think protects home/property owners and contractors from the financial liability cost of a workplace injury? (Choose one only)
  - € Homeowners property insurance
  - € Contractors business insurance
  - € N.S. Workers Compensation Board employer coverage
  - € Waiver between the parties
  - € Do not know
  - € Other (please specify)  
\_\_\_\_\_  
\_\_\_\_\_

- QA9.** Has completing this survey been helpful in increasing your awareness of workplace safety issues in residential construction?
  - € Yes (Please explain what aspect has been most helpful)  
€ \_\_\_\_\_  
\_\_\_\_\_
  - € No (How could it have been more helpful?)  
€ \_\_\_\_\_  
\_\_\_\_\_

**Thank you so much for your interest and time in completing this survey. The information you have supplied will be very helpful in improving safety in the residential construction industry. Once complete, please fold the questionnaire and place it in the enclosed postage paid return envelope and drop it in the nearest mailbox.**

## Appendix C. Press Release

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*For immediate release*

*May 12, 2008*

### **Construction May Put Homeowners at Risk**

Homeowners may be responsible if someone they hire to build or renovate their house is injured in the course of the work. This issue is the focus of a study being undertaken by Dalhousie researchers.

“Despite improvements in workplace safety in commercial-sized residential projects, a significant component of the residential construction industry is under the radar of efforts by government and industry to improve safety practices,” says Grant MacDonald of Dalhousie’s College of Continuing Education, the lead researcher of a study of safety in small residential construction projects. “We need to better understand how much knowledge there is out there among homeowners, independent contractors and workers, of their responsibility for workplace safety. Then perhaps something will be done.”

From information that is available throughout North America, it appears that the rate of illness, injury, and even fatalities in this part of the industry is high, although incidents are frequently not reported as workplace injuries. As such, it is especially difficult to reach this part of the industry through the traditional mechanisms of legislation, enforcement, and formal training.

Mr. David Dahr, an occupational health and safety (OHS) trainer, is a consultant to the research project. “This may be the first study of its kind”, says Dahr. “We have developed a confidential survey for homeowners, contactors (with fewer than three employees) and workers. It is available on line (<http://.collegeofcontinuing.dal.ca/OHS/>). We believe these three groups will find it interesting as well as educational by way of a safety orientation. Based on the information we learn from these groups we will then bring government, industry and educational

stakeholders together to see what can be done to improve educational efforts and safety practices. There are a number of players, including building supply retailers, who are interested in being involved.” Dahr, a carpenter for over 30 years, as well as an experienced construction foreman and supervisor, is himself a victim of a serious workplace injury. He has been advocating for greater safety awareness in the industry for years.

The research project is linked to the legal environment of workplace safety that has changed as a result of the Westray mining disaster. These changes include greater emphasis on the Internal Responsibility System within the Province’s Occupational Health and Safety Act as well as the passing of Bill C45 within Canada’s Criminal Code.

The study, which includes both the on-line survey and stakeholder focus group meetings, has been funded by a grant from the N.S. Department of Labour and Workforce Development. Dalhousie is expected to report its findings to the Province early in the summer.

For further information contact:

David Dahr  
Senior OHS Consultant  
(902) 222-8932

Grant MacDonald  
Associate Professor and Lead Researcher  
Dalhousie University College of Continuing Education  
(902) 494-1683

## Appendix D: Focus Group Invitation



*College of Continuing Education*

<Name>  
<title>  
<Stakeholder>  
<Address>

Dear<Name>

Dalhousie University College of Continuing Education has been investigating the issue of **workplace safety in residential construction**. The work has focused on smaller projects, typically the construction or renovation of single family dwellings; old or new is not an area that has been studied since much of the activity is outside the formal economy.

I am undertaking this study in cooperation with the Nova Scotia Department of Labour and Workforce Development. Mr. David Dahr is involved as our OHS consultant. As you may know already, the first step in the research has involved a survey of homeowners or property owners, contractors and workers. The survey is intended to determine each group's awareness of residential construction safety issues.

The second step is to bring government, industry, education and other stakeholders together to see what ideas they might have for improving safety practices in this part of the construction industry. We invite the WCB to be part of this exercise. Given your expertise and ideas it is important that you be involved in this conversation. We have scheduled two meetings at the College, one of which we hope you will be able to participate in.

**Tuesday, June 17, 10-12 am**  
**Thursday, June 19, 2- 4 pm**

I have attached a detailed description of the project, the meeting agenda, a focus group consent form and list of stakeholders invited. Please let us know if you, or a representative, are available and able to participate. A copy of the survey results will be sent to focus group participants in advance.

Yours truly,

E. Grant MacDonald  
Associate Professor (Continuing Education)  
Tel (902) 494-1683

David Dahr  
Senior OHS Consultant

Please RSVP Christine Cameron  
chris.cameron@dal.ca

## Appendix E: Focus Group Consent



### **Dalhousie University** **Consent to Participate in a Research Study** *Focus Group*

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#### **Title of Study:** Workplace Safety in the Residential Construction Industry

**Principal Investigator:** E. Grant MacDonald  
**Department:** College of Continuing Education  
**Co-Investigator:** David Dahr  
**Funding Source:** N.S. Department of Labour and Workforce Development  
**Study Contact telephone number:** 902-494-1683  
**Study Contact email:** grant.macdonald@dal.ca

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#### **What are some general things you should know about research studies?**

You are being asked to take part in a focus group meeting that is part of a larger research study. Your participation is voluntary. You may refuse to participate, or you may withdraw your consent to be in the study, for any reason, at any time, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to you and your organization for being involved.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being involved. You will be given a copy of this consent form. You should ask the researchers named above any questions you have about this study at any time.

#### **What is the purpose of this study?**

This is a study of home owner/property owner, contractor and worker awareness of residential construction safety in Nova Scotia and an exploration of mechanisms that have the potential to improve work site safety practices. It involves a survey of safety awareness and focus groups to explore ways of improving safety practices

The focus group meetings will involve representatives of government, industry and educational institutions with an interest in residential construction.

#### **How many people will take part in the focus groups?**

We expect that 10 to 25 people will participate in the focus group meetings. Two meetings are planned to accommodate everyone.

**How long will your part in this study last?**

Your participation in this focus group will last approximately two-three hours

**What will happen if you take part in the study?**

The focus groups will be asked to discuss how government, industry and educational and training institutions might better respond to the problem of safety in residential construction given the results of the survey component of the study. Questions may be directed to you, your organization and to the whole group. You may choose to respond or not respond at any point during the discussion. Summary notes will be taken of the discussion but individual comments will not be recorded unless individuals wish to go “on record.”

The focus group meetings will involve an agenda of two or three items and will be facilitated by the researchers.

**What are the possible benefits from being in this study?**

The research is designed to benefit society by gaining new knowledge and agreements for action. You may not benefit personally from being in this research study.

**What are the possible risks or discomforts involved from being in this study?**

We do not anticipate any risks or discomfort to you from being in this study. Even though we will emphasize to all participants that individual comments made during the focus group session should be kept confidential, it is possible that participants may repeat comments outside of the group at some time in the future. Therefore, we encourage you to be as honest and open as you can, but remain aware of our limits in protecting confidentiality.

**How will your privacy be protected?**

By participating in the focus groups in this study, you give up on the protection of privacy. Your name and organization will be listed as a focus group participant in any report that results from the research.

**Will you receive anything for being in this study?**

You will not receive anything for taking part in this study.

**Will it cost you anything to be in this study?**

There will be no costs for being in the study

**What if you have questions about this study?**

You have the right to ask, and have answered, any questions you may have about this research. If you have questions, or concerns, you should contact the researchers listed on the first page of this form.

**What if you have questions about your rights as a research participant?**

If you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact Patricia Lindley, Director of Dalhousie University’s Office of Human Research Ethics Administration, for assistance at (902) 494-1462, [patricia.lindley@dal.ca](mailto:patricia.lindley@dal.ca)

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**Focus Participant's Agreement:**

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study focus group.

\_\_\_\_\_  
Signature of Research Focus Group Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Research Participant

\_\_\_\_\_  
Printed Name of Participant's Organizational Affiliation (if any)

\_\_\_\_\_  
Signature of Person Obtaining Consent

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Person Obtaining Consent

## Appendix F: Focus Group Guide



### **Dalhousie University**

### **Workplace Safety in the Residential Construction Industry**

### *Focus Group Discussion Guide*

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**Principal Investigator:** E. Grant MacDonald  
**Department:** College of Continuing Education  
**Co-Investigator:** David Dahr  
**Funding Source:** N.S. Department of Labour and Workforce Development  
**Study Contact telephone number:** 902-494-1683  
**Study Contact email:** grant.macdonald@dal.ca

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**Dates:** Tuesday, June 17, 2008, 10-12 am  
Thursday, June 19, 2008, 2 to 4 pm.

**Location:** Dalhousie University College of Continuing Education,  
Suite 201, 1535 Dresden Row, Halifax, N.S.  
(Above Cora's restaurant- take elevator to "O" level)

(Coffee, tea and snacks available)

#### **Purpose of Focus Group Session**

The purpose of the focus group sessions are to identify gaps in the education and training of home/ property owners, contractors and construction workers and the monitoring of industry practices and to identify actions that can be taken by the stakeholders to improve safety practices in residential construction.

#### **1. Introduction (15 minutes)**

- Welcome and introduction of researchers
- Purpose of the study overall and focus group sessions
- Introduction of participants
- Review of consent form (and collect signed forms)
- Discussion guidelines and role of researchers in facilitating and recording
- Report from previous Focus Group session (if second session)
- Questions from participants about focus group process

**2. Summary of Survey Results) (10 minutes)**

- **Highlights**
- **Questions from participants**

**3. Review of roles of stakeholders with respect to encouraging residential construction safety (15 minutes)**

- **Information presented by participants**
- **Information from researchers (if stakeholder participants are not present)**

**4. Ideas for new actions, approaches and programs (45 minutes)**

*Use flip charts to record*

- **Explanation of brainstorming technique**
- **Brainstorming of ideas for action (categorized by stakeholder group: construction industry, suppliers, government, educational institutions)**
- **Discuss and evaluate ideas**

**5. Recommendations from participants (15 minutes)**

- **Consensus items and priorities**
- **Non-consensus items**

**6. Follow-up from session (5 minutes)**

- **Report on focus group sessions to participants**
- **Final research report to Provincial Government**
- **Opportunities for further stakeholder input.**
- **Questions**

**7. Closing (5 minutes)**

- **Closing remarks**
- **Thank you**

## Appendix G: Focus Group Invitees



### **Dalhousie University** **Workplace Safety in Residential Construction Industry** *Focus Group Invitees*

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Jim Brown  
President  
Enfield Home Hardware/Scotian Homes

Keith Bullen  
McFarlane Rent It

Colin Campbell  
United Brotherhood of Carpenters & Joiners  
(Cape Breton)

Don Clark  
Nova Scotia Association of Realtors  
Century 21 Classic Dartmouth

Rick Clarke  
President  
Nova Scotia Federation of Labour

Cordel Cole  
President  
Mainland Nova Scotia Building Trades Council

Bruce Collins  
General Manager  
Nova Scotia Construction Safety Assoc.

Bruce Dodge  
Manager, Education & Research  
Prevention Services, Workers Compensation  
Board of NS

Jim Donovan  
Development Services  
Halifax Regional Municipality

Ron Farrell  
Dean  
NSCC, School of Trades & Technology

Jim Freeman  
Assessment Services Field Representative  
Workers Compensation Board of NS

Gary Glenn  
Regional Manager  
Kent Building Supplies Lr, Sackville

Peter Greer  
President, Local 83  
NS/PEI Reg. Council of Carpenters, Millwrights  
and Allied Workers

Stu Gorley  
Apprenticeship Division  
N.S. Department of Labour and Workforce  
Development

Dave Guytard  
Manager  
Hertz Equipment Rentals

Jim Henley  
Past President  
Mainland Building Trades Council

Roy Langill  
MacFarlanes Rentals

Jim LeBlanc, Director  
Occupational Health & Safety Division  
NS Dept. of Labour & Workforce Development

Report on a Study of Workplace Safety in the Residential Construction and Renovation Sector

Jack Leedham  
Executive Director  
Nova Scotia Building Officials Assoc.

Roy McBride  
Member, NSCSA  
BMR Engineering

Nancy McCreedy-Williams  
Chief Executive Officer  
Workers Compensation Board of Nova Scotia

Dermot Mulrooney  
Director of Professional Practice  
Engineers Nova Scotia

Cliff Murphy  
Cape Breton Island Building & Construction  
Trades Council

Paul Pettipas  
Chief Executive Officer  
Nova Scotia Home Builders' Association

Don Sherwood  
President  
Atlantic Building Supply Dealers Association

Alan Soulsby  
Bay Equipment Rentals

Joseph Treen  
Executive Director

Safety Services Nova Scotia (N.S. Safety  
Council)

Andrew Walker  
Safety Coordinator  
Kent Building Supplies, Summerside

David Walsh  
Occupational Health & Safety Officer  
Dept. of Labour & Workforce Development

Robert Wambolt  
NS Realtors Association  
c/o Mary Pat Realty/Coldwell Banker

## Appendix H: Focus Group Participants



### **Dalhousie University** **Workplace Safety in Residential Construction Industry** *Focus Group Participants*

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Don Clark  
Nova Scotia Association of Realtors

Jim Donovan  
Development Services  
Halifax Regional municipality

Brent Kaulback  
School of Trades and Technology,  
Nova Scotia Community College

Jim Henley  
Past President  
Mainland Building Trades Council

Jim LeBlanc, Director  
Occupational Health and Safety Division  
N.S. Department of Labour and Workforce Development

Roy McBride  
BMR Engineering

Deirdre O'Reilly  
Information Officer, Prevention Services  
Workers Compensation Board of Nova Scotia

David Walsh  
Safety officer  
Occupational Health and Safety Division  
N.S. Department of Labour and Workforce Development

## Appendix I: Project Information (Paper Survey Package)



### Workplace Safety in Residential Construction

# Research Project Information for Homeowners, Contractors and Workers

#### **1. Why is this study important?**

Many of the workplace injuries, disease, and deaths in Nova Scotia and across Canada occur in the construction industry. While great advances have been made in safety practices and training related to commercial construction, there is reason to believe that this is not so in smaller residential construction projects initiated by homeowners or property owners.

The enclosed survey will provide researchers with a much clearer understanding of safety awareness in the residential construction sector and the stakeholder consultation that will follow will identify a range of measures to improve safety practices in the residential construction sector that will assist homeowners, contractors and workers.

#### **2. Who should participate in the survey?**

- **Homeowners and property owners**, particularly those who have undertaken a residential construction or renovation project within the last three years. The home owner or property owner is the person who owns the site, or acts on behalf of the owner, where the work takes place and pays for all the work done on that property. Sometimes the homeowner contracts through a building supply dealer to get the work done. We encourage male or female owner responses.
- **Contractors**, either person or small business with fewer than three employees. The contractor bids on and carries out the work. The contractor may operate under a business name or not and the business may be registered and/or incorporated or not. The contractor may deal directly with the homeowner or indirectly through a building supply dealer. Male and female contractor responses are welcome
- **Workers** are those engaged by the contractor as employees or casual help. They may be carpenters, electricians, roofers, or other trades or handymen or handywomen.

#### **3. Who is conducting the research?**

The principal researcher for this project is E. Grant MacDonald, Associate Professor in the Dalhousie College of Continuing Education. Mr. David Dahr, an occupational health and safety (OHS) trainer, carpenter for over 30 years as well as an experienced construction foreman and supervisor, is involved as the project's senior occupational health and safety consultant.

#### ***4. How is the Provincial Government involved in the project?***

This project was initiated at the urging of the researchers and Dalhousie University. The Nova Scotia Department of Labour and Workforce Development provided Dalhousie with a \$25000 grant to fund the work. The Department's Occupational Health & Safety Division (OH&S) is the principal departmental player responsible for promoting safe and healthy workplaces, work practices, and safety standards.

We will be reporting to the Department on the results of the survey and then inviting them to participate with other stakeholders in looking at measures that can contribute to improved safety in the residential construction sector.

#### ***5. Why is Dalhousie University College of Continuing Education involved?***

Dalhousie University College of Continuing Education engages in a wide range of education, facilitation, and research initiatives that bring together the resources of the university and the community in addressing today's societal challenges. The College was created in 1994 as a result of amalgamation, of Henson College of Public Affairs and Continuing Education, and Continuing Technical Education of the former Technical University of Nova Scotia.

Through the years the College has had a continuing concern for and involvement in, issues relating to workplace health and safety. Following the Westray disaster, for example, the College facilitated several working groups who were reviewing the Occupational Health and Safety Act and various Regulations under the Act. For many years, the College has offered a Certificate Program in Occupational Health and Safety Management.

#### ***6. How will the confidentiality of my responses to the questionnaire be protected?***

Only the results from all the responses from each group, homeowners, contractors and workers will be reported. The survey does not ask for information that would allow us to identify the home/property owners, contractors or workers who respond.

Dalhousie University is committed to the highest standards of research, standards that protect the confidentiality of individuals. Individual surveys returned will be securely stored and eventually destroyed. The project and the survey questionnaire has been reviewed and approved by the **Social Sciences and Humanities Research Ethics Board** at Dalhousie University. If you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact Patricia Lindley, Director of Dalhousie University's Office of Human Research Ethics Administration, for assistance at (902) 494-1462, [patricia.lindley@dal.ca](mailto:patricia.lindley@dal.ca)

#### ***7. Will the results of the study be available?***

A summary of the results of the survey and what we learn from government, industry and educational stakeholders about possible measures to improve safety practices will be available on the College of Continuing Education website ([www.collegeofcontinuinged.dal.ca/OHS/](http://www.collegeofcontinuinged.dal.ca/OHS/)) in the early summer of 2008. A summary report will also be submitted to the Nova Scotia Department of Labour and Workforce Development and should be available through the Occupational Health and Safety Division.