

Bridgwater Case Study

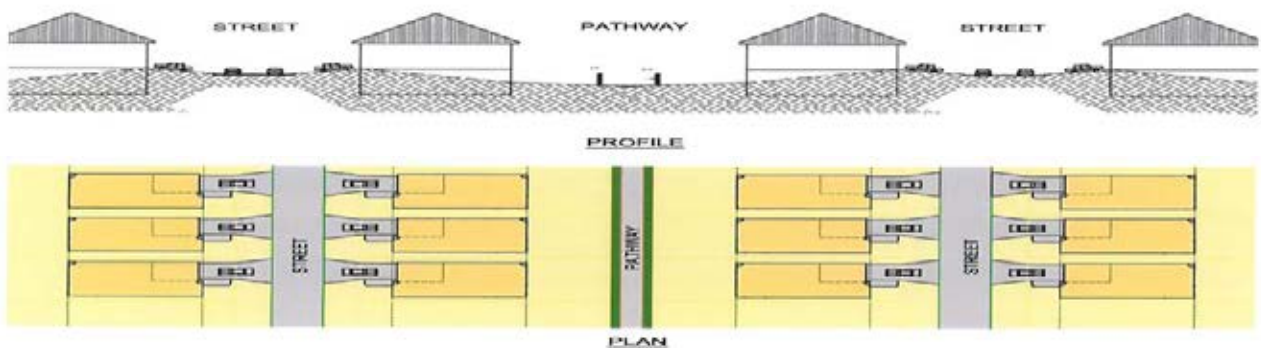
VisitAble Housing:

Bridgwater Neighbourhoods

Winnipeg, Manitoba, CANADA



Visitable Lots



February 2014

Bridgwater Case Study

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This report is based on research conducted by the Canadian Centre on Disability Studies (CCDS) as a part of the national project Collaborative Knowledge Building and Action for Visitable Housing in Canadian Cities ('Visitability Project').

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This report and other relevant information and resources are also available at CCDS' website: <http://www.disabilitystudies.ca> or CCDS' Visitability website: <http://visitablehousingcanada.com>.

Acknowledgement

This project was funded by the Manitoba Housing Renewal Corporation and the Government of Canada's Social Development Partnerships Program – Disability Component.

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Executive Summary

This report is on the case study of the Bridgwater project, a housing development initiative in Winnipeg, Manitoba. One of the unique characteristics of this housing project is its incorporation of “VisitAble” housing. VisitAbility is “an affordable, sustainable and inclusive design approach for integrating basic accessibility features into all newly built homes and housing” (Truesdale & Steinfeld, n.d.)¹. Essential characteristics of VisitAble housing are associated with some basic accessibility features on the main floor, which provide easy access for residents and visitors. Different people and initiatives adopt slightly different definitions of VisitAbility features. Common VisitAbility features include:

- 1) One level, no-step entrance (at the front, back or side of the house)
- 2) Wider doorways and clear passage(s) on the main floor
- 3) A wheelchair accessible bathroom on the main floor

In recent decades, the USA, Australia, the UK and other European countries have made much progress in advancing VisitAble housing in practice. In Canada, however, VisitAble housing is not well understood, nor is it widely adopted by homebuyers, housing professionals (e.g., land developers, homebuilders, architects, home salespersons/realtors), and policy makers.

Therefore, the case study was designed to obtain a comprehensive understanding about VisitAble housing in a Canadian context and specifically to examine:

- the process of initiating and implementing the Bridgwater project,
- advantages, disadvantages, barriers and challenges related to VisitAble housing from the perspectives of those involved in the Bridgwater project (e.g., home buyers/residents, land developer(s), home builders, home salespersons, policy makers), and
- the outcomes and impacts of VisitAble housing.

Methods and Participants

The case study involved a document review, interviews with stakeholders and a residents’ survey. The document review focused on the development process of the project, policies and guidelines, the people involved in the project, and information/promotional materials developed.

¹ Truesdale, S. & Steinfeld, E. (n.d.). *Visit-ability: An approach to universal design in housing*. Rehabilitation Engineering Research Center (RERC) on Universal Design, University of Buffalo. Retrieved from <http://idea.ap.buffalo.edu/Publications/pdfs/VisBkVer3703.pdf>.

The researcher conducted in-person interviews with stakeholders of the Bridgwater project to examine their perceptions and experience about VisitAble housing. A total of 21 stakeholders participated in the interviews (6 homeowners/residents, 3 policy makers, 3 building and development consultants, 6 homebuilders, and 3 home salespersons). The survey was intended to obtain feedback about residents' experience with VisitAble homes. Residents had three options to respond to the survey: mail, telephone, and online. A total of 41 residents participated in the survey, which had been distributed to a total of 250 apparently occupied houses with a no-step entrance. A little over 200 houses are estimated as actually occupied.

Bridgwater Project

In 2006, the Manitoba Housing Renewal Corporation, a Crown corporation, as developer, launched this housing development initiative in Waverley West, Winnipeg, with plans to complete it by 2021. The project involves a Town Centre and three residential neighbourhoods: Bridgwater Forest, Bridgwater Lakes, and Bridgwater Trails. Bridgwater Forest was the first neighbourhood developed in the project, and the development of Bridgwater Lakes and the Bridgwater Centre has already started. Bridgwater Trails is yet to be developed. The project will include over 1,000 VisitAble houses and hundreds of multi-family units with VisitAbility features. In Bridgwater Forest and Bridgwater Lakes, over 200 visitable houses have already been built and are occupied.

In order to incorporate VisitAble housing on such a large scale, MHRC incorporated several design and marketing procedures before and during the development project:

- a. Land development – Most importantly, many lots are developed in ways that are amenable to building VisitAble houses, using split grading, a rear walkway system, and/or a walkout/lookout design. These features make constructing no-step entrance to the front door easier, while allowing drainage to the rear walkway.
- b. Consultations – MHRC undertook extensive consultations with building and development professionals and consumer representatives to obtain feedback from those stakeholders and to reflect that feedback in the project's development.
- c. Research - MHRC commissioned consultants to carry out research on VisitAble housing, which subsequently guided the project development.
- d. Workshops and forums: MHRC held workshops and forums with homebuilders in order to inform them about VisitAble housing, receive their input and encourage buy-in.

- e. Focus groups: Focus groups with consumers were conducted to examine consumer responses to VisitAble housing.
- f. Show homes: Show homes were used to show concrete examples of VisitAble housing to homebuilders and the public, who were not familiar with the concept.
- g. Architectural guidelines: The project provided architectural guidelines, which included specific construction requirements related to VisitAble housing (Appendix A).
- h. A pilot: The developer first included a small number (14) of VisitAble houses in the first neighbourhood in the subdivision and then expanded the scope (over 50% of all lots) in the next two neighbourhoods.
- i. Promotion: The developer implemented a marketing campaign to inform the public about VisitAble housing.

At the time of this case study, the Bridgwater neighbourhoods were the fastest selling subdivision in Winnipeg. Visitable houses in the neighbourhoods were sold as fast as non-VisitAble houses.

Benefits of VisitAble Housing

There was a strong consensus among all the stakeholders in this study that VisitAble housing offers a variety of benefits. The benefits cited by stakeholders included:

- Convenience and easy access for aging parents, young children, mothers with strollers, visitors who use a wheelchair;
- An accommodating environment for residents of all ages, especially for the aging population;
- A spacious open concept with large doorways and hallways;
- A welcome environment for visitors with diverse needs;
- Reduced risk of falls and injury caused by steps;
- Easy moving of heavy items (e.g., furniture);
- Easy snow shoveling without steps; and
- Aesthetic appeal.

A large bathroom on the main floor received a mixed response from homeowners/residents.

Construction Challenges and Issues

Some construction issues need to be considered and addressed when building VisitAble houses. Most construction challenges are related to the no-step entrance. The homebuilders in

this study suggest that making wide doorways, hallways and a large bathroom on the main floor usually does not pose a construction challenge. To build a no-step entrance, proper lot grading is essential. The lot grading for VisitAble houses in the Bridgwater neighbourhoods was designed and developed in ways that make it easy to:

- build a no-step front entrance (without a ramp),
- address drainage concerns, and
- incorporate basement windows without window wells.

In order to address these issues, homebuilders had to develop and apply new building techniques. These challenges caused initial resistance to VisitAble housing from some builders. Addressing potential construction problems still remains challenging for some builders. At the time of this study, after several years of building VisitAble houses, however, most homebuilders in the study expressed confidence in their knowledge and skills in building VisitAble houses.

Costs

Whether or not building VisitAble houses incurs additional costs remains inconclusive. Building a VisitAble house can be more expensive than building a non-VisitAble house, but not necessarily. In the Bridgwater neighbourhoods, the reported additional cost to build VisitAble houses varied. Some builders and home salespersons said the additional cost was negligible, while other builders reported the difference could be several thousands of Canadian dollars. The key cost factors were the lot grading, and the design and material used for the basement and foundation walls. Many lots designated for VisitAble houses were more expensive than other lots in the Bridgwater neighbourhoods. However, this was not due to VisitAble housing, but to other amenities incorporated in those lots, such as landscaping for walkout/lookout houses, a rear walkway system, and proximity to and views of man-made lakes.

Professionals' Perspective

The attitude and knowledge of housing professionals (e.g., land developers, homebuilders, architects, home salespersons/realtors) about VisitAble housing plays a critical role of its adoption in the industry and market. Many of the housing professionals (hereafter 'professionals') involved in the Bridgwater project, especially homebuilders, were initially skeptical or resistant to VisitAble housing. At the development stage of the project, most professionals were not familiar with the concept of or building VisitAble houses. They perceived that there was no consumer demand for VisitAble housing, except for people with mobility issues. Some professionals' negative attitude and lack of knowledge about VisitAble housing

poses significant challenges to advancing VisitAble housing. In fact, some supposedly VisitAble houses in the neighbourhoods failed to meet the basic VisitAbility requirements. At the time of this study, however, only one homebuilder in the study remained negative about VisitAble housing. Most building and development professionals in this study said that their perception towards VisitAble housing had changed from skeptical to positive since their involvement in the project.

Marketability of VisitAble Housing

Most stakeholders in this study agreed that VisitAble housing is marketable and has a good market value. While acknowledging that VisitAble houses are beneficial for everyone, stakeholders in this study suggested that the changing demographic with the aging population makes VisitAble housing even more attractive. The factors that may decrease the marketability of VisitAble housing are additional costs (perceived or real) and lack of public awareness. Stakeholders in this study suggested that show homes and piloting a small number of VisitAble houses first were good strategies to increase the awareness and get buy-in from the public and professionals.

Responses to VisitAble Housing

At the time of this study, most stakeholders were very positive about VisitAble housing. Some of them, especially building professionals, however, said that their perception of VisitAble housing had changed from being skeptical or resistant to positive since their involvement in this project. The most positive feedback came from the homeowners/residents of VisitAble houses in the neighbourhoods. There was negative feedback about VisitAble housing related to additional costs, construction issues, and restrictions on basements (e.g. basement height and windows). Feedback on the large bathrooms on the main floor was mixed. Some people liked a spacious bathroom on the main floor and others viewed a large bathroom taking space from other living areas, such as a living room or a kitchen. Many stakeholders who had been involved in the project showed increased awareness and interest in the accessibility in the home environment.

Introduction

VisitAbility is “an affordable, sustainable and inclusive design approach for integrating basic accessibility features into all newly built homes and housing” (Truesdale & Steinfeld, n.d.)². Essential characteristics of VisitAble housing are associated with some basic accessibility features on the main floor, which provide easy access not only for the residents, but also those who visit them. Different people and initiatives adopt slightly different definitions of VisitAbility features. Common VisitAbility features include:

- 1) One level, no-step entrance (at the front, back or side of the house)
- 2) Wider doorways and clear passage(s) on the main floor
- 3) A wheelchair accessible bathroom on the main floor

VisitAble housing was first introduced in consideration of people with mobility challenges. However, the concept is now widely accepted as a desirable home design for a wide range of residents and visitors (American Association of Retired Persons, 2000; Canadian Centre on Disability Studies (CCDS), 2009; Canadian Mortgage and Housing Corporation, 1999; Nair, 2005; Pynoos, Caraviello, & Cicero, 2009; Ward, 2005)³. In recent decades, the USA, Australia, the UK and other European countries have made much progress in advancing VisitAble housing in practice. In Canada, however, VisitAble housing remains a practice that is not well understood nor is it widely adopted by homebuyers, housing professionals, and policy makers.

² Truesdale, S. & Steinfeld, E. (n.d.). *Visit-ability: An approach to universal design in housing*. Rehabilitation Engineering Research Center (RERC) on Universal Design, University of Buffalo. Retrieved from <http://idea.ap.buffalo.edu/Publications/pdfs/VisBkVer3703.pdf>.

³ American Association of Retired Persons. (2000). *The 2000: Fixing to stay*. Retrieved from http://assets.aarp.org/rgcenter/il/home_mod.pdf.
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Ward, M. (2005). *Universal housing design “It just makes good sense”*. Presentation at the National Housing Conference. Australian Network for Universal Housing Design.

The Bridgwater project in Winnipeg, Manitoba, incorporates VisitAble housing as one of its key features, and will include over 1,000 VisitAble houses and multi-family units. The project offers a unique opportunity to obtain an in-depth understanding of VisitAble housing in a Canadian context. Seizing this opportunity, the Canadian Centre on Disability Studies (CCDS) conducted a case study of the Bridgwater project.

The researcher intended to obtain a comprehensive understanding about VisitAble housing in the Bridgwater project. The objectives were:

- To examine the process of initiating and implementing the Bridgwater project,
- To examine advantages, disadvantages, barriers and challenges related to VisitAble housing from the perspectives of those involved in the Bridgwater project (e.g., home buyers/residents, land developer(s), home builders, home salespersons, policy makers), and
- To examine the outcomes and impacts of VisitAble housing.

This report presents a description of the Bridgwater case study, including methods, participants, and results.



Methods and Participants

The researcher conducted the case study from August 2013 to January 2014. Prior to the data collection period, she obtained ethics review approval from the CCDS Ethics Review Committee. The case study involved a document review, interviews with stakeholders and a residents' survey.

Document Review

The researcher examined material related to VisitAble housing in the Bridgwater project. She obtained the material from the website of the Manitoba government, the website of the Bridgwater project (<http://www.bridgwaterneighbourhoods.com>), Google searches, and some of the project stakeholders. This material included:

- Winnipeg's policy documents related to accessibility and housing development,
- Reports related to the Bridgwater project,
- Architectural guidelines for the Bridgwater development,
- Promotional/information material (e.g., factsheets, brochure),
- Maps and photos of the neighbourhoods, and
- Project-related information available on the government and project websites.

The document review did not include any proprietary information, such as the land development plans, designs or floor plans of VisitAble houses. The review focused on the development process, policies and guidelines, the people involved in the project, and information/promotional materials.

Interviews with Stakeholders

The lead researcher conducted in-person interviews with stakeholders involved in the Bridgwater development to obtain data about the stakeholders' experience with and perceptions about VisitAble housing. The researcher recruited participants using a snowball sampling technique. Snowball sampling is an approach whereby participants are identified by certain individuals who are in a position to recommend suitable participants (Creswell, 2003; Lodico, Spaulding, & Voegtler, 2006)⁴. She approached people whose involvement in the development

⁴ Creswell, J.W. (2003). *Research design qualitative, quantitative, and mixed methods approaches*. (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

was already known to her and solicited their recommendations for potential participants. Participation was open to those who were involved in the Bridgwater project as policy makers, housing professionals, or homebuyers/residents. The researcher also distributed an invitation letter to VisitAble houses in the neighbourhoods to recruit participant homeowners/residents.

A total of 21 stakeholders participated in interviews. The participants included:

- Homeowners and residents of VisitAble houses (6 participants – two couples and two individuals)
- Policy makers (3)
- Consultants in land development and VisitAble housing (3)
- Homebuilders (6)
- Home salespersons (3)

Of 21 participants, 5 were female. Table A summarizes the profile of each group of participants by role.

Table A

Participants	Profile
Homeowners/ residents (6)	<ul style="list-style-type: none"> • One young couple, one older couple, and two female homeowners participated. • The length of their residence in a VisitAble house ranged from 8-12 months. • One couple lived in Bridgwater Forest and the others in Bridgwater Lakes. • Only one participant knew about VisitAble housing before purchasing a house in the neighbourhood.
Policy makers (3)	<ul style="list-style-type: none"> • One participant was from the Province of Manitoba and two from the City of Winnipeg.
Consultants (3)	<ul style="list-style-type: none"> • All of the consultants had been actively involved in the project, especially in the development stage. • These participants were knowledgeable and experienced professionals in the housing and development industry. • Two of them were initially skeptical about the idea of incorporating VisitAbility in the Bridgwater project.
Homebuilders (6)	<ul style="list-style-type: none"> • The number of VisitAble houses that the homebuilders built in the Bridgwater neighbourhoods ranged from a few to over 40 homes.
Home salespersons (3)	<ul style="list-style-type: none"> • Two home salespersons sold over 40 VisitAble houses each and one sold 4 or 5 in the Bridgwater neighbourhoods. • One of the home salespersons worked for the same company as one of the participant homebuilders.

Lodico, M.G., Spaulding, D.T., & Voegtler, K.H. (2006). *Methods in educational research from theory to practice*. Sanfransisco, CA: John Wiley & Sons, Inc.

The researcher used a semi-structured interview technique. She developed and utilized a set of questions, but the questions could be modified as an interview proceeded, depending on the participant's experience, knowledge, and responses. She developed a different set of questions (Appendix B) for each stakeholder group (e.g., homeowners, policy makers, homebuilders, salespersons), but the questions generally addressed:

- Stakeholders' experience with VisitAble housing,
- The process of building and selling VisitAble homes,
- Advantages and marketability of VisitAble housing,
- Challenges and barriers related to VisitAble housing, and
- Outcomes and impacts of VisitAble housing.

These interview questions were previewed for their clarity, validity, and appropriateness by external stakeholders who had experience with VisitAble housing.

All of the participants had one in-person interview with the researcher. In some cases, the researcher obtained additional information from participants via email or telephone after the interview. An individual interview took 20-60 minutes. The time and location for an interview was arranged at the best convenience of the participant(s). Immediately before each interview, the researcher briefed the participant(s) on the study and their rights as a participant and obtained an informed consent from them. All participation was voluntary.

All interviews were audio-recorded with the participants' permission. The recorded interviews were transcribed. The researcher took notes about her observations and reflections related to each interview during and after the interview. The researcher used the transcriptions and her notes as data. In the data analysis, the researcher identified common themes emerging from the data.

Residents' Survey

The researcher sought feedback from Bridgwater residents via a written survey containing short-answer and 5-point Likert-scale questions. Participants were asked about their experience of living in a VisitAble home, reasons for purchasing or living in a VisitAble home, and their perception on VisitAble housing. The survey package included information sheets which provided brief information about the study, the funder, CCDS, and instructions for returning a

completed survey (see Appendix C). The survey was anonymous and did not include questions by which respondents could be identified.

The research team conducted the survey in November and December 2013. At that time, about 200 VisitAble houses had been built and occupied in two neighbourhoods: Bridgwater Forest and Bridgwater Lakes. Because the research team did not know which VisitAble houses were occupied, we distributed surveys to all houses with a no-step entrance, which appeared to be occupied in those neighbourhoods. Each survey was hand-delivered. The residents had three options to respond to the survey:

- mailing a completed survey using the enclosed postage-paid envelope,
- providing answers on an online survey using SurveyMonkey®, or
- leaving an anonymous message with answers at the CCDS office through a designated phone line.

Three weeks after the initial distribution, the research team sent a reminder letter to increase the response rate. A total of 41 residents participated in the survey. 37 participants responded by mail and four online. No one used the telephone option.



Description of Bridgwater Project

The Bridgwater project is a housing development initiative in south west Winnipeg, Manitoba in an area also known as Waverley West. Unlike many other new housing development projects in the province, this project was developed by the Manitoba Housing Renewal Corporation (MHRC) on land owned by the Province of Manitoba. As a crown corporation, MHRC is a part of the provincial government's Department of Housing and Community Development.

The Government of Manitoba launched the project with the intention of creating a neighbourhood with increased green space, higher density and homes with design features that would make them more accessible. In addition, the province is reinvesting all proceeds from the project into a Housing Development and Rehabilitation Fund (HDRF), which supports the Manitoba government's overall housing strategy by investing millions of dollars in inner city neighbourhoods and in other housing initiatives benefitting individuals and families in need.

Figure A



MHRC launched the project in 2006, and plans to have all lots sold by 2021. The project involves a Town Centre and three residential neighbourhoods: Bridgwater Forest, Bridgwater Lakes, and Bridgwater Trails (Figure A). Bridgwater Forest was the first neighbourhood developed in the project, and the development of Bridgwater Lakes and the Bridgwater Centre is currently underway. Bridgwater Trails is expected to begin development in 2014.

Four Bridgwater Neighbourhoods

One of the most unique aspects of the Bridgwater project is its incorporation of “VisitAble” housing. The Bridgwater neighbourhoods will include over 1,000 visitable homes. In Bridgwater Forest and Bridgwater Lakes, over 200 visitable homes have already been built and occupied. A brief introduction of each neighbourhood is provided below.

Bridgwater Forest is located on 375 acres of land in the northeast corner of the project area. Of the planned 1,100 single family dwellings, and 500 townhouse/apartment-style housing units, it is estimated that there will be close to 40 single-family visitable homes and over 200 units of multi-family housing built to the visitable standard. Over 90% of the lots in Bridgwater Forest have been sold and the neighbourhood will be completely occupied by 2016.

Bridgwater Lakes is located on 312 acres of land in the northwest corner. Bridgwater Lakes will be comprised of 1,190 single-family homes; half of which are to be ‘VisitAble’. This may be one of the first neighbourhood plans in Canada that enables and requires such a large proportion of housing to be built as visitable.

Bridgwater Trails is located in the southwest quadrant. Bridgwater Trails is the newest residential neighbourhood, and 50% of the 1,160 single family lots have been designated as visitable lots. Lots in this neighbourhood will be available to homebuilders in 2014.

Bridgwater Centre is located on 75 acres of developable land in the heart of the residential neighbourhoods. This town centre will feature a blend of commercial, residential, retail and office spaces. Over 1,000 units of multi-family housing are planned for the town centre, many of which will incorporate VisitAbility features.

Development of Bridgwater Project

The planning for the Bridgwater development began in the early 2000s. Prior to the Bridgwater project, MHRC had already adopted VisitAble housing as a policy direction and included VisitAble housing in some small housing initiatives. Partly in response to suggestions from stakeholder consultations, the Manitoba government incorporated VisitAble housing into the Bridgwater project from the early planning stage.

In the development of the project, MHRC, as developer, worked with a wide range of government departments, both provincial and municipal, and industry. The Manitoba government established an advisory committee, which consisted of representatives from various departments, including the Disability Issues Office, Infrastructure and Transportation, Local Government, Education and Science and Technology. The committee provided guidance on the project, including the VisitAble housing element. The City of Winnipeg was supportive of the project and actively engaged in the development process.

Both in the planning and development stages of the project, MHRC implemented a number of strategies to incorporate VisitAble housing as successfully as possible:

- a. Consultations: The developer undertook extensive consultations with homebuilders, other developers, city planners, architects, landscape architects, representatives from both for-profit and not-for-profit housing organizations, and various departments from the City of Winnipeg and the province of Manitoba.
- b. Research: The developer also commissioned a group of consultants to carry out research on VisitAble housing. The research generated information that guided the development of the VisitAble housing component. The research included a review of policies and best practices across Canada and parts of the United States, identifying strategies and obstacles. Also, the consultant team conducted a case study, which examined costs for installing VisitAbility features in three homes (Appendix D).
- c. Workshops and forums: The developer held workshops and forums with homebuilders in order to inform them of VisitAble housing and receive their input and to encourage buy-in.
- d. Focus groups: Focus groups with consumers were conducted to examine consumer responses to key characteristics, including VisitAbility features, of the Bridgwater neighbourhoods.
- e. Show homes: In the first stage of the Bridgwater project, the developer encouraged its home builders to construct three VisitAble show homes. Given that the concept of VisitAble

housing was still new to the public and building professionals, the show homes were an effective means to help people become familiar with VisitAble houses.

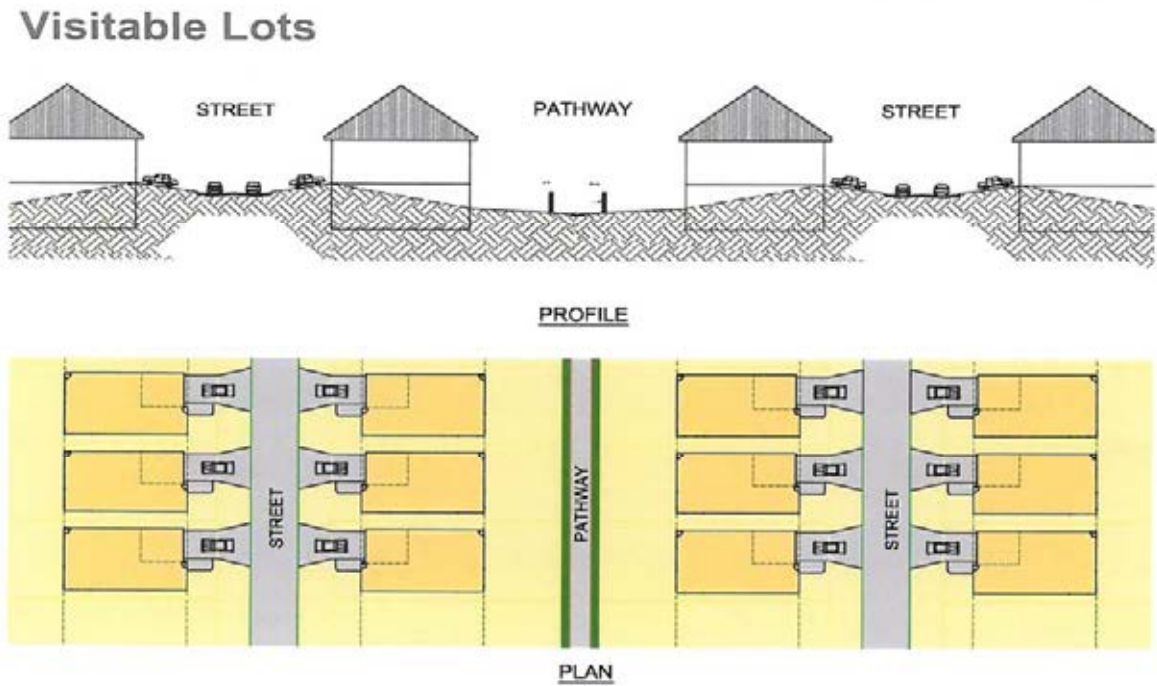
- f. Architectural guidelines: The project developed and provided architectural guidelines, which included specific construction requirements related to VisitAble housing. These guidelines were useful for most homebuilders, who were not familiar with building VisitAble houses (Appendix A).
- g. A pilot: The developer first included a small number (14) of VisitAble houses in Bridgwater Forest. Through this pilot, builders had a chance to become familiar with building VisitAble houses. Also, the developer could test and monitor the application of building and marketing VisitAble houses. Then, they decided to incorporate over 50% of all lots in the next two neighbourhoods – Bridgwater Lakes and Bridgwater Trails – as visitable.
- h. Promotion: The developer implemented some marketing strategies, which included media releases and development of informational materials on VisitAble housing, such as factsheets (Appendix E) and a website (<http://www.bridgwaterneighbourhoods.com>).



Lot Grading for Visitable Housing

One of the most unique aspects of the Bridgwater project is that lots are graded in ways that are amenable to building VisitAble houses. As shown in Figure B, the project used slit grading, which makes constructing no-step entrance to the front door easier, while allowing drainage to the pathway in the back of the house.

Figure B



Pathways (shown in Figure B) are incorporated in a real walkway system in the Bridgwater neighbourhoods. Figure C shows the walkway system.

Figure C



Most of the VisitAble houses in the Bridgwater neighbourhoods are one of two types: Non-walkout/lookout Design and walkout/lookout design (Figure D). The walkout design allows entering/exiting through the basement into the back yard. The lookout design has large windows rather than glass doors in the basement.

Figure D

Non-Walkout/Lookout Design



Walkout/Lookout Design



Results of Stakeholder Interviews

Several themes emerged from the interviews with the stakeholders. They are:

- Benefits of VisitAble Housing
- Construction Challenges and Issues
- Costs
- Professionals' Perspectives and Knowledge
- Marketability of VisitAble Housing
- Responses to VisitAble Housing

The following section discusses the themes with comments from participants.

Benefits of VisitAble Housing

There was a strong consensus among study participants that VisitAble housing offers a variety of advantages. Many of those benefits were particularly associated with the no-step entrance and wider doorways and hallways on the main level.

An elderly couple who had wanted to buy a bungalow were happy to build a VisitAble house in the neighbourhood. The woman said:

When we found that this was available, that was a perfect fit for us. It was mostly to do with the steps, to be honest with you. We wanted to have a bungalow to get rid of the stairs to the second floor. The wheelchair access ... I'm not in a wheelchair anymore ... I use it occasionally for long distance. It wasn't part of the decision but you never know when you might be back and need it. So it's a good feature to have. ... My grandchildren have a great time running around in here. They love it too.

A young couple shared some benefits that they experienced with their VisitAble home:

Man: Easier to get back to the bedroom if you forget. No going up and down the stairs.

Woman: I find this is convenient already. Even when we were moving in, coming in through the front door, you didn't have to come up to the stairs. Bringing stuff through the front door that's big – you just go straight in!

Man: We had moved everything in within 45 minutes.

Woman: Yeah, it was great.

Another homeowner recently had a surgery on her feet. She said:

Because I suffered from severe pains in my feet I visualize myself being in a wheelchair as I age and that was one of the biggest factors of having this open concept and the wider hallways and doorways for me was, if I did end up in a wheelchair, then I would have easy access. ... [after foot surgery] being able to move around with a walker. With a walker, even with narrower hallways it wouldn't be easy to get in and out of.

A home salesperson, who had sold over 40 VisitAble houses in the neighbourhood, attested:

If you're a mom with a stroller – I've had lots of moms – when they're walking with the kids or coming in with the stroller, they don't have to lift it up the stairs. It's just a simple easy in the house and that's it. So, that's been a lot of the feedback, most of the feedback that I've gotten so far.

A homeowner couple were excited about their experience on Halloween:

Woman: To give you a good example was this Halloween. We had a young child in a wheelchair. And he was actually able to come right up to the door to receive his treats!

Man: As opposed to the bottom of the steps way far away.

Woman: He was actually being involved in the gathering of his candies. He was very happy about being at our door.

Man: Beaming!

Woman: Because we don't have the steps, he was able to come right up. That was one of the best things about it, happiness, seeing his bright smiling little face.

Some participants appreciated a no-step entrance as a safer and more convenient feature for winter in Winnipeg, compared to steps. A salesperson said:

In the winter time, clearing out snow is easy and simple. You don't have to worry about steps being icy or anything like that, just a simple clearway.

Another participant also added:

We have some warm days, all of a sudden it freezes. They have sheer ice or black ice on your stairs, you go flying. You have the same thing happening here, but not the same extent by falling

4-5 set of stairs, the ground is closer. ... Seniors don't like going up stairs because it's another place where you fall.

The benefits of VisitAble housing that participants cited are applicable to a wide range of people, regardless of age and mobility ability. However, many participants acknowledged that VisitAble homes could be particularly beneficial for the aging population, especially for those who want to remain in their own home as they age for as long as possible (aging in place). A homebuilder agreed:

As people get older, you typically buy bungalows so people don't want to deal with the stairs. I think that scenario works really well. ... I think you're seeing people, who are 40+, who are very positive, because they're moving onto a different stage of their life. It makes sense.

Elderly homeowners said that they definitely considered aging in place when they purchased their VisitAble home. Even young homeowner couple appreciated this aspect:

Woman: As we get older it's going to keep getting more and more prevalent ... we'll get injured or have needs. So, we wanted to be in a house that had potential to meet our needs in the future.

Man: And enabling us to stay here as long as possible You see so many older people, even my dad before he died, he was having trouble with the three steps down at their house. I think about this now. Like, it's so much easier to think of this stuff ahead of time when you're building.

Man: We're not going to be building a house when we're 75 years old.

Some building professionals highlighted the fact that the VisitAble houses were designed and built with no-step entrance, without ramps. A professional said:

We try to get away from ramps because first of all there's a stigma against ramps. And second thing, some of the research shows that some places with ramps tend to be slightly higher target for crime, because people assume it's older people living there. ... So, there's a few reasons you don't want to do ramps: aesthetics, land value, and crime. So it's better to do with the landscape as much as you can.

As implied in the term, 'VisitAble' housing provides easy access for visitors who have mobility issues, such as those who use a wheelchair, stroller or walker. Some homeowners were happy about the fact that it would be much easier for their elderly parents or friends who have mobility

issues to visit their homes. However, it is worth noting that the benefits that most participants suggested were relevant to the residents, with fewer mentions of benefits for visitors.

Construction Challenges and Issues

Participants raised some construction-related issues, which are related to grading, water problems, and landscaping.

Grading

Professionals (e.g., homebuilders, land developers, architects) in this study noted that some construction issues need to be considered and addressed when building VisitAble houses. A homebuilder admitted:

It's tough to work. When we build [VisitAble] homes here with basements and with windows.... it reduces flexibility on how the house can sit on the lot.

The biggest construction challenge that participants suggested was related to the no-step entrance. To build a home with a no step entrance, proper lot grading is essential. A professional explained:

You can't build a VisitAble home on just any lot. Sometimes the difference between the elevation of the road and the elevation of the house is too steep that you need steps or a ramp. ... You have to plan for it when you're doing your creating and moving the land. You're shaping the topography. If the topography doesn't allow it, it won't work.

Another professional said:

The #1 obstacle in most builders' minds was the no-step entrance. ... Once you're inside the house, there weren't that many obstacles because builders were finding that wider hallways and having a bathroom on the main floor that had good circulation – those were all reasonable and easier to do. It's getting rid of those steps in the front yard that was a challenge.

Another professional also said that making wider doorways and hallways is relatively easy:

Majority of new houses built today have a wider doorway at an entrance that can accommodate a wheelchair; a lot of homes are already built with wider hallways and doorways, and you have the open concept.

Some of the construction issues that challenge builders when grading lots for VisitAble houses are related to drainage, driveways, and basement windows. Due to their no-step entrance, VisitAble houses are built closer to the ground. Without proper grading, VisitAble houses could have drainage problems. In fact, the Bridgwater project is very unique in that the land was developed with split grading (see Figures A, B, and D).

This split grading made it easier to build VisitAble houses with no-step entrances in the front and to address drainage problems to the back of the house, which was graded much lower than the front. Although the land development with split grading made the VisitAble lots much more agreeable to building VisitAble houses, builders still had to address grading issues. A builder said:

We have many homes where the sewer lines came into the basement, and it literally didn't have enough grade on it to take the sewage out of the house to the main line. And every time this happened, the engineer agreed to pay for it in the end. But [it] would take about a month or 2 months and that's how it delayed our build. It happened to us about 8 times. It just happened last month to 2 other houses.

Another builder had some flooding issues with some VisitAble houses he had built:

The first ones [VisitAble houses] that hit the marketplace, almost all we had had flooding issues. We had to do some creative redesign. When the engineers are designing these houses they have to carefully take into consideration how the water does flow out. Because what's happening is people typically don't want 8 foot basements but a 9 foot or 10 foot basement. They want a higher, elevated basement. But when your front step or the entrance to your house is governed by a certain elevation, the only place you can go down is deeper ground down to the back of the house. Our focus is on drainage away from the house because that's where we had a lot of issues. ... [After redesigning VisitAble houses] they have less [flooding problems], but there's still challenges. So we still have to be careful in terms of the height of the basement floor and how you're draining away.

The same builder also added:

When you have a walk-out area, all the water from the high areas drains to lower areas. And you can get water damming and, of course, in the spring a lot of the stuff. The culverts are frozen, the

weeping tiles are not operating properly because the ground is frozen. So, you create this temporary pooling where water backs into the house.

No other homebuilders in this study experienced similar flooding issues with the VisitAble houses that they had built. However, most builders in this study agreed that drainage was the issue to which they paid great attention, when building VisitAble houses.

When grading lots for VisitAble houses, builders need to consider the slope ratio of the driveway. A professional said:

Key aspect with front entrance, there's certainly sloping ratios that have to be met. So you have to meet those requirements as per city regulations. That's something a builder has to be aware of, because you can't have too steep of an entrance. It has to be a gradual slope.

A builder agrees:

The grading is a little bit trickier in putting in your driveways because for the slope you have a maximum. It is harder with concrete trades involved for achieving the desired results. We do it, but it is more difficult.

Some of the VisitAble houses in the Bridgwater neighbourhoods are built with the walkout/lookout design, which usually provides wide basement windows (see Figure D).

However, there are also VisitAble houses that do not have walkouts or lookouts. A builder said:

One of the challenges is building a VisitAble home that is not on a walkout or a lookout basement, because the grade isn't set up as such. So, there's a more difficult time putting windows in. We always want basement windows and we want to put the windows above grade to let proper light in and not have window wells. So, in winter time water can leak through. It's definitely problematic.

Foundation is another construction issue that builders need to consider when building a VisitAble house. A builder said:

The other challenge at the beginning was figuring out how we're going to build the foundation wall so that the grade goes straight up to it. There's a lot more earth pressure on a wall when it's right up to the top of the wall. So, we have to basically design them differently from that.

Another builder also alluded to the issue:

The pressure of the earth goes up that high. If you backfill all the way up, you create more pressure of the earth on the foundation. You require more structural steel to make sure they're supported stronger. ...In some cases the engineer will specify almost twice the amount of reinforcing steel and they require us in some cases to have backfill in regular fill with stone rather than mud to ensure it can support the foundation.

Water Problems

A builder had some water problems with some VisitAble houses with walkouts that he had built.

We seem to have an ongoing problem with walkout basement houses, especially with winter, ice damming, snow, thaw, spring rains. The water goes down from roof to eavestrough, it gets down by snow or ice and goes back to the house. They [homeowners of VisitAble houses with walkouts] have to shovel the snow in the backyard, so the water can't get caught up. ... If you have a 1 in 50 year storm in spring thaw in bad conditions, those houses would flood.

Except this builder, no other builders in this study had experienced similar water issues with the VisitAble houses that they built. Another builder, who did not have any water issues, however, raised a similar concern that VisitAble houses would be more subject to water problems without a proper grading and construction plan. In this study, it was not certain how prevalent or substantial this problem was among the VisitAble houses built in the Bridgwater neighbourhoods. It is still not clear how difficult or easy it is to address this kind of issue through construction strategies.

Restrictions on Landscape Change

Some builders pointed out some limitations on landscaping of VisitAble houses. A builder said:

A walkout house you walk through, your basement is almost levelled. All of a sudden your client comes and decides they want to put more top soil down because they want to improve their grass and before you know it, their basement is below grade. Now all the water is draining into the basement instead of away from it.

Another builder also described a situation of concern:

If you have someone with a walkout basement, they put in a swimming pool and do all this beautiful landscaping. They want the swimming pool elevation at a certain minimum, so they create this valley. Then, instead of the water moving away from the house, it's coming into the house. ...They have a couple of inches to play with.

Most of the builders in this study admitted that it was challenging for them to build VisitAble houses at first. The following statement by one builder was echoed by other builders:

I guess one of the challenges would be coming up with new plans to meet the VisitAble requirements. If you have a non-VisitAble house, it doesn't necessarily automatically translate it to become VisitAble as well. It may not work at all. I would say that is challenging because the development of new plans is a challenge for homebuilders. We have our stock of plans we use. We tweak them over the years – create new elevations and such. To create it, to make it VisitAble, it's different.

At the time of the study, all builders had built at least several VisitAble houses in the neighbourhood and most expressed confidence that those construction issues they had grappled with in the beginning of the project became manageable. For example, a builder said:

When the Bridgwater neighbourhood first started, we had to design all new plans just because of the architectural guidelines. Once you get your head around that, that's fine... We decided on a methodology to construct the homes. There's no real challenge there anymore.

Costs

Whether or not building VisitAble houses incurs additional costs remains inconclusive. Building a VisitAble house can be more expensive than building a non-VisitAble house, but not necessarily. In the Bridgwater neighbourhoods, the reported additional cost to build VisitAble houses varied.

Building VisitAble houses in the Bridgwater neighbourhoods involved the land development, grading lots, and incorporating the VisitAbility features in houses. At the time of the interviews, participants could not offer cost estimates for specific features or elements associated with building VisitAble houses. However, this study helped gain some understanding of the nature

and scope of costs related to building VisitAble houses in the Bridgwater neighbourhoods through the interviews, as presented below.

The developer of the Bridgwater project used split grading and built walkways for the lots designed for VisitAble houses so that drainage issues would be better addressed. This land development incurred some additional costs to the developer and potentially to the City of Winnipeg. A professional who was involved in the development stage of the project estimated that the additional costs associated with preparing the land for VisitAble houses might be 5% or less:

No more than 5%. It could be 5%. Because on the street, you already have concrete pavement, lighting, water lanes, Bridgwater sewers and hydro, gas. All of those things were already there.

Just the additional – storm sewer system, walkway, landscaping, lighting, fencing... I think 5%.

He also added:

It would cost the city more and the cost to maintain the additional infrastructure required to maintain VisitAble homes. ... the land drainage sewer, the asphalt walkway system, lighting, fencing, to create a walkway system behind the houses.

However, MHRC clarified that VisitAble lots were not more expensive than non-VisitAble lots. More expensive lots were for houses with walkout/lookout and walkways in their surroundings, but these are considered to be amenities. The prices for these lots were the same regardless of whether they were used for VisitAble houses or non-VisitAble houses.

Another professional, who was also involved in the project, suggested that grading the land alone might not cost more money. He said:

Land development, it doesn't cost more money. In moving the land, no. It's just... the way we do the grading is a little bit different.

As to additional costs for building VisitAble houses, the estimates provided by participants varied. For example, a homeowner couple said they did not pay extra for a VisitAble house. However, they said that some builders asked for more for VisitAble houses. The man said:

We talked to a lot of builders. Pricing architecture between different builders is so different. Stuff that's standard here costs other people 5 grand. It's amazing the differences between how they work out the prices.

A builder said:

The difference is almost strictly in the lot price entirely.

Similarly, a home salesperson said:

Cost difference is 0. For the builder it's a little more expensive I think, depending on which builder you go for. For my builder, they don't charge clients additional costs for it because that's kind of how this development goes. That's the way it is. Cost-wise to a client, there shouldn't be any difference in cost.

Another home salesperson, on the other hand, said that there was no difference in cost in building VisitAble houses, and that the VisitAble houses and non-VisitAble houses that the company had built were sold comparatively.

Some builders and homeowners in this study reported that VisitAble houses were more expensive in the range between \$3,000 and \$10,000. A builder suggested that the additional cost for VisitAbility features would be about 3% of the total cost to build a house.

Several factors accounted for the difference in additional cost associated with building VisitAble houses. One of the key factors that incurred additional costs for VisitAble houses was associated with basements. Because VisitAble houses need to sit closer to the ground than non-VisitAble houses, their basements are often dug deeper. A professional said:

When you're building it [a VisitAble house] and then do your basement, you have to spend more to dig deeper. ... There's extra excavation and then there's extra concrete around it. ... So, there's more cost in concrete and more cost to dig.

A builder also explained:

It's just more expensive because you use more material and engineering that's required.

Another builder added:

We add an extra foot of concrete to the basement foundation to cover the joist ends.

Others, however, suggested that savings from no-front stairs offset extra costs for the basement. A builder said:

When you look at it from a structural side, instead of having to put in \$2000-3000 on concrete stairs on the front – we don't have to because we just have ramps. So, there's cost savings on that.

The salesperson who reported no cost difference also explained:

VisitAble homes do not cost. ...I'd think the cost factor is less because of no front steps. Because front steps are, more often than not, pre-purchased front steps bolted onto the house itself and delivered on site. Those bolted steps cost about \$2000, plus or minus. So, now they don't have that \$2000 cost. So, I'd think that VisitAble homes are less expensive to produce than a non-VisitAble home.

Some builders and homeowners enlarged their VisitAble houses in order to compensate for the extra space required for the larger bathroom on the main floor. Some builders and home salespersons in this study also factored in the additional expense to expand the house as an additional cost for VisitAble housing. For example, a builder also said:

We have to put an extra 30 square feet into a house to compensate for the bigger washroom. At \$150 per square foot it's going to cost you \$4500.

A salesperson said:

Where you do the wider hallways, larger bathrooms for the wheelchair turnaround, that has an effect on the total living area, that they have to build a little bit bigger. ...They might want to build more square footage. So, the cost may go up on the total package up to maybe 2%.

Similarly, another salesperson said:

All else equal, if you are making a home of the same size, you do have to make hallways a bit wider and the bathrooms have to be a bit larger. So, yes, the home does have to become larger.

Participants explained that additional costs associated with building VisitAble houses varied depending on lot grading, builders, house plans, materials used for construction, as well as amenities incorporated to compensate VisitAbility features, such as walkways and larger living space.

Professionals' Perspectives and Knowledge

The results of this case study showed that housing professionals' attitudes toward VisitAble housing play a critical role in its adoption in the industry and market. In the early stage of the Bridgwater project, the developer had difficulty in getting buy-in from builders. A professional, who was involved in the project from the beginning, said:

It certainly started off slow with builders. There was still the hesitation about the VisitAble housing. ...When we made lots available, it was a combination of both lots that were designated as VisitAble lots and non-VisitAble lots. We'd typically see non-VisitAble lots go first because of that hesitation.

Another professional also attested:

At the beginning many of homebuilders have said, "It's going to be a complete failure! You have too many rules, too many controls... Nope, nobody is going to want to build a house here." ...I was surprised to see in Winnipeg how much resistance there was in the homebuilder community at first.

Most builders in this study admitted that they were skeptical of, or even resistant to, VisitAble housing. Several reasons were commonly cited by builders for their resistance. A professional provided a good summary of the reasons:

Their reasons were cost. Traditionally that's not the way we build homes here. And nobody's going to want to buy a house that doesn't have nice steps at the door. Technical issues too, like drainage. Access to the basement by safety – because to have a habitable basement you have to get out through the basement windows. So, if you have a bedroom in the basement, then the windows have to be quite big. [Because VisitAble houses are built close to the ground] Big basement windows aren't the greatest here [the Bridgwater neighbourhoods]. ...Another practical issue was they'd like to get the windows big enough to get a 4-foot piece of plywood through to the basement. It's much easier to do so.

Another professional also added:

In a lot of cases it gets confused with accessible housing. So, I think the mind-set at the start was, "a person with a wheelchair isn't going to live in this house. So, why make the development to have no-step entrance and these features for that?"

Even after builders finally decided to take on VisitAble housing, some builders had difficulty in understanding or applying the concept in practice. For example, some supposedly VisitAble houses were found with flaws. A professional observed:

Flaws, concerns, in the [VisitAble] houses that're actually out there right now. The designs are NOT perfect. ...There was a VisitAble home I went to visit as an open home. You go through the front door – it's great! Fully at ground level. There's a small washroom and a small den. And you go into the kitchen. But there's a sunken living room. If my mother was coming to visit me and I lived in that home, she wouldn't be able to go to the family room with us! She'd be sitting up in the kitchen.

A homeowner also suggested that some professionals were not familiar with VisitAble housing:

The person who sold the show home didn't understand what VisitAble was. He couldn't comment on what the lot was. ... Everybody we've come into contact with in terms of construction or purchasing, getting central vac – All of the trades people have no idea what a VisitAble home is. That has been a big frustration. ...What affected us is the amount of time we had to spend with the trades people, because nobody was prepared or knew what a VisitAble home was. ...I think they have some learning to do before they continue to do this.

She provided some examples of working with professionals:

We've been trying to get a tap in our garage. They can't do it, because there's no way that they can drill through the basement. We couldn't get our central vac initially, because the company – I wanted the vacuum in my garage – they said they couldn't because the garage and basement aren't on equal ground, equal rise. That's been frustrating.

However, the results of this study suggest that most professionals have developed a good understanding of and experience with VisitAble housing since the project was launched.

Of 15 professionals who participated in this study, only two builders remained negative about VisitAble housing. For example, one builder said:

We've never had a customer asking for it. So, why am I going through all of these extra efforts, right? Why am I telling these customers who haven't asked for it to pay for it?

Most professionals in this study, however, admitted that their perception of VisitAble housing had changed from leery to positive over time. A builder said:

At first I was sceptical on VisitAble housing. I didn't jump on board right away. I kind of watched on the sidelines as it was all going on. ...Now I'm positive and pro-for this, because a lot of people I met have those needs. This is what is favourable. Clients don't even differentiate – they're OK with the slightly elevated entrance of the house; they like that.

Another builder said:

I would say more negative about it for the first time because it very much did not seem market-driven. ...So, obviously we're at a different point now because we've experienced it for a few years. ...We've got some new plans now. We've adjusted it. They certainly look nice. They look great. I've spoken to some families living in these houses. ...Being a builder, who participates in different developments, you do feel good that you provide houses for families to grow up in these beautiful developments. It certainly does offer a difference in the streetscapes. It creates a variety. ...So, we're happy to be participating.

Some homeowners also had a positive experience with their builders:

Never seemed like our builder found it to be an inconvenience to them at all – like that's the way it is. The grading has to be done so. This is what has to be done, and this has to be done. It wasn't "oh, we gotta do this..." It's just, "okay, this is what we're doing!"

In addition, all the home salespersons participating in this study spoke very highly about VisitAble housing. A salesperson said:

From the beginning when I read the material, I thought the concept was wonderful.

His comment reflected the attitude of the other salespersons in this study towards VisitAble housing.

The results of this study suggest that professionals' negative attitudes and lack of knowledge can be a significant barrier to promoting VisitAble housing. A professional cited a case that an effort to promote VisitAble housing in another subdivision in Winnipeg was thwarted due to the resistance from the developer. He elaborated:

The developer was not interested and they just didn't want to embrace it. They didn't see the benefits. So, it depends on who you're dealing with. Very much so. Ultimately, they want to make

money. That is one of the barriers, because ultimately they want to get as much bang as they can get for their dollar.

Most builders said that their attitudes towards VisitAble housing would be subject to market demand. However, a home salesperson suggested that professionals' attitudes might also affect a market response:

I think the marketability of it just comes down to the salesperson and how they choose to approach it. It becomes a mindset. If you have a salesperson who isn't sold on VisitAble homes, their sales presentation will show that. If I hated VisitAble homes and I try to sell a VisitAble home, it's going to show. The same enthusiasm isn't going to be there, as opposed to if I truly am legitimately in favour of VisitAble homes, so my enthusiasm and passion will show on my presentation. So, it really comes down to the marketability depending on the salesperson.

Homebuilders are often those with whom homebuyers have the first contact to build their new home. Builders' attitudes also have a similar impact on the marketability of VisitAble housing.

Marketability of VisitAble Housing

Most participants agreed that VisitAble housing has a good marketing value. Their perceptions on the marketability of VisitAble housing and on factors that increase or decrease the marketability of VisitAble housing are described next.

All the housing professionals in this study agreed that the Bridgwater neighbourhoods are one of the most successful housing development projects in Winnipeg from the marketing perspective. A professional said:

The Bridgwater neighbourhoods, since the beginning of the project, have been the fastest-selling neighbourhoods in Winnipeg. ... I looked at the statistics – they sell more lots every year or get more building permits every year than other competitive subdivisions. ...It's a very popular subdivision.

A home salesperson also said:

Quite frankly, Bridgwater Lakes and the new area of Bridgwater Forest are the most popular destination in Winnipeg to build a home.

Some participants acknowledged that the success of the Bridgwater project might not be solely due to VisitAble housing. A professional said:

Maybe that [the success of the Bridgwater project] is not only because of being VisitAble. Maybe what they're doing is the architectural controls or maybe the design of the neighbourhood; I don't know...

In fact, the amenities, which the Bridgwater project incorporated, such as the walkway system and the walkout/lookout design, could be the reason that many homebuyers were attracted to the neighbourhoods. A professional suggested:

It's a competitive market, so more and more developers are putting amenities into their subdivision. ...The land developers try to make the subdivision as best as they can, running on those amenities. ...Bridgwater Lakes and Bridgwater Trails have trails because of VisitAble housing; that amenity is making that subdivision attractive.

In addition, professionals admitted that it is difficult to determine the impact of VisitAble housing in the neighbourhoods' marketing success. This is mainly because VisitAbility was an integral part of many amenities developed in the neighbourhoods. For example, a home salesperson observed that many people bought a VisitAble lot because they liked the lot, rather than VisitAbility features:

The lots supersedes when you're selling lots. If people like the lot, that's the first thing to go. It's location, location, location.

The fact is, however, that some of the popular amenities in the project, such as the walkway system and the walkout/lookout design, were developed at least in part to make the lots more amenable to building VisitAble houses. A professional explained:

Because VisitAble housing lots are designed for walkway systems, they will have an appeal to the neighbourhood and will appeal to the community because it's a very walkable community.

A builder was adamant in his assessment that VisitAble housing does not have a marketing value. He said:

There are some advantages to it. Are they marketable advantages? I don't think so.The majority of our clients in our neighbourhood don't have a reason to purchase a VisitAble home.

So, they don't understand why they have to have this, right? They will never understand the value of it. It's a negative value.To say a home is VisitAble, it has zero value in sales perspective.

However, most of the professionals in this study, including the other builders, agreed that VisitAble housing is marketable and has a marketing value. A professional pointed out that VisitAbility is an element by which housing developers can distinguish their projects from others. He said:

A good developer will see an opportunity in that, because they can differentiate themselves and they can see how this is actually going to be in demand.

A builder acknowledged that there is a market for VisitAble housing:

There's a big enough market share to see that this project makes a lot of sense. There's a need for it.

He added:

I think there's a market of this [VisitAble housing] outside of Bridgwater Lakes; absolutely! ...There's a market for both and if you're a good builder with a quality product you'll sell both with no issue.

A salesperson was very positive about the marketability of VisitAble housing. He said:

Challenges and barriers [in marketing VisitAble housing]? Nope. Honestly, I'd have to say no. I've been selling new homes for a long time. I market and I highlight all of the best features in anything.So, they're very marketable; 100% marketable.

Another salesperson also agreed:

You don't necessarily have to be disabled to benefit from VisitAble housing.A lot of the feedback has been great. I have been 5 years in here. There hasn't been a complaint about it. ...I think it's great for any type of family.

While the general consensus was that VisitAble housing has a good marketing value, participants discussed aspects that may increase or decrease the marketability of VisitAble housing. Many participants noted that the aging demographic could be one of the biggest factors that increase the marketability of VisitAble housing. A professional suggested:

I think just taking advantage of the growing number of senior citizens who require mobility assistance, not fully disabled, but they'll appreciate the ability to get around more in their home easily.

A policy maker anticipated:

10-15 years from now when baby boomers, that large segment of the population now, are getting into their 70s, you're really going to see the value of these [VisitAble] homes.

A home salesperson shared his observation and experience, saying:

Those [VisitAble houses] are typically the market segments, age 45 and older. In that segment people are looking more long-term, because they're thinking 'this is the house I'm going to be in probably for the next 20-30 years'. And they know the challenges steps will provide. So, that's why they go from current 2 storey to a bungalow because of the stairs factor. They don't want to go upstairs to go to sleep; they want to go on the main level. It's not just about people with wheelchairs but people thinking in the long-term.

An elderly couple, who live in a VisitAble house in the neighbourhoods, also shared a story about their friends, who are of a similar age and bought a non-VisitAble house in the same neighbourhood:

Well we have friends who just bought a house at the same time as us. And they have 3-4 steps to their front door. When they came here they said "we should've done this!" I said I don't know why you did the other. This is definitely, for people in our age category, a great concept.

A home salesperson said:

It's very easy to market a bungalow with VisitAbility just because it's easily accessible.

Another home salesperson suggested that VisitAble housing has a market appeal for a broad age range of potential homebuyers, including both young and old families, due to the accessibility features:

I think the marketability of VisitAble homes is greater. It's like marketing a 2 storey versus a bungalow. A bungalow goes out to 20 years old to 90 years old. With a 2 storey [house], you have a little bit of a shorter market: 20 years old to 50 years old. With VisitAble housing you open up that market completely and you have more people interested in that particular style of home

than you would a 2 storey over a bungalow. It's definitely been good. ... Accessibility to the house has been the biggest selling point. It ranges from young couples to elderly couples. And it helps everybody. It doesn't just focus on one group of people – it's good for everybody.

Some participants also suggested that houses with walkout/lookout had a great appeal in the market. A builder said:

Walkout basements in round numbers goes out from 225 to 280 [from \$225,000 to \$280,000 per lot]. Whereas a regular lot can start out from 135 to 215 [from \$135,000 to \$215,000]. So there is a premium on the lot price. ...The majority of people I'm building for don't have the requirement or need for it at this point in time. They're buying that lot because they like that lot. They like the exposures and they like a lookout basement or a walkout basement. That's what they are buying.

The walkout/lookout design is not necessarily a VisitAble feature. However, they were incorporated in VisitAble lots because the grading helps build no-step front entrance and address drainage concerns at the same time. In addition, some participants mentioned that the look of VisitAble housing with no-step entrance is attractive. A builder said, for example:

One of the things that appeal to me and the salespeople, who work for me. ...Because it [VisitAble housing] doesn't require front steps, the houses actually, I think, look more appealing.

One of the marketing challenges suggested by participants was additional costs. Cost may be a defining factor that affects many homebuyers' decisions more than anything else. A builder explained:

Anytime when you introduce a price increase and can't really justify it in the client's mind, there's gonna be a bit of a negative connotation... in particular, if at that particular point in time the client doesn't have a need for a VisitAble home.

Another builder cited some marketing challenges that he encountered when selling VisitAble houses:

For marketing we've had some challenges. There are some people that don't see any benefit for themselves in a VisitAble home, and they don't like being bound by the restrictions of a VisitAble home. And there also is the additional cost for them too. ...I don't think the demand is that great for it in Bridgwater.

Interestingly, however, all the homeowners in this study claimed that the additional cost that they paid for their VisitAble house was worth it. For example, a homeowner said:

We were told the VisitAble homes were about \$3000-5000 more.I would say it's well worth it.

One of the common issues that homebuilders raised was a lack of market demand for VisitAble houses. While acknowledging the marketing value of VisitAble housing, some builders maintained that consumers were not asking for it. A builder said:

It's very much did not seem market-driven. We didn't have a lot of consumers asking us, "Hey, can you build VisitAble houses?" Actually, not at all; zero interest in that. It's not market driven.

A lack of consumer demand might be due to lack of consumer awareness of VisitAble housing. A home salesperson said:

The only challenges that I've encountered would be the fact people are unaware. ...Clients are not aware of what a VisitAble home is until they walk into a show home and they know the whole concept of it.

Another home salesperson said that show homes were helpful in marketing:

Basically the best sales tool to show people, bring them to the show homes, the past 3 show homes in Bridgwater have been VisitAble. So, show them what it looks like. Once they see it they're very receptive to it; they like it.

For many homebuyers, the concept of VisitAble housing is new. In fact, the homeowners in this study admitted that they had become more appreciative of VisitAbility features after living in a VisitAble house.

All of the home salespersons in this study said that they highlighted the VisitAbility features as positive elements when marketing VisitAble houses. A salesperson said:

I absolutely do emphasize that, because I love it; I think it's a great idea!

Responses to VisitAble Housing

The results of this study showed mostly positive responses to VisitAble housing in the Bridgwater neighbourhoods; from the participants of this study and also from their clients, friends, and colleagues. The most positive feedback came from the homeowners who live in a

VisitAble house in the neighbourhoods. A homeowner couple were very satisfied with their VisitAble home:

Man: No disadvantages [to living in a VisitAble house] for sure. If I could, I would do it again in a second.

Woman: It makes perfect sense. Part of me... I think why isn't this just standard?

Man: I'm surprised it took this long to become available. ...All my friends who come by and say "it must be so nice to go up the front door and not carry it up the stairs."

Another homeowner said:

It's been better than I expected and it's so much nicer. We don't have to worry about stairs.

A homeowner couple passed on positive responses from movers and their friends:

Woman: When we had the movers move in a bunch of the furniture, they had a much easier time.

...That's true. They commented on it, "Wow this is much easier!"

Man: And visitors said, "This is great, I wish we had something like this."

Similarly, most of the home salespeople said that they received positive feedback from homebuyers. For example, a home salesperson reported:

Very positive. Off the top of my head, I cannot think of anyone that viewed it negatively. ...So far, people who have purchased VisitAble lots like them. They don't have anything negative to say about them. But it's biased, because they purchased the VisitAble lots, right?

Another salesperson also attested:

We've had 100% positive response from the VisitAble housing aspect of things.

A professional shared what he heard from his friend, who visited some VisitAble show homes in the neighbourhoods:

I have a personal friend who is on a wheelchair ...she sent me a long e-mail. In all of her 65 years of age, she's never gone to a house and gone in through the front door. Usually it's through the side door, the garage, the back door – somewhere else – or a ramp and then in. So, she's never experienced it before. [She said] "It's wonderful – why don't they all build houses like this? It's just fantastic!"

There was also negative feedback about VisitAble housing in the neighbourhoods. Interestingly, most of those negative responses were from homebuilders or, they said, from their clients or colleagues. Home builders' concerns about construction-related issues, additional costs, and the marketability of VisitAble housing were discussed in the previous section already. In addition, builders alluded to some negative feedback that they received from homebuyers. For example, a builder said:

There's been challenges there as to why they should have VisitAble. "I don't have a wheelchair; I don't have a brother in a wheelchair. Why do I have to have this home?"

Most of the builders in this study, however, noted that negative feedback on VisitAble housing was not common. For example, a builder said:

I hear a little bit of negative feedback from my salesperson – People say, "I don't want to pay for features I'm not going to be using."... But other than that it's actually surprising how much I don't hear about it from homebuyers.

A home salesperson also said:

People are still resistant to change but that's normal. There's still certain things required in VisitAble homes that some homebuyers – a very small percentage – would rather they didn't have to do. That's the wider hallways and the turnaround in the bathroom, spent a lot of square footage on a lot of those items – that sort of thing. They feel they could be spending it in a different spot.

Some elements that homebuyers did not like about VisitAble housing, in addition to perceived additional costs, were related to basements and the bathrooms on the main floor. A home salesperson recounts:

They do like the [no step] front elevations. They do like the ease. Feedback is, ease of entry is nice. ... Some of the feedback is why we – for instance, our powder room, why does it have to be this big? We don't want it. That is our requirements. ...One other feedback is, because of the grading your basement in a location, some plans would have had basement windows on the side closer to the front; we can't do that now because of the grade.

In addition, in some lots, it is problematic to build a 10 foot-high basement due to the depth of installed sewer lines. This restriction on basement heights was another aspect of VisitAble houses that some homebuyers saw unfavourably. A builder explained:

The elevation of your main floor [of VisitAble houses] is lower than non-VisitAble. If you have a basement, maybe you want a 10 foot height for your basement. On a normal house it's possible. But in a VisitAble house you can't get 10 foot, but 8 foot.

Most importantly, there was an attitude shift towards VisitAble housing among many participants, from negative or unaware, to positive. A policy maker said:

When I first heard of VisitAble housing, I was probably like a lot of people. I was unsure what it meant. I was familiar with accessible housing, but this was kind of a new term. I wasn't really sure of the value but certainly now that I've been involved with it... I can see the benefits of having homes like that.

A home salesperson saw a similar pattern from his clients:

For the most part in the early stages there was confusion, because they [homebuyers] didn't know the term. The term VisitAble was something new for people coming into the project. It seems to me, as time has gone on, that people are more recognizing the term and are fine with it.

Some participants raised questions about the actual VisitAbility of supposedly VisitAble houses in the Bridgwater neighbourhoods. A homeowner was also skeptical:

I'm still not convinced that a person with a wheelchair or a person with an electric chair can navigate my house the way it's supposed to.When our house was first framed, I knew that it wasn't VisitAble. So, I challenged our builder and they told me that I was wrong, [and] they knew what they were talking about. That's how I contacted the land development office. ...They came here and told me my builder was not compliant. They told me my home wasn't VisitAble. ... So, they [the builder] had to redo my hallways and bathroom. ...Really I don't believe that any of these homes are truly VisitAble. ...If you look at the province of Manitoba, their land development or the outlay of the properties here, this whole street was coloured yellow, which means all the lots on my whole street were VisitAble. ...Now, I have observed all of these homes being built. I question, 'Are these homes really VisitAble?' Many of the homes on this street have stairs going onto the front.

This issue needs a further examination from the developer.

Interestingly, the complaints or dissatisfaction that participants expressed regarding VisitAble housing were often not about VisitAbility features, but rather about its lack of accessibility. In fact, many participants wanted more accessibility from VisitAble housing than the three basic accessibility features. For example, a home salesperson said:

When I realized it was those basic things, maybe I was a little disappointed. And I would really like to push a little broader view on what VisitAbility should be.

A homeowner wanted no-step entrance from the back door of her house as well as the front door:

I would have preferred having no steps in the back door as well. I mean, I thought we were getting that as a matter of fact. We were surprised to see that, the first time we saw the house. About a 3 foot drop there, we have to go down stairs. It would have been nice to not have to.

In fact, some homeowners built their VisitAble house with more accessibility features, having all doors in the house as wide as 36" or making the stairway to the basement wider so that a lift can be installed when needed in the future. For example, an elderly homeowner couple said:

As far as the basement too, we decided to have the straight stairway. If it comes to that, we could also put the lift on the stairs to go up and down the stairs if we need to later on, because our stairway is also wider than normal.

Another homeowner suggested that a driveway for a VisitAble house should have been wider than required by the current architectural guidelines for the Bridgwater neighbourhoods, so that it would be easier for people who use a wheelchair to come into the entrance:

The other thing that showed up or popped up was, there are restrictions being placed on house design by the developer and one of them governs the width of the driveway. And it's only supposed to be as wide as the garage door itself. But that doesn't make any sense in a VisitAble house, where you should have a landing pad available on either side. If you have 2 vehicles here so that somebody with mobility problems – for example, in a walker or a wheelchair – would be safely able to enter or exit a vehicle. So, the driveway should be allowed to be much wider than just the doorway.I think the requirements for a VisitAble home should be extended beyond the minimum that currently exists.

Another accessibility issue that some participants noted was about the side slope and the lower level of the house. A homebuilder explained:

The areas in which we probably have a bit of negative feedback might be... in the sense that the houses we designed thus far don't make it convenient for people to get into the lower level. As a result of that, they're not able to get down to that particular point, unless they have systems; for example, because they have steep slopes on the side of the house, not allowing wheelchairs to go down conveniently on its own.

Similarly, a homeowner also said:

What I don't like is the fact that a person with a disability can't go on either side of my house to get to the backyard. I can't get them there. There's no way.

It is important to note that VisitAble housing is not intended to provide full accessibility for a house. Homeowners who want further accessibility features should be encouraged to incorporate them beyond the VisitAbility requirements. Nonetheless, this study shows that the adoption of VisitAble housing in the Bridgwater project has increased interest and awareness of accessibility among those who have experienced VisitAble housing.

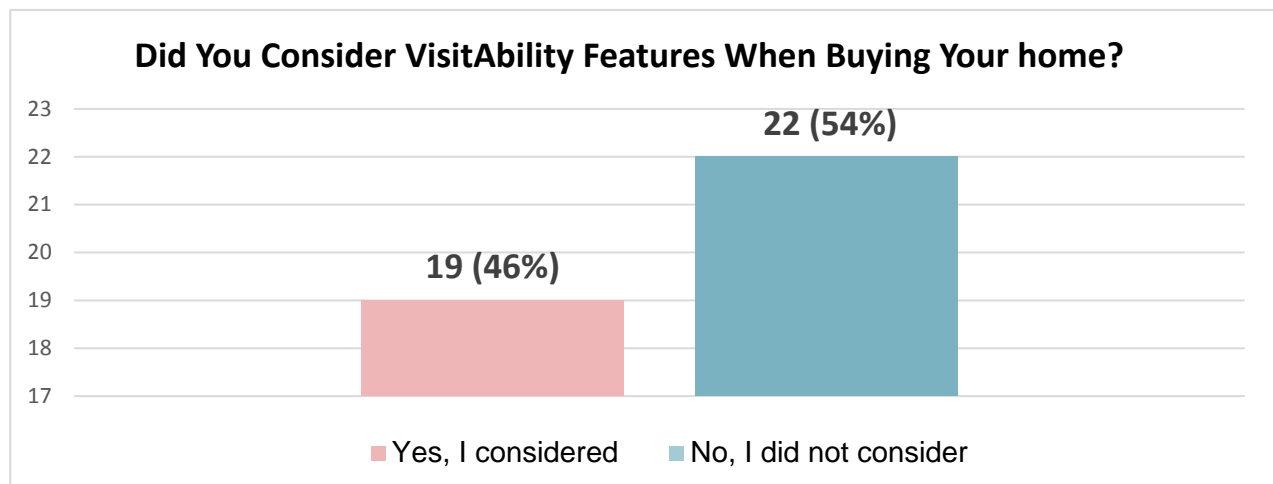


Results of Residents' Survey

At the time of the study, the researcher did not have the exact number of VisitAble houses occupied in Bridgwater Forest and Bridgwater Lakes. However, the developer provided an estimate of the total number of occupied VisitAble houses as over 200. A total of 41 residents (approximately 20% of applicable households) participated in the survey. The length of their residence in a VisitAble house varied from one month to 36 months (average 7.5 months). 30 participants (73%) had lived in their VisitAble home in the neighbourhoods for less than one year.

Of 41 participants, 19 considered VisitAbility features when they purchased their VisitAble home (Chart A).

Chart A



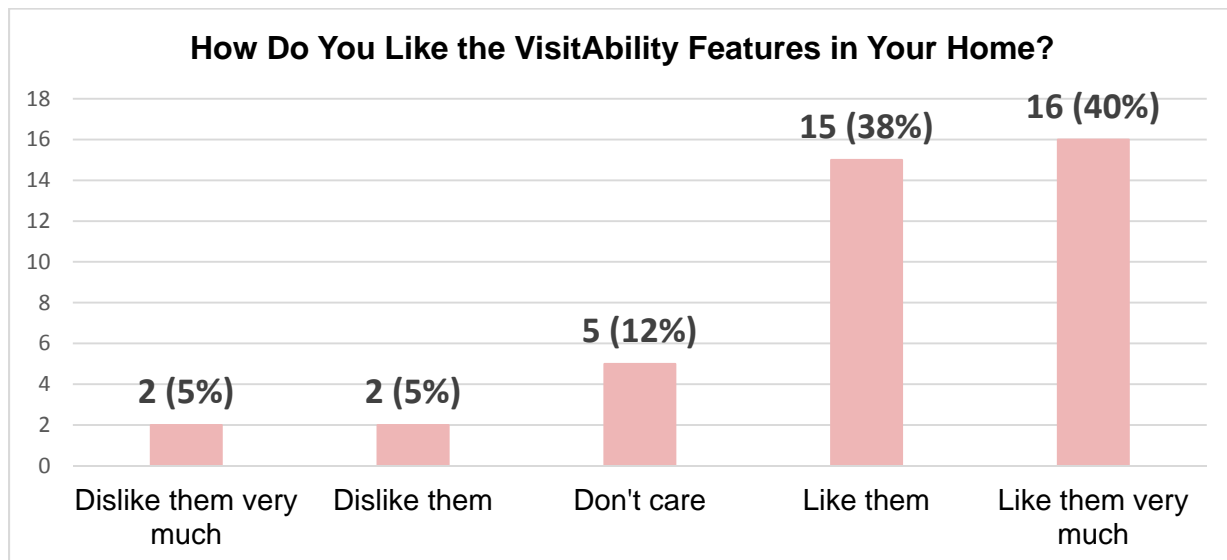
The reasons that some participants positively considered VisitAbility features at the time of purchasing their home were due to:

- Easy access (7 participants),
- A welcoming environment for guests, such as aging parents and close friends who use a wheelchair (3),
- Aging in place (5), and
- Resale value (2).

In addition, some participants indicated that they purchased the VisitAble lot to build their home, just because they liked the lot.

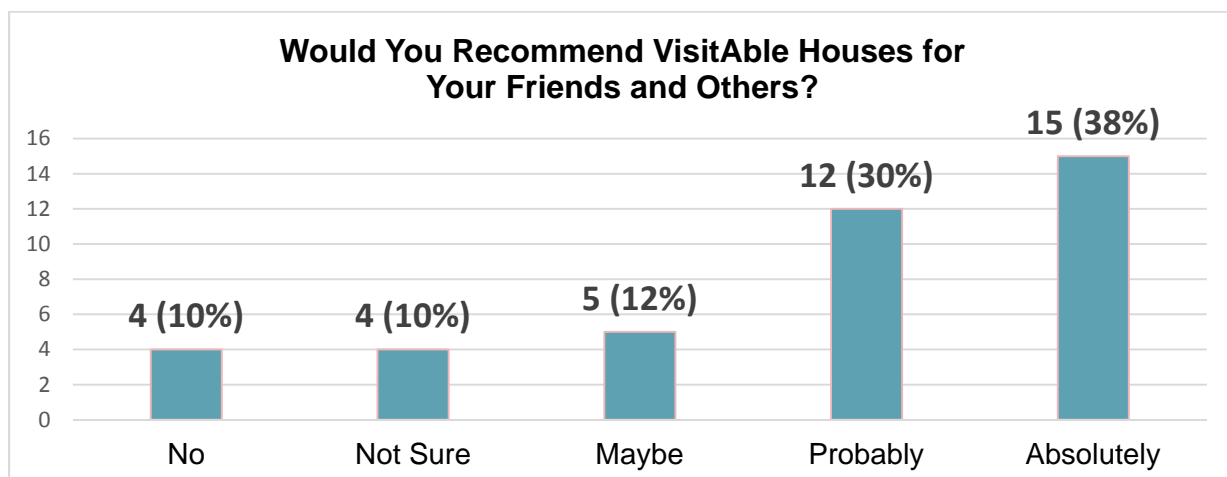
40 participants answered the Likert scale question as to the extent that they like or dislike the VisitAbility features in their homes. Most of them (31 participants, 78%) either 'liked' or 'liked very much' the VisitAbility features (Chart B). Only 10% of participants (4 people) indicated they 'disliked' or 'disliked very much' the VisitAbility features.

Chart B



40 participants answered the question on whether they would recommend VisitAble houses to their friends or others. Most of them (27 participants, 68%) responded that they would probably or absolutely recommend VisitAble housing for others (Chart C). Only 4 participants (10%) said they will not recommend VisitAble housing.

Chart C



What participants liked most about VisitAble housing was the no-step entrance feature. 24 participants cited the feature, or aspects related to the feature, as a reason why they liked VisitAble housing. In addition, many (13 participants) indicated they liked the spacious, open concept on the main floor with wide doorways and hallways and a large bathroom. Specific benefits of VisitAble housing that participants indicated are listed in Table B.

Table B

Benefits of VisitAble Housing	# of participants who commented on
Convenience and easy access for aging parents, young children, babies in stroller, visitors who use a wheelchair	24
Open and spacious with large doorways and hallways	13
Large bathroom/powder room on the main floor	4
Aging in place	2
Easy moving of heavy items	2
In case of future need for accessibility	2
A safer environment with no steps	2
Easy snow shoveling	1
Aesthetic appeal	1
Space saved in the garage with no step entrance	1

Participants also indicated aspects that they viewed unfavourably about their VisitAble homes. They are listed in Table C.

Table C

Unfavourable aspects of VisitAble Housing	# of participants who commented on
Loss of living space due to a large bathroom on the main floor	5
No need for VisitAbility features	3
Rain and snow coming in through exterior doors	3
Additional costs for VisitAbility features	1
Lower basement windows and garage	1
Not being able to place a mat in front of the entrance door	1

Some of the issues raised above, however, are matters of construction, rather than inherent to VisitAble features. For example, rain and snow coming into the door or a problem with mat placement on the floor can be addressed by construction designs and techniques. A large bathroom on the main floor was perceived as positive by some participants, while negative by others.

A participant indicated his/her supposed-to-be VisitAble house was not VisitAble. The house has two-foot steps to the entrance and the bathroom door on the main floor is dysfunctional. Another participant also did not like the steep slopes on the sides of the house, which would be inaccessible to some people who have a disability.

Given the small sample size of the survey, the result of this survey may not fully represent all the residents of VisitAble houses in the Bridgwater neighbourhoods. However, the result suggests that most of the respondents were very positive about the VisitAbility features in their home. Most complaints that the residents indicated about their homes appeared to be construction issues.



Conclusion

The Bridgwater project has been successful from the marketing perspective. The neighbourhoods have been the fastest selling subdivision in recent years in Winnipeg, Manitoba. Nonetheless, VisitAble housing is one of several features of this housing initiative, which included other attractive amenities, such as the walkout/lookout design and the walkway system. Because VisitAble housing was designed and developed as an integral part of the overall plan of the project, it is difficult to determine the impact of VisitAble housing on the marketing success of the project. However, those involved in the project as housing professionals, policy makers or homeowners, agreed that VisitAble housing is marketable and has a marketing value. The benefits of VisitAble housing cited by stakeholders were related to easy access to and within the house, an accommodating home environment for residents in a wide age range, safety, and a welcome environment for visitors with diverse needs. Challenges that may affect marketing or promotion of VisitAble housing are additional costs, housing professionals' resistance, construction issues, and the public's lack of awareness of the concept and application. At the time of this study, most stakeholders were very positive about VisitAble housing. Some of them, especially building professionals, however, admitted that their perception of VisitAble housing had changed from being skeptical or resistant to positive since their involvement in this project. In fact, the most positive feedback came from the homeowners/residents of VisitAble houses in the neighbourhoods. Finally, many stakeholders, who had been involved in the project, showed increased awareness of and interest in the accessibility in the home environment.



Appendices

Appendix A. Bridgwater Architectural Guidelines

Appendix B. Stakeholder Interview Questions

Appendix C. Residents' Survey Package

Appendix D. Case Study Report: VisitAble Housing Cost Estimate Summary

Appendix E. Bridgwater Factsheets on VisitAble Housing

Appendix A. Bridgwater Lakes Architectural Guidelines



Bridgwater Lakes Phase 2

Schedule D: Architectural Guidelines

Pre and Post Construction Architectural Guidelines for Phase 2 Single Family Lots in
Bridgwater Lakes Neighbourhood, Winnipeg Manitoba.

Prepared for: Manitoba Housing

Prepared by: Nadi Design + Development Inc. & Stantec Consulting



September 5, 2012

Project Number: 04-102-2

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Architectural Vision:

1. Overarching Vision

The architectural vision in Bridgwater Lakes will build on the vision defined and executed in Bridgwater Forest. Bridgwater Lakes will continue the theme of 'Traditional Renaissance' with the application of styles such as Colonial Revival, Georgian Revival, Cape Cod, Victorian, Arts and Crafts, Prairie and Country. Bridgwater Lakes will feature the best in quality homebuilding and a **focused return to traditional architectural sensibilities (Traditional Renaissance)**. Authentic Traditional Renaissance will be achieved through the careful adherence to historic styles, materials, detailing, and the execution of good symmetry and proportions. Contemporary, modern designs are not consistent with this architectural vision and WILL NOT BE APPROVED. Specific features such as flat roofs, predominantly glass facades, log houses and modern cantilevered planes will also not be permitted. Note that the final decision on the appropriateness of the design resides with the 'Architect.'

Suggested architectural styles (and their significant attributes) are defined on subsequent pages for reference:

2. Colonial Revival

- Symmetrical façade
- Rectangular proportions
- 2 to 3 stories
- Brick, wood or hardy board siding
- Simple, classical detailing
- Gable roof
- Pillars and columns
- Dormers
- Multi-pane, double-hung windows with shutters
- Temple-like entrance porticos
- Paneled doors with sidelights, transoms or fanlights
- Visible Chimneys
- Centre entry-hall floor plan
- Accentuated front door
- Windows in adjacent pairs
- Multi-paned double hung windows
- Living areas on the first floor and bedrooms on the upper floor



3. Georgian Revival

- Square, symmetrical proportions
- Paneled front door at centre
- Decorative crown over front door
- Flattened columns on each side of door
- Five windows across front
- Paired chimneys
- Medium pitched roof
- Minimal roof overhang
- Dental molding (square, tooth-like cuts) along the eaves



4. Cape Cod

- Rectangular shaped house
- Steep roof with side gables
- Straight unadorned ridge roof
- Small roof overhang (wood) covered in clapboard or shingles
- Large central chimney linked to fireplaces in each room
- Symmetrical appearance with door in centre
- Dormers for space, light, and ventilation
- Multi-paned, double-hung windows and shutters
- Minimal exterior ornamentation



5. Arts & Crafts

- Wood, stone, or stucco siding
- Low-pitched roof
- Wide eaves with triangular brackets
- Exposed roof rafters
- Porch with thick, square or round (typically doubled up) columns
- Stone porch supports (often oversized)
- Exterior chimney made with stone
- Open floor plans; few hallways
- Numerous windows (often varied in size)
- Some windows with stained or leaded glass
- Dark wood wainscoting and moldings
- Built-in cabinets, shelves, and seating



6. Victorian

- Steep pitched gable roof
- Decorative trusses and gable ends
- Wood cladding (boards, shakes or shingles)
- Raised panels or boards on exterior
- Asymmetrical façade proportions
- Multi-paned double hung windows
- Overhanging eave with exposed rafter ends
- Square or rectangular tower element
- Decorative windows



7. Prairie

- Simplistic - less ornamentation
- Square facade proportions
- Rectangular shapes at varying heights and depths
- Shallow pitched hip roofs with large overhangs
- Large casement windows - often in banks of 3 or 4 rows
- Masonry, indigenous stone, stucco and clapboard are common building materials
- Strong horizontal expressions with banding
- Rows of casement windows
- One-story porches with massive square supports
- Stylized or geometric pattern ornamentation on doors, windows, and cornices
- Open floor plans with central chimney - chimney is often the anchor feature



8. Additional Notes on Prairie Style

The following additional notes address the use of the Prairie Style. Please refer to the March 1, 2012 **Clarification Regarding the Use of Prairie Style in House Designs for the Bridgwater Neighbourhoods** Memorandum published by Manitoba Housing.

- 8.1. Front entry features must be symmetrical in design.
- 8.2. There shall be no disconnected or discontinuous (floating) porch walls.
- 8.3. Front elevation windows must be FULLY detailed with Muntin bars / grills.
- 8.4. Columns must be robust, symmetrically arranged and consistently shaped.
- 8.5. The use of floating horizontal panels or planes is not permitted.
- 8.6. All balconies or porches must be fully covered with corresponding roofs.
- 8.7. Major roof pitches shall be in the range of a minimum of 3:12 to a maximum of 5:12.
- 8.8. All roof overhangs / soffits shall be 2ft wide minimum.
- 8.9. The use of stucco shall be minimized in favour of stone, brick or siding.
- 8.10. Elevations shall be well detailed with features reminiscent of old prairie architecture. Smooth, un-ornamented wall planes shall not be approved.
- 8.11. The front covered entry or porch must be an integrated part of the house and shall be the first plane of the house.
- 8.12. When using Prairie style in developing a home design, combining elements from multiple architectural styles or developing a 'Hybrid' style is NOT PERMITTED. All elements of the entire house design must be authentically Prairie styled.
- 8.13. While the Prairie style is encouraged as one of several desirable styles, the vision for the community includes a balanced and diverse range of traditional house styles. As such, homebuilders are required to (A) identify the relevant architectural style for each submission, and (B) limit the ratio of Prairie style submissions to a maximum ratio of 1:3 per builder.

9. Important Disclaimers

The photograph examples used in this section are selected to illustrate style, detailing and proportions, and do not establish specific expectations concerning size, materials and finishes within the neighbourhood. Where elements within these architectural vision illustrations contradict specific guidelines, the letter of the guidelines will prevail. The illustrations may contain certain elements including, but not limited to protruding garages and front yard fences that are not acceptable. The intent with these illustrations is to **demonstrate the stylistic vision** rather than specify all the acceptable details or elements.

Image References:

Colonial Revival:

<http://architecturehomedesignz.com/wp-content/uploads/2011/04/Colonial-Revival-House.jpg>

Georgian Revival:

http://www.cityofomaha.org/planning/landmarks/images/stories/landmarks/breck_g_67.jpg

Cape Cod:

http://www.michellecarano.com/images/cape_cod.jpg

Arts & Crafts:

http://www.cityofomaha.org/planning/landmarks/images/stories/landmarks/storz_87.jpg

Victorian:

<http://upload.wikimedia.org/wikipedia/commons/2/24/NewTorontoVictorianHouse.JPG>

Prairie:

<http://media-cdn.tripadvisor.com/media/photo-s/01/20/45/34/prairie-style-house.jpg>

Architectural Approval Process:

10. Submission Process

The preferred submission format is digital PDF file, formatted on letter sized sheets. Preliminary and final designs are to be submitted by email to **approvals@nadi-design.com** for prompt review. The Architect will endeavor to provide a response (not necessarily an approval) to submissions within one week of submission. Please also note the following:

- 10.1. When developing a **new** home design, it is required that **preliminary designs be submitted for review at least two weeks before** the final submission of detailed plans. Review of a new home design that is submitted for the first time in its final state may be delayed, and approval withheld.
- 10.2. It is important that a preliminary new home design is submitted **immediately it is developed and prior to establishing commitments or sales agreements with buyers**. Lengthy independent design development time will not be considered rationale for granting or receiving an approval. Developing a design over an extended period without the involvement of the Bridgwater Architect may prove counterproductive. Such designs have an increased risk of rejection.
- 10.3. The Architectural Guidelines are a living document. House designs will be reviewed against the most current version at the time of preliminary submission.
- 10.4. When submitting a design for review or approval, builders **MUST** indicate whether the submission is for review or for catalogue, conditional or for final review (See #11 below: **Three Levels of Architectural Approval**).
- 10.5. If submitting a previously approved design for use on a new lot, a single final submission may be made, provided all requirements of this document are met, notably section 27: House Design Repetition.

- 10.6. Incomplete submission packages will be returned without review (See #12 below: **Submission Requirements**).
- 10.7. Approval of any design by the Architect may ONLY be represented in the form of a formal, signed approval letter on Nadi Design Letterhead. No other representation (verbal, emailed or otherwise) constitutes a binding design approval.
- 10.8. Drawings, colour boards or other submission material may also be submitted for approval to: Nadi Design + Development Inc., 200-4 Fort Street, Winnipeg MB.T: 204.669.6234 (Referred herein as the "Architect")
- 10.9. Architectural Guideline approval must be obtained before City permit applications.
- 10.10. If the City of Winnipeg requires any changes to the package, the drawings must be resubmitted to the Architect.

11. Three Levels of Architectural Approval

- 11.1. Catalogue approval:
A submitted design, which satisfies substantial portions of the guidelines but is not designed for a specific lot shall receive a Catalogue Design approval.
- 11.2. Conditional approval:
A lot specific design that satisfies substantial portions of the guidelines (without detailed colour and material specification) shall receive a Conditional Design approval. Conditional design approvals entitle the homebuilder to apply for municipal building permits.
- 11.3. Full approval:
A lot specific design which includes detailed drawings, colour scheme, and material specifications shall receive a Full Design approval.

12. Submission Requirements

The Builder shall submit for final approval, one copy of the following to the Architect:

- 12.1. A well dimensioned & annotated site plan showing building locations, fence locations (including developer fencing), driveways, sidewalks, patios, and decks, (including all future add-ons). Note that all fencing shall reside completely within the lot limits (Section 20).

- 12.2. Detailed drawings of the floor and roof plan indicating floor areas per level.
- 12.3. For Visitable Houses all accessibility features must be labelled and dimensioned, such as ramp slopes & distances, and powder room turning radii (Section 28.4).
- 12.4. Detailed drawings of all elevations and details of architectural features.
- 12.5. Colour and material selection for each element of the house design: roof, front, side and rear elevation, trims etc. Colour chips, material samples, and other information may be required. The Architect may require other submissions beyond this list.
- 12.6. While the Prairie style is encouraged as one of several desirable styles, the vision for the community includes a balanced and diverse range of traditional house styles. As such, homebuilders are required to (A) identify the relevant architectural style for each submission, and (B) limit the ratio of Prairie style submissions to a maximum ratio of 1:3 per builder.

13. Grading Review

Along with the architectural drawings to be submitted, a site plan with design grade elevations is to be included. A copy of the overall civil lot grade plan will be made available to each builder. Using this grade plan and the house plan, the builder is to show the following proposed elevations on the site plan:

- 13.1. Front and rear building setbacks
- 13.2. Main floor elevation
- 13.3. Garage floor elevation
- 13.4. Ground elevation at the front and rear of house
- 13.5. Design lot corner elevations from the civil grade plan

14. Lot Grade Survey Procedure

The following procedures must be followed:

- 14.1. The Builder is to obtain a sales agreement for the purchase of a lot.
- 14.2. The Builder is to produce payment for all required lot deposits to the City of Winnipeg.

- 14.3. The Developer has retained Stantec Consulting Ltd. for the purposes of conducting all lot grade survey services in this phase. Note that every Builder will be charged \$630.00 (+ GST) for this service at the time of Lot transfer to the builder.

Upon completion of these requirements, the following procedures are to occur:

- 14.4. The Builder is to submit full construction drawings for building permit approval to the City of Winnipeg.
- 14.5. The Builder is to apply for a Lot Grading permit and pay the required fee to the City of Winnipeg, in accordance with By-law # 7294/98.

[Note: The Lot grading permit is conducted through the “One Stop Shop” permit system at the City of Winnipeg. The application is internally forwarded to the Water and Waste Dept. for their approval. The Water and Waste Dept. will complete the “lot grade application” by referring to the Subdivision Lot Grading Plan. This plan indicates the required lot grades on the building site plan as prepared by the Consultant. Upon all such approvals, the building permit will be issued.]

- 14.6. The Builder is to inform the surveyor for Stantec Consulting Ltd. The surveyor will provide staking services in accordance with Clause 6.(2) of By-Law # 7294/98, and with the completed building site plan as provided By Water and Waste.
- 14.7. The Builder should submit a copy of the Lot Grading Plan for approval to:

Stantec Consulting Ltd.
905 Waverley St, Winnipeg, MB R3T 5P4
T: 204.488.5712 F: 204.453.9012

ATTN: Joe Kalmar

15. Right to Approve, Reject or Waive

The Architect or Developer reserves the right to turn down approval if, in its opinion, the total design is not in keeping with the overall standards of the development as determined by the Architect. The Architect or Developer further reserves the right to waive any requirements concerning any approval.

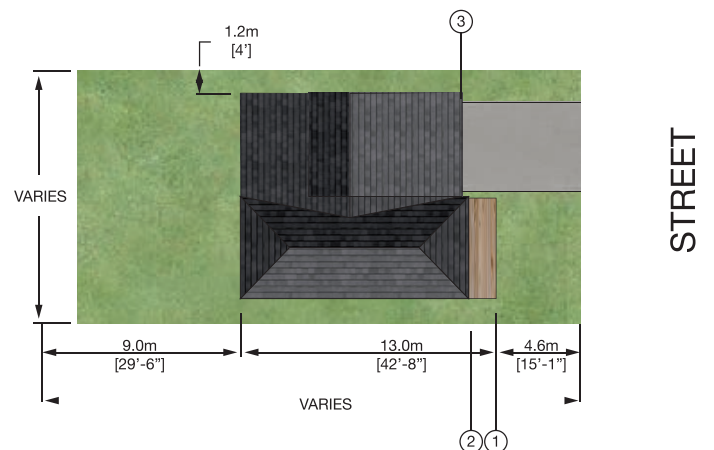
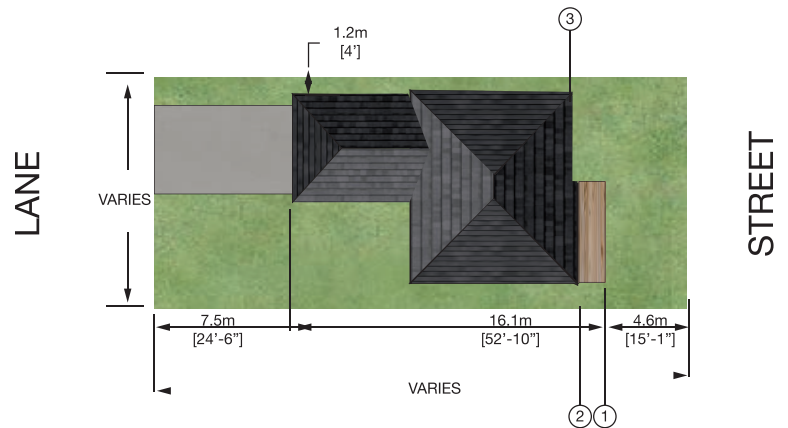
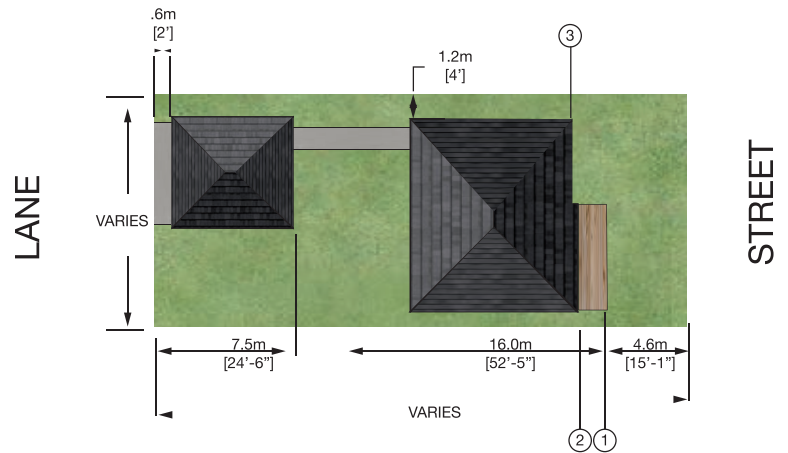
Lot Layouts:

16. Typical Lot Layouts:

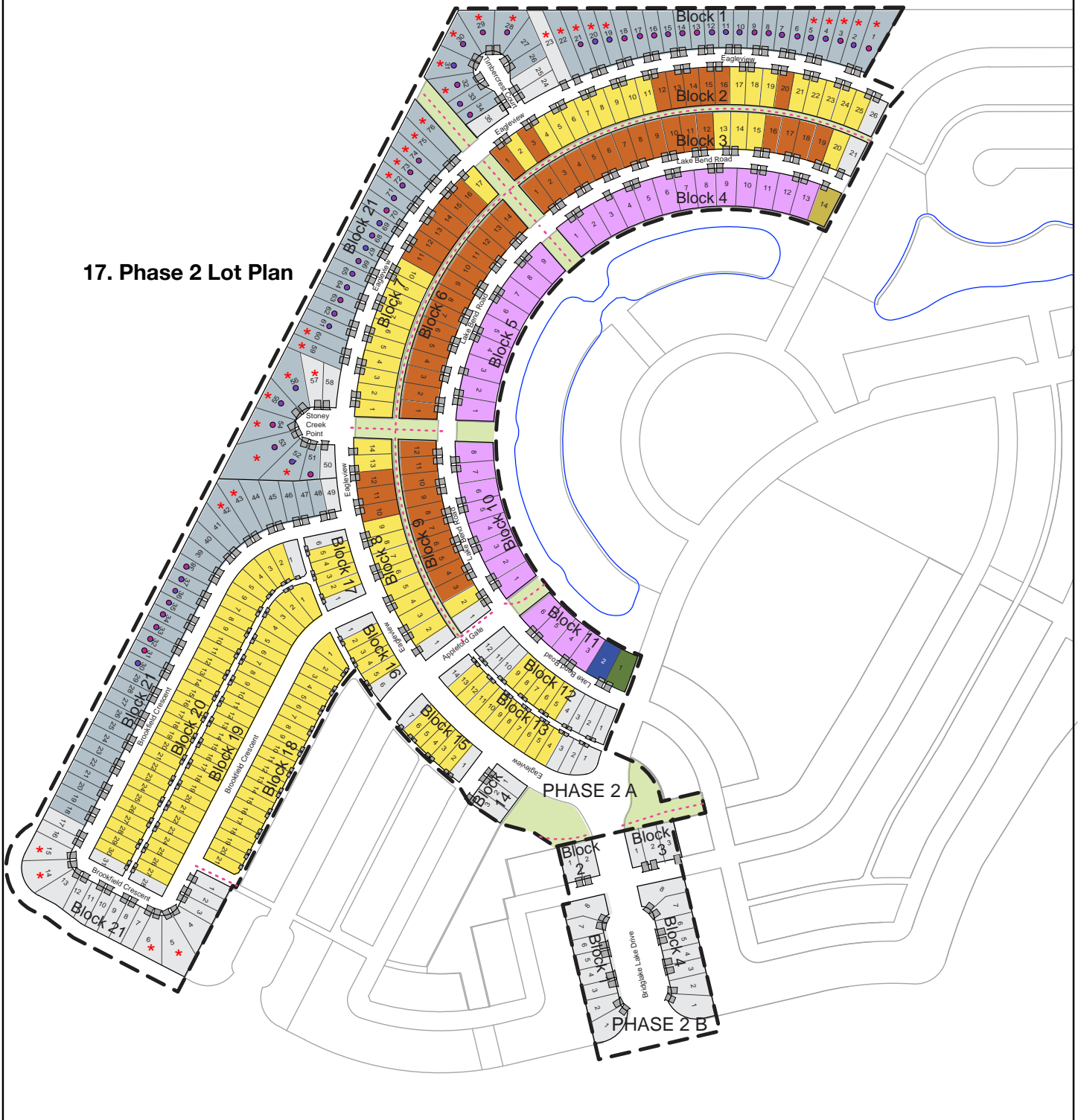
These Lot Layouts are indicative only

and may not fully represent of specific
Laned or Laneless Lots.

Builders are encouraged to refer to
these as guides; specifically the
layout and placement of front, rear
and side yard setbacks as well
as elements such as porches,
garages, driveways and planes.



17. Phase 2 Lot Plan



LEGEND

Regular Lot	Half Walkout	★ Geothermal Compatible
Walkout	Park / Possible School Site	
Visitable Walkout	Max. 2 Front Steps	
Visitable Half Walkout	Tentative Driveway Location	
Visitable	Path / Sidewalk	
Visitable Lookout		
Regular Lookout		

General Requirements:

18. High profile lots:

The following lots are designated High Profile:

Phase 2(A): All lots in Blocks 4, 5, 10, 11, 14.

Phase 2(B): All lots in Blocks 2, 3.

19. Site Requirements:

Site landscaping is of equal importance to building design in the appearance of a new development. The landscape design should provide adequate trees, plant materials, and other elements to enhance the building's setting within the streetscape and assist in providing a visual transition between adjacent properties.

- 19.1. House widths shall be such that maximum side yards for any lot shall not exceed 1.5 metres (5'). The minimum side yard shall not be less than be 1.2 Metres (4'). In all instances EXCEPT REVERSE PIE SHAPED LOTS, side yards shall be measured from the front of the house. For REVERSE PIE SHAPED LOTS, the side yard shall be measured from the rear of the house.
- 19.2. Laneless lots will have street entry for vehicles with attached garages. Laned lots will have lane entry for vehicles with either attached or detached garages. Detached garages may be built after the initial house construction, however the garage design must be approved along with the house design, and the garage pad and approach to the lane must be constructed with the house.
- 19.3. Front yard: setback shall be 4.5 metres (15') minimum from property line for all homes.
- 19.4. Rear yard: setback shall be a minimum of 9.0 metres (29'6") from property line for all 2-storey homes. Rear yard setback shall be a minimum of 7.6 metres (25') from property line for all other homes.

- 19.5. Driveways: Minimum length for a laneless (front-facing) driveway shall be 5.5 metres (18') from property line. Rear facing (laned) minimum driveway lengths shall be 0.6 metres (2')
- 19.6. Driveway widths must not exceed the width of the garage doors.
- 19.7. Use of retaining walls, planters or other elements which, in the opinion of the Architect or Developer, detract from the overall home or streetscape composition is prohibited.
WRITTEN APPROVAL OF SUCH FEATURES PRIOR TO CONSTRUCTION IS CRITICAL.
Unapproved, installed site features may be required to be removed at the builder/homeowner's expense.

20. Fence Requirements:

For lots with developer flankage (side) fencing, the fencing shall start at the front setback line (15 ft from the front property line), and shall sit one foot inside the side lot. For lots with developer rear yard fencing, the same shall apply: the rear fencing shall sit one foot inside the rear lot line. In all cases the 2 ft. square developer stone column shall sit completely within the designated lots.

- 20.1. DEVELOPER FENCING CANNOT BE REPLACED OR SUBSTITUTED.
- 20.2. ON THE FOLLOWING LOTS, OWNER INSTALLED FENCING MUST BE WROUGHT IRON AND MUST BE IDENTICAL IN DESIGN TO THE DEVELOPER INSTALLED WROUGHT IRON FENCING: BLOCKS 4, 5, 10, and 11.
- 20.3. On all lots other than those listed above, owner installed fencing may be any one of the following: wrought Iron, solid cedar, or Brown pressure treated wood. This fencing must be identical to the appropriate designs shown in section 32 and 33.
- 20.4. WRITTEN APPROVAL from the Architect must be obtained for the design of rear yard fencing (or fencing that does not readily affect the streetscape) that differs from designs in section 32 or 33. Failure to obtain such written approval prior to fence construction may result in fence removal at the builder/owner's cost.
- 20.5. Either solid fencing or appropriate landscaping screening is required when constructing outdoor storage/accessory buildings where the backyard is visible from a public reserve. Purchaser fencing may only be installed for the following reasons: Accessory building protection; Swimming pool privacy; Pet enclosure; and Side yard fencing (only where there is no developer side yard fencing).

- 20.6. All fencing, either Developer or Purchaser, constructed within a lot must be maintained with the same materials, colour and design by the lot owner such that no material deterioration occurs.
- 20.7. Fences will not be allowed in the front yard. Vegetation should not create a continuous wall effect or hedge. Planting must comply with city of Winnipeg regulations.

21. Building Requirements:

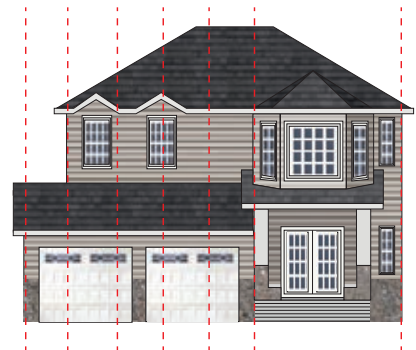
- 21.1. Elevation Design: Significant articulation of every house is required. Wrap-around materials from the front elevation of the house should extend a minimum of 1 metre (3.2 feet) down the side facades of the building. For High Profile Lots this also applies to the rear elevation.
- 21.2. Front Elevations: On all lots, at least three (3) “planes” (varied depth of exterior wall sections) will be required on the front elevation. For laned lots, variations will only be considered if significant architectural detailing is provided. Front elevation planes should be 2.4 metres (8’) wide or more, be separated from the next plane by 0.45 metres (1’6”) or more, and must not be cantilevered. Front porches or covered entries may count as one plane. On laneless lots the garage will be considered one plane. In such cases, the front attached garage shall be at least 0.6 metres (2’) behind the next more prominent plane. For homes less than 38 feet wide (or sitting on smaller lots <46’) a proportionate reduction in plane width is allowed. **Planes are only identified at the main floor.**
- 21.3. Side Elevations: All materials must carry from the full height of the front elevation, to the full height of both side elevations, for a minimum wrap-around of 1.0 metre (3.3 feet). Additionally, significant side elevation articulation (including materials and trims and features) is required for the street side of all corner lots.
- 21.4. Rear Elevation: Significant articulation of the rear elevation of the house is required for all High Profile lots. Two (2) planes will be required on the rear of the house. Materials, trims, and features must carry from front to full extent of rear elevation. All supports to rear decks and stair cases must be a minimum 0.45 metres by 0.45 metres (18” by 18”) clad in the primary or secondary siding material as the rest of the house (refer to section 15 for definitions). The design must be integral to the house.
- 21.5. The proportion of windows to overall rear elevation **MUST** be consistent with the proportion of windows on the front elevation. Rear elevations with excessive glazing will

be rejected - The use of materials, trims, and features must be identical to the front elevation in proportion and type.

- 21.6. Horizontal bands of cultured stone or brick must run convincingly across the front elevation, and in no instance begin higher than 18 inches from grade.
- 21.7. Visual Bulk and Massing: On all lot types, 2nd floor footprints must remain consistent with the general house proportion and the main floor footprint.

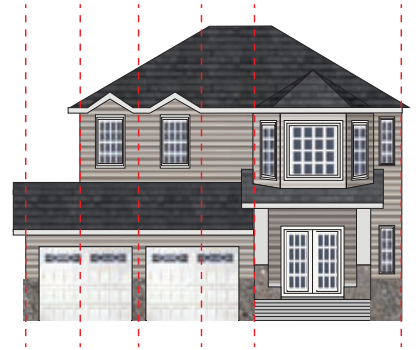
- 21.8. Visual Bulk and Massing: on laneless lots, when the House is integrated with the garage, THE SECOND FLOOR MUST SPAN AT LEAST 3/4 THE WIDTH OF THE GARAGE (front elevation). Refer to the diagram on page 20 for clarification. Living space is not required over the garage on lane accessed lots.

PREFERRED:



Four - Fifths

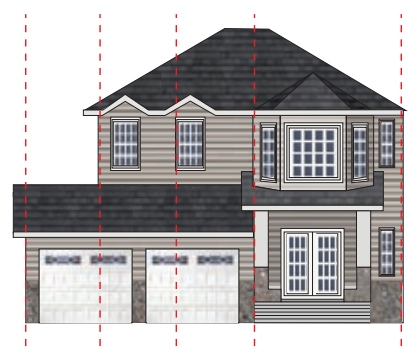
ACCEPTABLE:



Three - Fourths

- 21.9. Visual Bulk and Massing: on laneless lots, THE SECOND FLOOR MUST NOT RECEDE MORE THAN 8 FEET, measured from the front of the garage (side elevation).

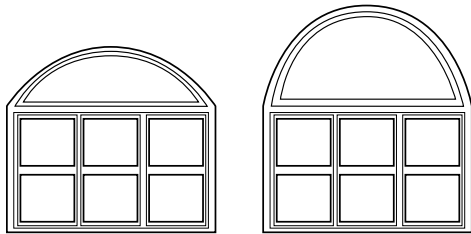
NOT ACCEPTABLE:



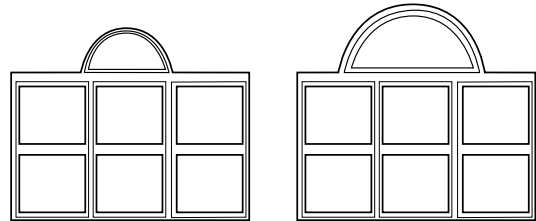
Two - Thirds

22. Window Detail Requirements:

- 22.1. Windows should demonstrate a generally consistent design.
- 22.2. Main floor front elevation windows shall be of significant size and demonstrate adequate detailing appropriate for the overall composition of the front elevation.
- 22.3. Half-round or elliptical window must span the principal window width.
- 22.4. Window shutters and other architectural details are encouraged where appropriate to the design theme.
- 22.5. Muntin bars (or other similar treatments acceptable to the Architect) must be on all front windows, all rear windows of homes on High Profile Lots and street-side windows on corner lots.



Acceptable

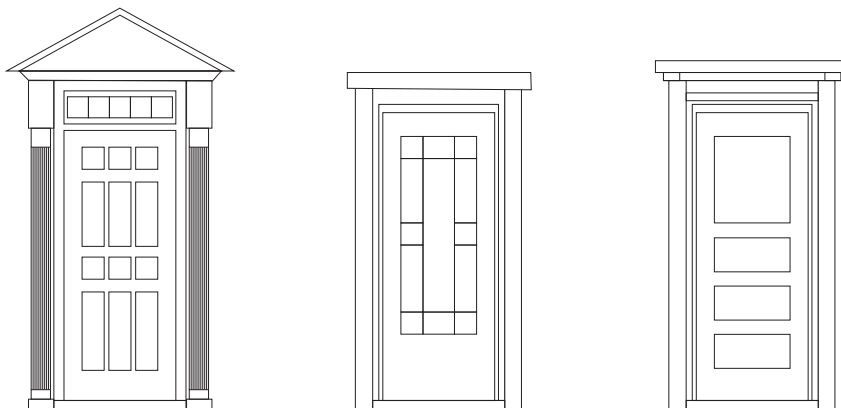


Not Acceptable

- 22.6. On all elevations, the top edge of the exterior window frame detail must be a minimum of 150mm (6") clearance of underside of the soffit or any other feature.
- 22.7. Trimless "nail-on" type windows are not permitted. Window units should generally have trim, be recessed behind the wall face, or employ other enriching perimeter details to enhance the windows and building design. All elevations must include a 100 mm (4") minimum frame or sill and head detail. Stucco bump outs ARE NOT PERMITTED. Stonework, basement and casement windows are exempted from the rule.

23. Approaches, porches & Covered Entry Requirements:

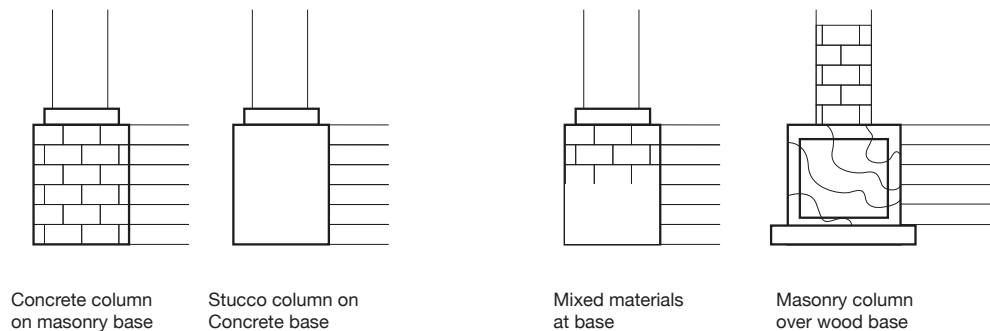
- 23.1. Entrances shall exhibit proper human scale/proportions. Double volume entries are prohibited.
- 23.2. 1-1/2 storey entrances are also prohibited except when used on a split-level house. Entrance doors must be prominent in the front elevation. The front entrance must be parallel to the street and not be obscured by the garage.
- 23.3. All stairs at the front entry shall be concrete. Wood front stairs shall not be allowed, however wood front porch surfaces may be built if contained within a stone, masonry or concrete porch wall.
- 23.4. Front doors must include detailing which responds to the overall style of the house such as (but not limited to): routed edges, windows, sidelights, trims and contrasting colours.



- 23.5. Flat, Horizontal planes used in covered entries or porches must not appear to be 'stuck on,' disproportionate, or excessively modern. Special care must be taken to articulate the proportion of these planes such that they are complementary to the overall house elevation.
- 23.6. Materials used for the horizontal planes described above must be carefully chosen and must have a convincing and complementary relationship with the other materials on the house elevation.
- 23.7. Driveway locations must be as shown on Lot Layout Plan unless a WRITTEN DRIVEWAY CHANGE REQUEST is approved by the architect. Note that it is the builder's responsibility to ensure that the lot layout complies with original layout design and avoids any conflicts with surface features.
- 23.8. Porch layout and design should be submitted with original floor plan to Architect. Porches or covered front entry areas should be compatible with the exterior building face and character of the house in colour and style and architectural detailing. They should be integral to the design and should not look like a later addition.
- 23.9. Front transitional spaces such as porches or covered entry areas are required unless exceptional articulation or detailing in other areas is provided. The porch floor elevation shall be no lower than one step below the house floor elevation.
- 23.10. **The overall composition of the front porch or covered entry area must be robustly framed and not appear spindly.** The porch or front entry cover must be clad and roofed in a manner consistent with the front elevation of the house. Significant attention to the rear elevation of the house is required for High Profile Lots. All supports to rear decks and stair cases must be a minimum 0.45 metre by 0.45 metre (18" by 18") clad in the house's primary or secondary siding material. The design must be integral to the house.
- 23.11. Porches or covered front entry areas should maximize transparency to support views between neighbours. Transparency above guardrail height is required, however glass or Plexiglas railings/panelling is not allowed ON FRONT ELEVATION. Minimum spacing of vertical elements will be 1.2 metres (4'). Concrete, masonry, and stone columns / posts must not have a wooden base. A heavier material must always exist below the lighter one.

All posts / columns / masonry should not end visibly above grade but extend to within 50mm (2") of grade.

- 23.12. The exposed 3 sides of the front porch or covered front entry shall be finished with decorative (Coloured or Textured) concrete, masonry or stone and shall conform to the overall exterior design. Wood or other 'lattice' work is not permitted.
- 23.13. Second floor porches are permitted only over 1st floor porches and must not extend past the footprint of the former.
- 23.14. In every case, porches shall have a width to depth proportion of at least 2:1. Covered entries shall have a width to depth proportion of at least 1:1. This restriction is to prevent the dominance of the garage. An exaggerated porch or covered entry (one that is too deep) will cast a significant shadow on the front entry and reduce day lighting and pedestrian accessibility, and will therefore NOT be allowed.

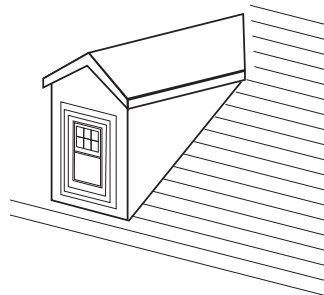


Acceptable

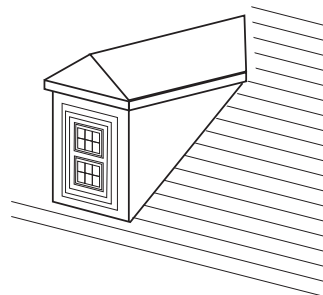
Not Acceptable

24. Rooflines, Chimneys and Garages:

- 24.1. Fireplace and furnace chimneys must be enclosed in a chase anywhere on the roof of the house. Chimney chases must be finished in the same material as the rest of the house and the metal flue must not project any more than 150mm (6") above the chase. This requirement applies for all fireplace, furnace, and chimney flues.
- 24.2. Roof pitch shall be a minimum of 5:12 for 2 storey buildings. Bungalows shall be a minimum 6:12.
- 24.3. Where there is a pitched roof and the dominant ridge line is parallel to the direction of the street, dormers or gable ends will be included in the roof design. Where the ridge line is perpendicular to the street, extensive architectural detailing such as material changes and windows will be included.
- 24.4. Monolithic roof masses should be avoided and replaced with stepped roof lines, dormers, or gable features to provide interest and variety along the streetscape. Dormers may also provide an alternative to front / back vaults in living areas.



Acceptable



Acceptable

- 24.5. Roofing materials must be of high quality. Barrel profile terra-cotta clay tile will not be approved.
- 24.6. Garages (either attached or detached) should not be emphasized as an architectural feature with elements such as gable end roof designs over the garage or any other feature that draws attention to the garage. If included, such elements must be smaller replicas of more prominent elements on the main house. Garage roof pitch must conform to house pitch.
- 24.7. The wall finishes on the garage must match the primary wall finishes of the house. Where possible a hue or colour that causes the garage doors to recede is encouraged
- 24.8. Double car garage width shall be at least 5.5 metre (18').
- 24.9. Regardless of number of garage bays, the garage shall in NO INSTANCE BE WIDER THAN 2/3 OF THE OVERALL HOUSE WIDTH.
- 24.10. A band of square or rectangular windows across the main garage door shall be required and must be consistent with the design and scale of windows used in the main house.
- 24.11. Garage doors are to be painted one colour. Wooden or metal raised panel doors are required in order to match or compliment the elevation of the home.
- 24.12. Garage 'Foreheads' must not be disproportionately high. If a high 'forehead' cannot be avoided sufficient care must be taken in applying design, detail and material, such that the overall arrangement remains pleasant.

25. Satellite Dishes:

- 25.1. Satellite dishes shall NOT be visible from the house frontage.
- 25.2. Satellite dishes shall only be located near the rear of the house.
- 25.3. Satellite dishes shall NOT be attached to chimneys, stacks or any vertical element.
- 25.4. Satellite dishes shall NOT be free standing away from house, except at a location approved by the architect.

- 25.5. Standard Satellite dish sizes range from 43 cm to 80 cm in diameter. No dishes larger than 100cm diameter (1 metre) are permitted.
- 25.6. Motorized satellite dishes are not permitted. Only fixed Ku-band reception parabolic dishes are permitted.
- 25.7. Satellite dish type, size and location must be approved by the architect.

26. Exterior Wall Finishes and Detailing:

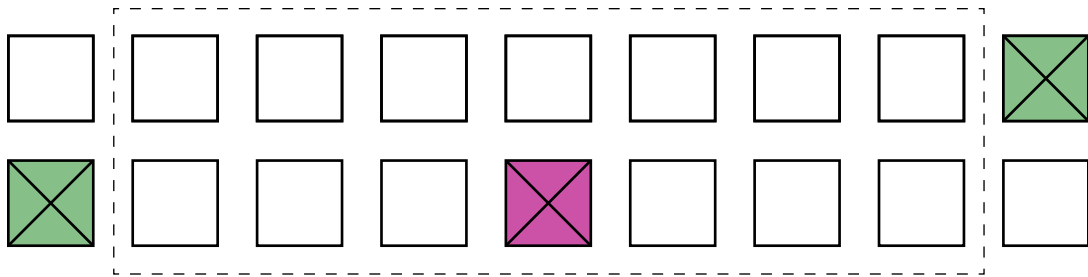
- 26.1. Primary wall finish refers to the material with the most exposure or coverage. Secondary wall finish refers to the materials with a lesser quantity of wall finish. Finishes for architectural details refers to materials used for window frames, columns, trims, borders and other architectural elements.
- 26.2. Exterior wall finishing systems shall only include richly coloured stucco, brick, stone, wood, hardy board, and vinyl. Other materials may be considered on an individual basis.
- 26.3. The use of two (2) or three (3) wall finish materials shall typically be required for the major building elevations. The use of fewer wall finish materials is permitted only in tandem with significant architectural detailing and/or roof articulation and/or other elements that enhance visual interest.
- 26.4. Two (2) types of masonry such as stone and brick should be avoided unless special care is given to blend harmoniously the two materials. In all cases, the secondary wall finishing must be planned with great care so that it blends in well with the main wall finish and logically represents an element of the house.
- 26.5. Where strong transitions between materials cannot be avoided there must be special care to blend the colour or hue.
- 26.6. Where wall finishes and architectural details are used only on the street front and there is a change of material on the sides, all front facade materials shall turn the corner at least 1.0 metre (3.3 feet) for the full vertical height of the house. Creative transitions of materials are encouraged.
- 26.7. Exterior cladding and colour shade will not be duplicated within four (4) lots on the same side of the street or directly across the street or at opposite corners. Colours for roof, face

and trim must be coordinated for each unit to complement the individual house design and achieve a harmonious, visually attractive effect. Parging height will be a maximum of 0.5 metre (1.6').

- 26.8. Trim and fascia are integral to the appearance of the house. Provide contrast and harmony when selecting a colour for fascia, trim around windows and doors etc.
- 26.9. Homes with siding require corner panels of at least 100 mm (4") with similar panels under the soffits and around windows. These panels should be white or of lighter colour than the siding of the home.
- 26.10. Colour and material schemes will be reviewed with the following criteria:
- Visual Interest
 - Contrast in colour scheme
 - Contrast and harmony with neighbouring houses

27. House Design Repetition

- 27.1. To avoid repetitive use of similar house design on lots, three (3) houses adjacent and seven (7) houses across shall separate a repeat design. In the House Repetition plan (below), the purple square represents one house design. The green squares represent the closest repeat location for the same house design. This also applies to houses located across a street or at opposite corners of an intersection.



- 27.2. If repetition is allowed to occur within the extents outlined above, a significant level of elevation differentiation is necessary. The example images below are indicative of the level of elevation design differentiation required for two identical floor plans to be accepted within the 'non-repeat' zone. Final acceptance/approval is at the architect's sole discretion.



28. Visitable Lots

All Visitable lots (refer to section 16: Lot Layout Plan) must incorporate the following features:

28.1. An Accessible Path of Travel:

- A path of travel with a gentle grade (maximum preferred 1:20 or 5%, no less than 1:12 acceptable) from the front street, sidewalk, or driveway to a main entrance of the dwelling unit.
- The path of travel shall be firm, stable and slip resistant.
- The path of travel shall be a minimum of 36 inches (915 mm) in width.
- The cross slope of the path of travel shall be at a maximum of 1:50 or 2%.
- No steps shall occur along this path of travel.
- No drop off or slopes over 1:20 shall occur along the edge of the path of travel.
- Access shall not be from a ramp.

28.2. A No-Step Entrance:

- An exterior landing entrance area with a minimum clear area of 5 foot 0 inches (1525 mm x 1525 mm).
- A landing area that is firm, stable and slip resistant.
- A landing area that has a slope in any direction of no more than 1:50 (2%).
- The no-step entrance must have a minimum width of 36 inches (915 mm) clear width.
- A no or low profile threshold at the door. Raised thresholds of 1/4 inch (6 mm) or less do not require any special requirements. Thresholds over 6 mm to a maximum of 1/2 inch (13 mm) must be bevelled at a maximum slope of 1:2 (50%). Less steep is recommended.
- Access must be from the front street and shall not be from a ramp.

28.3. Interior Circulation on the Main Floor:

- Interior doorways shall have a minimum clear width of 32 inches (810 mm).
- There shall be clear passage throughout with a minimum 36 inches (915 mm) clear width to access all main floor activity areas, including the washroom. Where a turn is required

by a person using a wheelchair to access various rooms on the main floor – the clear width should be at least 53 inches (1350 mm).

28.4. Access to a Main Floor Washroom:

- The main floor washroom shall enable a person using a mobility device, such as a wheelchair, to enter, close the door and use the facilities. This requires a 5 foot 0 inches (1520 mm) turning circle.
- Clear space under wall-hung fixtures can be included in the 5 foot 0 inches (1520 mm) requirement.
- The washroom must have, at a minimum, one sink and one toilet.

28.5. Optional Visitable Housing Features:

Other inexpensive visitable design features that are not Mandatory Visitable Design Features but are optional and may be added to improve the convenience and marketability of the home include the following:

- Levered door handles and single-lever kitchen and bathroom faucets.
- Raised electrical outlets – 18 inches (457 mm) from the floor.
- Lowered climate controls.
- Lower and rocker style or touch-sensitive light switches - 48 inches (1219 mm) from the floor.
- Reinforcement in the bathroom walls (for ease of future installation of grab bars, if desired).

Post-Construction Guidelines

The following guidelines generally refer to elements that are constructed or developed after initial architectural approval, substantial home construction, and even home possession. Nonetheless these guidelines are intended to create and preserve the integrity of the overall streetscape and the quality of the neighbourhood.

29. Scheduling and Site Maintenance During Construction

- 29.1. All building sites are to be kept safe and orderly during construction. All garbage is to be stored out of sight or disposed of in garbage dumpsters or other acceptable enclosures. Garbage in dumpsters shall not exceed dumpster capacity prior to emptying.
- 29.2. Driveways will be completed no later than one year after completion of building construction.
- 29.3. Front yard landscaping should be completed no later than one year after completion of building construction but should not be completed before the construction of any public sidewalk in front of the lot.

30. Landscaping

- 30.1. A significant portion of the front yards shall be planted to compliment the lawn area and building. A minimum of fifteen per cent (15%) of the front yard area will be planting beds composed of a layering of shrubs, perennials and/or ground covers.
- 30.2. Planting beds in the side and rear yards shall comprise a minimum of ten per cent (10%) of combined net yard areas (excluding the footprint of accessory and principal buildings). Planting of trees is strongly encouraged in the front yards.
- 30.3. All plants to adhere to the CaNadian Nursery Landscape Association (CNLA) Landscape Standards.

- 30.4. Except for footprints of buildings, driveways, paving, pools or planting beds, the site should be planted in lawn, ground covers or other similar plant materials. Also included are public rights of way (streets or lanes) adjacent to the lots.
- 30.5. Only grass should be planted within the front 1.5 metres of any lot.
- 30.6. All landscaped areas including rights of way (streets or lanes) adjacent to the lot must be maintained such that they appear tidy and free of weed growth at all times.
- 30.7. Front yards **MUST** be landscaped as stipulated above within **ONE YEAR** of home owner occupancy.

31. Fencing, Lighting, Hard surfaces, and Miscellaneous items:

- 31.1. All owner installed fencing shall be either solid (wood) or ornamental wrought iron fencing, and shall precisely comply with the fencing designs in section 31 and 32.
- 31.2. Either solid fencing or appropriate landscape screening is required when constructing outdoor storage/accessory buildings where the backyard is visible from the street, public reserve.
- 31.3. On all lots, owner installed fencing (wrought iron, solid cedar or brown pressure treated wood only) must be identical to one of the designs shown in section 31 and 32.
- 31.4. All fencing, either developer or purchaser constructed along or inside the any lot, must be maintained with the same materials, colour and design by the lot owner such that no material deterioration occurs.
- 31.5. Site lighting which is adequate to illuminate walkways and entries is appropriate, but should not be excessive.
- 31.6. Site lighting should not be intrusive into neighbouring yards or the windows of adjacent buildings.
- 31.7. Site lighting should not present an institutional appearance nor should it project unnecessary glare to the sidewalk, street, or other nearby properties.
- 31.8. Motion-activated security lighting which is oriented away from adjoining properties and buildings may be used.

- 31.9. Flood lighting of yards or building facades is not permitted.
- 31.10. Large expanses of paving materials should be minimized. Acceptable materials include: plain/stamped concrete, unit pavers, brick, exposed aggregate concrete, coloured concrete, or paving materials with similar visual texture. Crushed stone driveways will not be approved.
- 31.11. Feature elements such as fountains, sculptures, walls, and screens can be used in the front yard to define socially interactive spaces, but should not be visually dominant.
- 31.12. Along rear lanes, no garbage containers, refuse containers or other offensive material shall be stored outside the lot in the laned area, other than is reasonable on scheduled garbage pickup days.**

Fence Design Information

32. Wood Fence Design

Solid Cedar or brown pressure treated wood fence design or equivalent: subject to architectural approval.

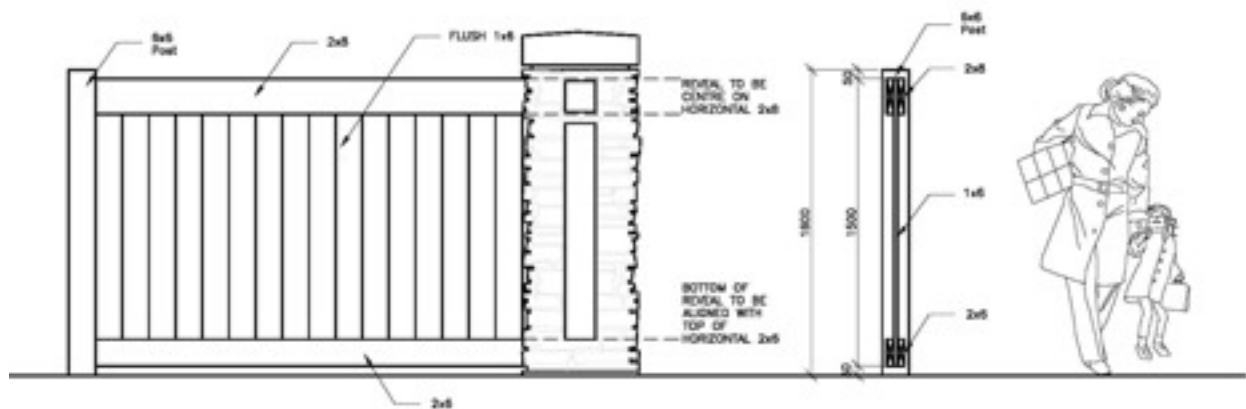
Fence sections to be 2238 mm (88") wide.

Posts 2375 mm (93 1/2") on centre

Finish natural or cedar finish, all parts

Galvanized steel fasteners

Posts must be driven below frost line (6' deep)



33. “Wrought Iron” Style Fence Design

Wrought Iron Fence Design: Ultra Aluminium Mfg. Inc. UAF-200 Flat Top, or Hooverfence Style #6 (also known as “Jerith #202” or equivalent. Subject to Architectural approval.

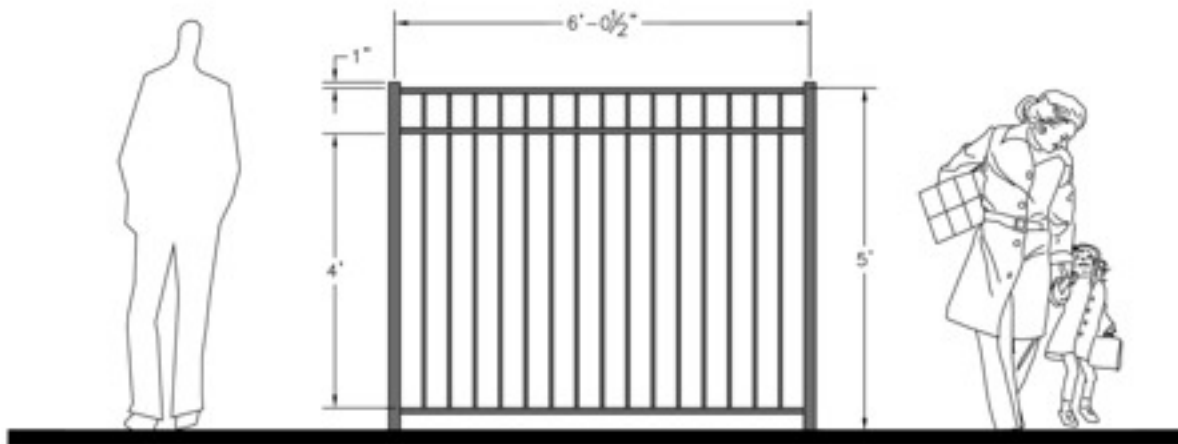
Fence sections to be 6’ wide.

Posts 72 1/2” on centre

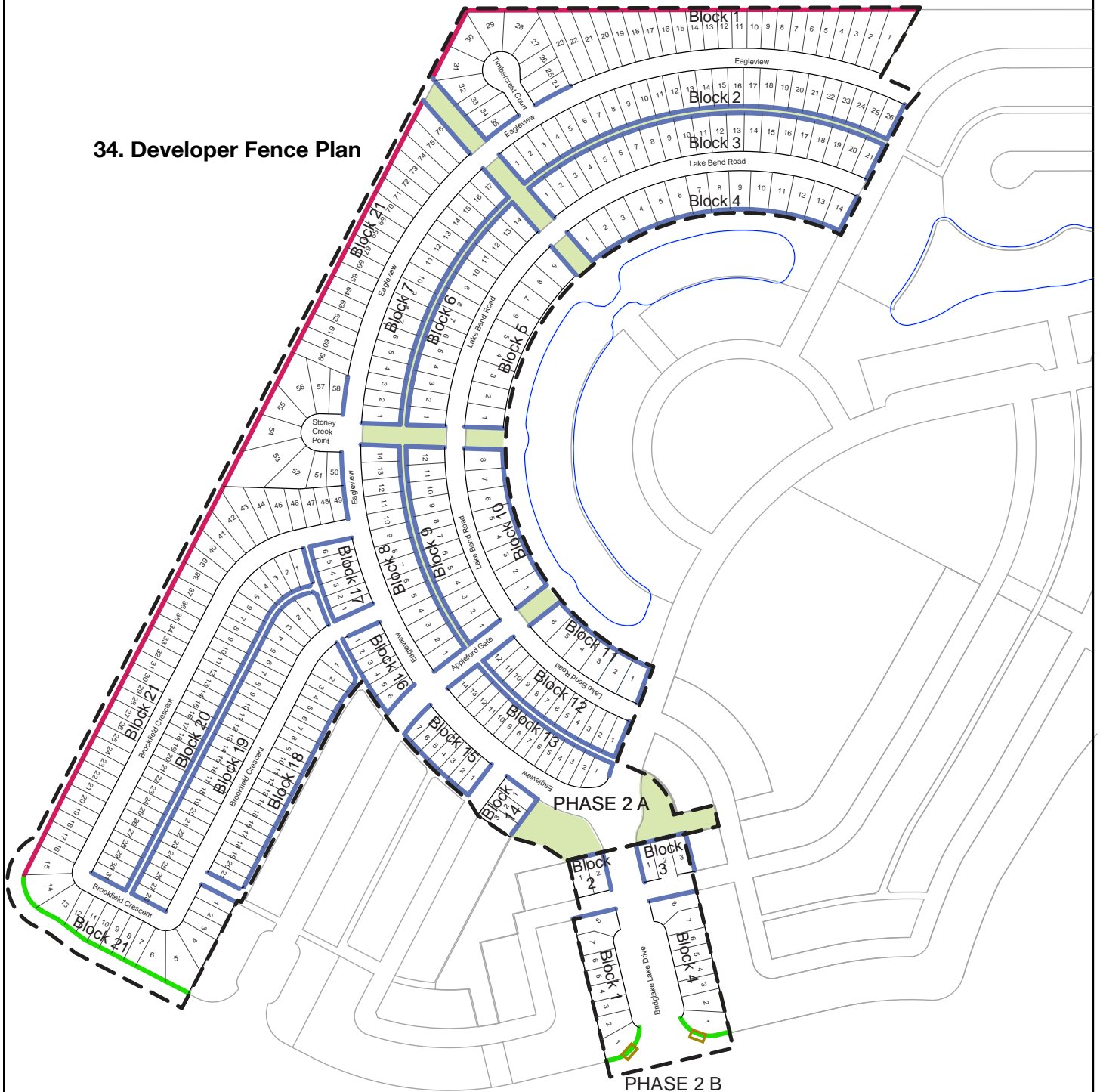
Finish shall be black T.G.I.C Polyester powder coat finish, all parts

Stainless steel fasteners

Posts must be driven below frost line (6’ deep)



34. Developer Fence Plan



LEGEND

- Developer Ornamental Fence
- Developer Solid Wood Fence
- Developer Solid Wood Fence with Stone Pillars
- Neighbourhood Entry Feature

Appendix B. Stakeholder Interview Questions

Interview Questions for VISIBLE Home Residents in the Bridgwater Neighbourhoods

Experience

- 1) When did you buy your current house?
- 2) Your house has VISIBLE housing features, which are no-step entrance, wide front door and hall ways, and wheelchair accessible bathroom on the first floor. Did any of these features affect your decision to buy the house? If so, how?
- 3) When you bought your house, how did the realtor pitch the house to you? Did he or she mention the VISIBILITY features?

Reflections

- 4) Do you think living in a VISIBLE home has affected your family life in any way? If so, how?
- 5) After living in your house now, what do you like or dislike about the VISIBLE features of your house? What do you think are advantages or disadvantages of VISIBLE homes?
- 6) Is there any surprising benefit that you have found from living in a VISIBLE home?
- 7) Was your house more expensive than other houses in this area, which does not have VISIBILITY features? If so, how much was it more expensive? Do you think the VISIBILITY features were worth the cost?

Feedback

- 8) Have you had any comments or responses from visitors about the VISIBILITY features in your house?
- 9) What suggestions do you have for home builders who build VISIBLE homes, if any?
- 10) Would you recommend VISIBLE homes for your friends or others? If so, what do you think are the selling points of VISIBLE housing?

Interview questions for policy makers who have been involved in the Bridgwater Project

Role & Experiences in the Bridgwater Project

- 1) What was your role in the Bridgwater project? What were your responsibilities?
- 2) How have you been involved in Visitable housing as a policy maker?
- 3) What is the role of the municipal and provincial governments in developing and carrying out the project?
- 4) Describe the process of building Visitable homes in the project in which you have been involved.
- 5) Who else in the government (provincial or municipal) or what departments have been involved in the project? What other departments would you like to involve in such a project, if any?
- 6) Who else outside of the government did you work with in the project, if any?

Process and Outcomes

- 7) Have you encountered or observed any challenges or barriers to building or promoting Visitable homes? If so, what are they? How have they been addressed?
- 8) Have you heard any feedback from anyone about Visitable housing? If so, what is it?
- 9) Are you aware of any outcomes and impacts of Visitable housing? If so, what are they? Do you have any documents that demonstrate such outcomes or impacts? What were unexpected results, if any?

Reflections

- 10) When you learned about Visitability for the first time, what was your response? Has your perception of Visitable housing changed since? If so, how?
- 11) If you would repeat what you have done related to Visitable housing in the project, what would you do differently?

Knowledge to Share

- 12) What policies and regulations in Winnipeg and/or Manitoba are relevant to building Visitable homes or home modification? How do they help or impede promoting Visitable housing in Winnipeg and/or Manitoba?
- 13) Describe the process involving the municipal and/or provincial government in developing and marketing Visitable homes or renovating a home to be Visitable.
- 14) What policy options can a municipality or province consider to promote Visitable housing?
- 15) What would be the motivators for other governments to promote Visitable housing?
- 16) Do you have any tips, suggestions, or resources to share with other governments who are interested in building Visitable homes? If so, what are they?

Last Questions

- 17) Are you (or the province) interested in promoting Visitable housing in other areas in Winnipeg/Manitoba? If so, how?
- 18) Do you have any tips, recommendations, or resources to share with other policy makers who are interested in advancing policy to promote Visitability in other jurisdictions?

Interview questions for home builders who have been involved in the Bridgwater Project

Role & Experiences in the Bridgwater Project

- 1) What was your role in the Bridgwater project? What were your responsibilities?
- 2) How did you become involved in the Bridgwater project?
- 3) Who have you worked with in building Visitable homes? Who else do you think would be helpful to work with in building Visitable homes?
- 4) Had you built Visitable homes before the Bridgwater project?

Process and Outcomes

- 5) Describe the process of building Visitable homes in the project, in which you have been involved.
- 6) Have you encountered or observed any challenges or barriers to building or marketing Visitable homes? If so, what are they?
- 7) Have you heard any feedback from anyone on the project in terms of Visitable housing? If so, what is it?
- 8) Do you have any observation, documentation, or information about outcomes and impacts of Visitable housing in the project?

Reflections

- 9) What do you like or dislike about building Visitable homes?
- 10) When you learned about Visitability for the first time, what was your response? Has your perception of Visitable housing changed since? If so, how?
- 11) Is there anything that you would now do differently when building Visitable homes from when you first built a Visitable home? If so, what would you do differently?

Knowledge to Share

- 12) What are cost factors related to building Visitable homes?
- 13) How marketable are Visitable homes? What do you think are advantages or disadvantages of Visitable homes?
- 14) What would be the motivators for other home builders to consider building Visitable homes?
- 15) Do you have any tips or suggestions to share with other home builders who are interested in building Visitable homes?

Last Questions

- 16) Are you interested in building/marketing more Visitable homes? Yes or no, why?
- 17) Do you have any information, documents, or resources that you would like to share about the project or Visitable housing in general?

Interview questions for Realtors/Home Salespeople of Visitable Homes in the Bridgwater Project

Role & Experiences in the Bridgwater Project

- 1) How did you become involved in selling Visitable homes in the Bridgwater project?
- 2) How many transactions of Visitable homes in the Bridgwater project have you made?
- 3) If a home buyer is interested in buying a Visitable home, do realtors usually have information about Visitability features of homes in their list?

Process and Outcomes

- 4) When you showed Visitable homes in the Bridgwater project to home buyers, what were their responses like?
- 5) When you market Visitable homes, do you explain about the Visitability features and benefits of Visitable homes to potential home buyers?
- 6) Do you market a Visitable home any differently than a conventional home? How or why?
- 7) Have you encountered or observed any challenges or barriers to building or marketing Visitable homes? If so, what are they?
- 8) Have you heard any feedback from anyone, especially home buyers, on Visitable homes?
- 9) Do you have any observation, documentation, or information about outcomes and impacts of Visitable housing in the project?

Reflections

- 10) As a realtor, when you first heard about the concept of Visitable housing, what was your response? Has your understanding of or attitude towards Visitable housing changed since then? If so, how?

Knowledge to Share

- 11) How more, or less, expensive are Visitable homes compared to other homes? How does the cost factor influence home buyers' decisions to buy a Visitable house?
- 12) How marketable are Visitable homes? What do you think are advantages or disadvantages of Visitable homes? What is the biggest selling point of Visitable homes to home buyers?
- 13) What aspects turn home buyers away from Visitable homes, if any?
- 14) What marketing tips or strategies do you have for Visitable homes?

Last Questions

- 15) Do you have any information, documents, or resources that you would like to share about the project or Visitable housing in general?

Interview questions for land developers who have been involved in the Bridgwater Project

Role & Experiences in the Bridgwater Project

- 1) What was your role in the Bridgwater project? What were your responsibilities?
- 2) How did you become involved in the Bridgwater project?
- 3) Who else have you worked with in building VISIBLE homes in the project?

Process and Outcomes

- 4) Describe the process of building VISIBLE homes in the project, in which you have been involved.
- 5) Have you encountered or observed any challenges or barriers to planning, designing, or preparing land for VISIBLE homes? If so, what are they?
- 6) Have you heard any feedback from anyone on the project in terms of VISIBLE housing? If so, what is it?
- 7) Do you have any observation, documentation, or information about outcomes and impacts of VISIBLE housing in the project? What are they?

Reflections

- 8) When you learned about VISIBILITY for the first time, what was your response? Has your perception of VISIBLE housing changed since? If so, how?
- 9) Is there anything that you would now do differently when planning, designing, or preparing land for VISIBLE homes from when you first built a VISIBLE home? If so, what would you do differently?

Knowledge to Share

- 10) What are cost factors related to the land development for VISIBLE homes?
- 11) How marketable are VISIBLE homes? What do you think are advantages or disadvantages of VISIBLE homes?
- 12) What would be the motivators for other land developers to consider building VISIBLE homes?
- 13) Do you have any tips, suggestions, or resources to share with other land developers who are interested in building VISIBLE homes? If so, what are they?

Last Questions

- 14) Are you interested in developing Visitable housing in other areas in Winnipeg/Manitoba?
- 15) Do you have any information, documents, or resources that you would like to share about the project or Visitable housing in general?

Appendix C. Residents' Survey Package

You are one of few Canadians who are living in a VISIBLE home!

What is a VISIBLE home?

You are living in one of the VISIBLE homes in Waverley West in Winnipeg. VISIBLE homes have **three VISIBILITY features**.

- 1) No step entrance
- 2) Wider front door and hallways on the main level (minimum 32')
- 3) Wheelchair accessible bathroom on the main level

VISIBLE Homes Residents' survey

QUESTIONS

If you have any questions about the study you may contact the researcher:

Youn-Young Park, Ph.D.
Canadian Centre on Disability Studies
Tel: (204) 287-8411 (ext. 26)
E-mail:
research3@disabilitystudies.ca

CONCERNS

This research has been approved by the Canadian Centre on Disability Studies (CCDS) Ethics Review Committee. If you have any concerns or complaints about this project you may contact Dr. Shahin Shooshtari, Chair of this committee at (204) 474-8052
E-mail:
Shahin.shooshtari@umanitoba.ca.

This study is funded by the Manitoba Housing and Renewal Corporation and the Government of Canada's Social Development Partnerships Program — Disability Component.

YOU ARE INVITED TO PARTICIPATE

You are invited to participate in this survey as a resident of a VISIBLE home in the Bridgwater neighborhoods. The Canadian Centre on Disability Studies (CCDS) is conducting a study entitled 'Canadian Experience with VISIBLE Housing'. This survey is intended to examine residents' experience with and feedback on VISIBLE homes. It will take only about 1-2 minutes. Your input is important to learn about VISIBLE housing from the residents' perspective.

WHAT TO DO

Please complete the attached survey and return the completed survey to CCDS **by mail, online survey, or telephone message**. The accompanied sheet describes these three ways to participate in the survey.

ANONIMITY AND CONFIDENTIALITY

Participation is voluntary and you may refuse to answer questions that you choose not to answer. Refusal to participate in this study will not cause any negative outcomes for you. Submission of the completed survey indicates your agreement to participate.

Your responses will be kept confidential, and will be reviewed by the members of the research team only. Your responses will not be identifiable by anyone, including the researcher. You do not need to provide any information that may identify you, such as your name, position, or home address. The summary report of the study, including the results of this survey, will be available at the CCDS website (<http://disabilitystudies.ca>) by the end of November 31, 2013. The study involves no risk to you.

Visitable Home Residents' Survey

This survey is intended to learn about residents' experience with living in a Visitable home. Visitable homes have three features:

- 1) No-step entrance
- 2) Wider entrance door and hall way on the first floor (32" or wider)
- 3) Wheelchair accessible bathroom on the first floor

If you are currently living in a Visitable home, please take a moment to answer the following questions.

1. How long have you lived in the house? _____ Years _____ Months

2. When you decided to move into the house, did you consider those Visitability features?

Yes _____ No _____

If your answer is yes, why did you buy a Visitable home?

3. How do you like the Visitability features in your home?

I dislike them very much	I dislike them	I don't care	I like them	I like them very much
1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. If you like living in a Visitable home, what do you like about it?

5. If you don't like living in a Visitable home, what do you dislike about it?

6. Would you recommend Visitable houses for your friends and others?

No	Not sure	Maybe	Probably	Absolutely
1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you!

Three Ways to Return Your Completed Survey

1. Telephone Message

- 1) Call at (204) 287-8411 (ext. 33) and leave a message.
- 2) In your voice message, provide your answer to each question. Please indicate the question numbers and your answers as shown in the examples below.

Examples of responses

Question 1. 3 years and 5 months

Question 2. Yes, I considered the Visitability features, because...

Question 3. My answer is 4. I like them.

Question 4. What I like about a Visitable home is...

Question 5. Things that I don't like about a Visitable home are...

Question 6. My answer is 3. Maybe.



You do not need to leave any information that would identify your name, position, phone number or home address. The research team will not be able to backtrack your number by your message.

2. Mail

Please complete the survey and return it using the accompanying stamped envelope.

3. Online Survey

- 1) Go to the link on line.
<http://www.surveymonkey.com/s/CPF8B5Z>
- 2) Provide your answers on the online survey.

We also conduct **in-person interviews** with residents of Visitable homes in the Bridgwater neighborhoods. If you would like to have an in-person interview as well, please provide your contact information on your survey or contact Youn-Young Park at (204) 287-8411 (ext. 26) or research3@disabilitystudies.ca. Thank you!

Appendix D. Case Study Report: VisitAble Housing Cost Estimate Summary

VISITABLE HOUSING

COST ESTIMATE SUMMARY

June 2007

PARA
Progressive Accessibility
Re-Form Associates



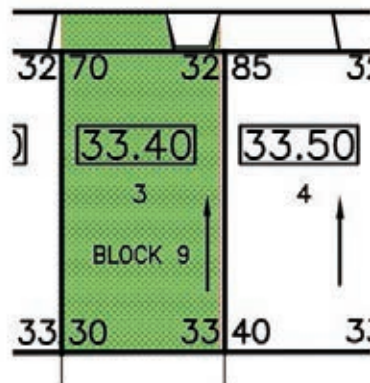
LANNY L.M. SILVER
ARCHITECT

This report summarizes our findings related to the cost and market implications of incorporating **basic visitable** features into two single-family detached houses in Manitoba. It was prepared at the request of Manitoba Housing and Renewal Corporation (MHRC). Refer to Appendix I for the mandatory requirements for **basic visitability**.

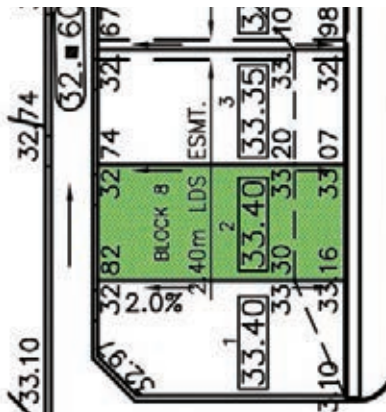
Because this cost analysis is a case study, based on two specific model homes and sites, caution should be exercised in generalizing the results. For example, the laned lot solution involved adding a side door, which would not be required in all or even the majority of cases of visitable construction.

SITE | HOUSE PLAN SELECTION

For this analysis we used Waverley West sites and typical housing units designed for this development as models. Two test sites were selected: one with a back lane and one without, to observe the effect of different grading patterns on costs. Both are gently sloping (approx. 2% grade) mid-block sites, avoiding the non-typical conditions of corner lots. The laned lot has split drainage, with the high point in the front yard. The non-laned lot provides standard front to back drainage.



Lot without Backlane



Lot with Backlane

Figure 1. Waverley West lots used for the cost analysis

House plans were provided by Qualico Homes, and selected to represent typical features, widths, door types, and finish floor grades within the current market. We rejected units that had too many visitable features incorporated – this could skew the results and make this analysis less useful.

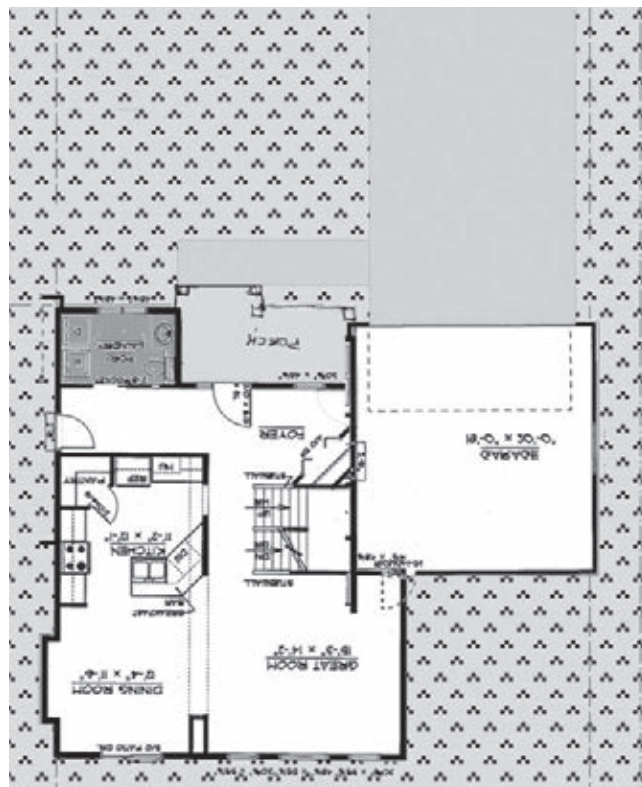
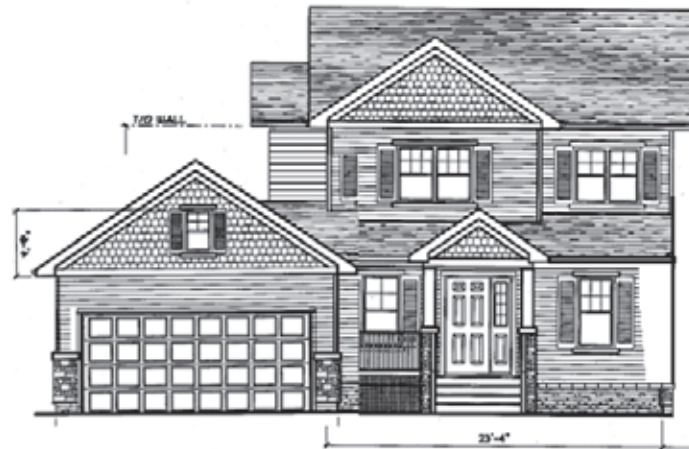


Figure 2a: Qualico plans selected for the cost analysis. The Broadview DG-11 model currently in development was used for the non-laned lot

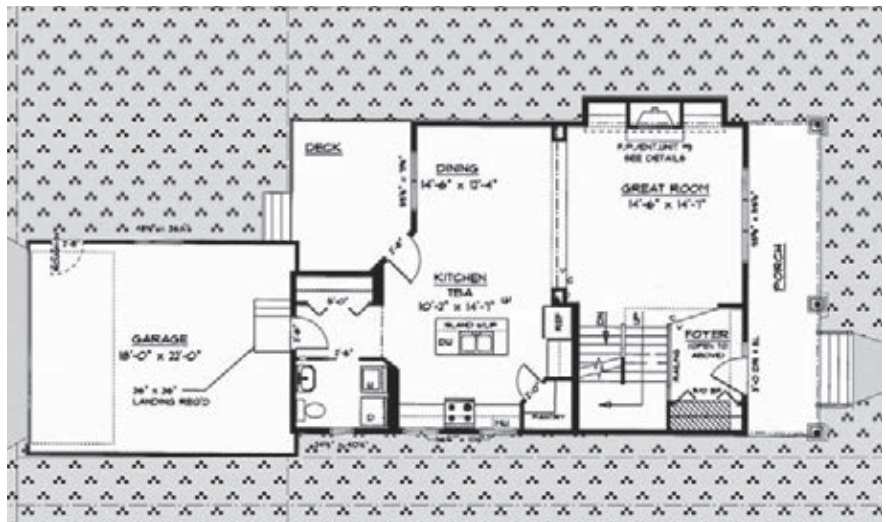
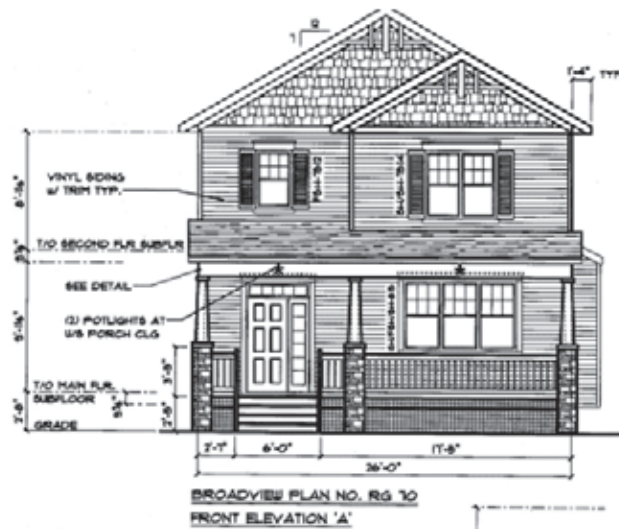


Figure 2b: Qualico plans selected for the cost analysis. The Broadview RG-70 model currently in development was used for the laned lot.

PROCESS

Interior revisions were designed and costed by Lanny Silver, architect, in consultation with Edgar Rosales of Qualico Homes. Hilderman Thomas Frank Cram developed designs for the external visitable features, based on original design drawings prepared by Stantec Consulting. The designs and preliminary costs were reviewed by Qualico, and Dave Rapson reviewed the work for compliance with mandatory requirements as identified in our policy document (April, 2006).

DESIGN NOTES

Determining the best accessible path of travel to the door took some effort. On each site, we looked for opportunities to create an accessible path that added amenities such as planting areas and seating spaces, while maintaining continuity with adjacent properties. Because ramps were not used, some lowering of the finish floor grades - between 3.5" (83mm) and 6" (150mm) - was required to keep the walkway grades at 5% or less. Earthwork berm grades are 20% or shallower: well within mowable limits. Landings were priced as cast-in-place concrete, unless they were extensions to decks or porches, in which case they will be constructed of matching materials. Walkways were also priced as cast-in-place concrete.

Front door access is only possible on the laned lot. In all cases, the side yard requires either a retaining wall or mirrored treatment on the house next door to accommodate the grade changes. This suggests that there will be economic benefit in designing and building visitable sites in pairs.

Non-Laned Lot

Figure 3 shows a curving 5% walkway leading to the side door. This scheme provides a formal front planting space and good access to the front door (reducing the number of stairs). Subdrainage will also be required at the side entrance, or a trough on the property line to move water past or under the raised grade. Note that this option requires relocating the garage and therefore would require some engineering fees, as indicated on the spreadsheet (Tables 1a-c).

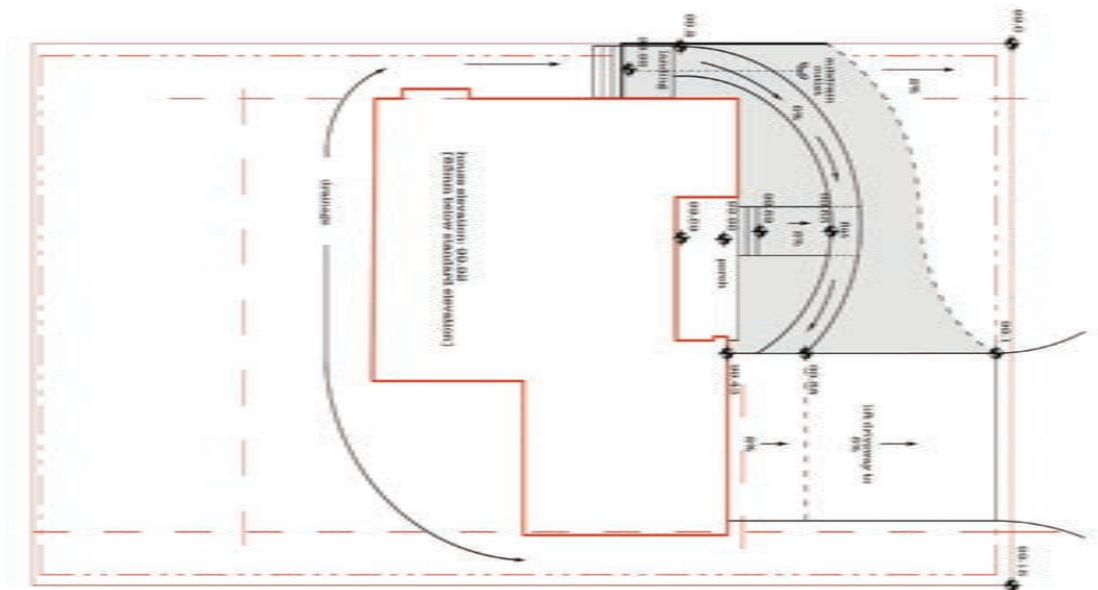


Figure 3: Visitable design concept for Non-Laned Lot.

Notes:

elevations are in metres

elevation 99.92 finished floor grade is 83mm (3 1/4") below grade indicated on Qualico plan.

Laned Lot

Two options were priced for this lot. Option A (Figure 4a) gives access to the front door from the back lane. It is a straight run, and would require construction of an extension on the front porch for the most elegant connection. No amenity space is created by this option. Subdrainage is not required, as this lot has split drainage.

Option B (Figure 4b) takes advantage of the large sideyard to provide a shallow (4.2%) accessible route from the front yard to the back deck. This option is costly because it requires a large extension to the deck, and probably would require a variance, but it also creates the most marketable amenity in the double-sized deck.

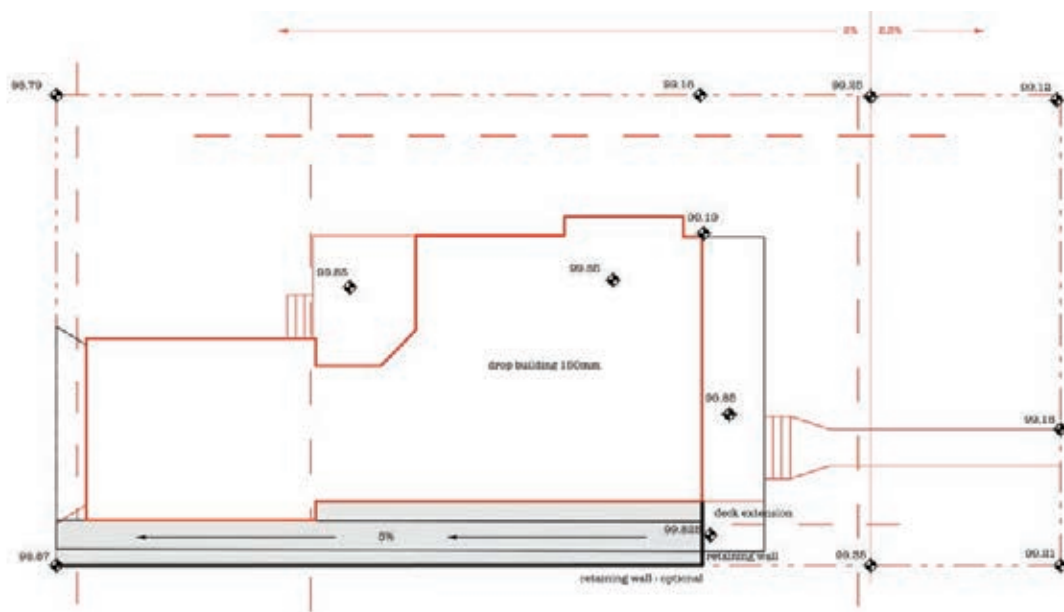


Figure 4a: Visitable design concept for Laned Lot - Option A.

Notes:

elevations are in metres

elevation 99.85 finished floor grade is 150mm (6") below grade indicated on Qualico plan.

Washroom: The washroom met visitable requirements but the pocket door was changed to a swing door with lever lockset , an “enhanced feature” that we felt would not cost more than the pocket door.

Circulation: The designs used, in some cases, seemed to indicate a dropped foyer. This would not be suitable for “Visitable” design and was deleted. This change should not result in extra cost.

Non-Laned Lot - Option A interior changes were:

No Step Entrance: The existing design only required a low threshold door.

Washroom: The washroom in this unit required a modification to the design. The washer/dryer had to be relocated or the kitchen had to be reduced. We opted for relocating the washer/dryer.

Circulation: Within the unit, this was ample and no changes were required.

Non-Laned Lot - Option B interior changes were:

This design would require zoning approval for the wider than normal side yard. If this plan were used the interior considerations would not change.

COSTING

The costs provided in this report are in addition to normal requirements, such as driveway and sidewalk.

Table 1a: Costing - visitable design concept for Non-Laned Lot.

	Item	Size	Extra Cost - Materials	Extra Cost - Labour	Unit Price	Mark-up Overhead 25%	Cost Estimate Total
House	Additional exterior door framing		\$50.00	\$50.00	-	\$25.00	\$125.00
	Door c/w access threshold + added weather-stripping	2'10" x 6'8"	\$500.00	\$100.00	-	\$150.00	\$750.00
	Washroom door c/w lever lockset	2'8" x 6'8"	\$150.00	\$100.00	-	\$60.00	\$310.00
	Modified floor joist detail (pocket in foundation wall) required where finish grade is raised against foundation	15 linear ft. by 10" height	\$150.00	\$150.00	-	\$75.00	\$375.00
Site	Cast-in-place concrete walkway max. 5% grade, 4'8" wide	145 sq. ft.	-	-	\$6.80	\$245.00	\$1,230.00
	Reinforced concrete entry landing. Provision to ensure platform does not settle or heave.	12 cu. ft.	-	-	\$33.50	\$100.00	\$500.00
	Drainage pipe	18 linear ft.	-	-	\$45.50	\$205.00	\$1,025.00
	Earthwork - assume site material	185 cu. ft.	-	-	\$1.00	\$45.00	\$230.00
	Concrete porch stairs	7.5 cu. ft.	-	-	\$33.50	\$65.00	\$315.00
Credits	Cast-in-place concrete walkway to front door	55 sq. ft.	-	-	\$6.80	\$95.00	\$470.00
	Reinforced concrete entry landing	4.5 cu. ft.	-	-	\$33.50	\$40.00	\$190.00
	Concrete porch stairs	25 cu. ft.	-	-	\$33.50	\$210.00	\$1,050.00
	Earthwork - 25% of grading attributed to standard site grading	46 cu. ft.	-	-	\$1.00	\$10.00	\$55.00
TOTAL							\$3,095.00
Optional	Engineering services - garage flipped	-	-	-	-	-	\$500.00
	Precast concrete block retaining wall	75 sq. ft.	-	-	\$31.50	\$590.00	\$2,950.00

Table Ib: Costing - visitable design concept for Laned Lot - Option A.

	Description	Size	Extra Cost - Materials	Extra Costs - Labour	Unit Price	Mark-up Overhead	Cost Estimate Total
House	Door c/w access threshold + added weather-stripping	2'10" x 6'8"	\$50.00	-	-	\$13.00	\$63.00
	Design change - washroom walls and plumbing	-	\$200.00	\$200.00	-	\$100.00	\$500.00
	30" Biofold doors where required by design	30" wide	\$150.00	\$150.00	-	\$75.00	\$375.00
	Modified floor joist detail (pocket in foundation wall) required where finish grade is raised against foundation	50 linear ft. by 10" height	\$250.00	\$500.00	-	\$185.00	\$935.00
Site	Cast-in-place concrete walkway max. 5% grade, 2'10" wide	190 sq. ft.	-	-	\$6.80	\$325.00	\$1,615.00
	Deck - standard + extension	180 sq. ft.	-	-	\$30.00	\$1,350.00	\$6,750.00
	Earthwork - assume site material	620 cu. ft.	-	-	\$1.00	\$155.00	\$775.00
Credits	Standard deck	150 sq. ft.	-	-	\$30.00	\$1,125.00	\$5,625.00
	Earthwork - 25% of grading attributed to standard site grading	155 cu. ft.	-	-	\$1.00	\$40.00	\$195.00
TOTAL							\$5,193.00
Optional	Precast concrete block retaining wall	100 sq. ft.	-	-	\$31.50	\$790.00	\$3,940.00

Table Ic: Costing - visitable design concept for Laned Lot - Option B.

	Description	Size	Extra Cost - Materials	Extra Costs - Labour	Unit Price	Mark-up Overhead	Cost Estimate Total
House	Door c/w access threshold + added weather-stripping	2'10" x 6'8"	\$50.00	-	-	\$13.00	\$63.00
	Design change - washroom walls and plumbing	-	\$200.00	\$200.00	-	\$100.00	\$500.00
	30" Biofold doors where required by design	30" wide	\$150.00	\$150.00	-	\$75.00	\$375.00
	Modified floor joist detail (pocket in foundation wall) required where finish grade is raised against foundation.	50 linear ft. by 10" height	\$250.00	\$500.00	-	\$185.00	\$935.00
Site	Cast-in-place concrete walkway max. 5% grade, 3'2" wide	190 sq. ft.	-	-	\$6.80	\$325.00	\$1,615.00
	Deck - standard + extension	210 sq. ft.	-	-	\$30.00	\$1,575.00	\$7,875.00
	Earthwork - assume site material	680 cu. ft.	-	-	\$1.00	\$170.00	\$850.00
	Variance application	-	-	-	-	-	\$1,200.00
Credits	Standard deck	120 sq. ft.	-	-	\$30.00	\$900.00	\$4,500.00
	Earthwork - 25% of grading attributed to standard site grading	170 cu. ft.	-	-	\$1.00	\$40.00	\$210.00
TOTAL							\$8,703.00
Optional	Precast concrete block retaining wall	140 sq. ft.	-	-	\$31.50	\$1,100.00	\$5,510.00

CONCLUSIONS + MARKET IMPLICATIONS

Interior costs are negligible if planned at the outset. The houseplans provided by Qualico were essentially visitable on the interior, so these feature should present no negative market implications. Sales agents should capitalize on this, treating the accessibility of the main floor living spaces as a selling point.

Most of the additional costs we identified relate to creating the accessible route to the door and the no step entry. In all the design case studies, these modifications add value through creating more amenity space and more interest in the landscape. Many buyers will appreciate the convenience and value of having the walkways built by the developer, whose forces are mobilized on site and should be able to offer a volume discount.

The case studies lower the finished floor elevation by a maximum of 6" (150 mm), so standard basement windows can be installed without window wells. This maintains the elevated appearance and livability of basement spaces that is prized in today's market. If full-sized egress basement windows are desired to allow a basement bedroom, shallow window wells may be required.

Visitable homes built in isolation without any pre-planning are the most expensive option. The strategy of pairing visitable homes to avoid retaining walls along the side yards should be considered if visitable homes are to be incorporated into a development.

Appendix I
BASIC VISITABILITY
MANDATORY
REQUIREMENTS

1. An Accessible Path of Travel
 - A path of travel with a gentle grade (maximum 1:20 or 5%) from the street, sidewalk, back lane, or the dwelling unit's parking space to an accessible entrance into the dwelling unit. This dwelling unit's entrance may be located at the front, side, rear, or through the garage of the home. In certain situations, in order to gain access into the dwelling unit, a ramp¹ may be required;
 - The path of travel shall be firm, stable, and slip resistant;
 - The path of travel shall be a minimum of 36" (915mm) in width (preferred 48" (1220mm));
 - The cross slope of the path of travel to be at a maximum of 1:50 or 2%;
 - No steps shall occur along this path of travel; and
 - No drop off or slopes over 1:20 shall occur along the edge of the path of travel.
2. A No-Step Entrance Area
 - An exterior landing entrance area with a minimum clear area of 5'-0" x 5'-0" (1525mm x 1525mm) (preferred 7'-6" x 7'-6" (2285 x 2285mm));
 - A landing area that is firm, stable, and slip resistant;
 - A landing area that has a slope in any direction of no more than 1:50 (2%);
 - One no-step entrance at the entrance door;
 - A minimum 36" (915mm) clear width of the entrance door;
 - A no or low profile threshold at the door. Raised thresholds of 1/4" (6mm) or less do not require any special requirements. Thresholds over 6mm to a maximum of 1/2" (13mm) must be beveled at a maximum slope of 1:2 (50%). Less steep is recommended. Thresholds over 1/2" must be ramped similar to those requirements of curb ramps as outlined in the references below;
3. Passable Interior Circulation on the Main Floor
 - Interior doorways – minimum 32" (810mm) (preferred 33 1/2" (850mm)) clear width;
 - Clear passage throughout with a minimum 36" (915mm) (preferred 48" (1220mm)) clear width to access all main floor activity areas, including the washroom. Where a turn is required by a person using a wheelchair to access various rooms on the main floor – sitting, dining, entertaining and the washroom, the clear width should be at least 53" (1350mm).

¹A ramp may be used in existing situations where the elevation of the floor above grade is too great to be accessed a gently sloped walkway alone.

4. Access to a Main Floor Washroom

- A main floor washroom that a person using a mobility device, such as a wheelchair, can enter, close the door, and use the facilities. This would require a 5'-0" (1520mm) turning circle in front of the toilet with the washroom door not crossing the turning circle while being closed or opened;
- Clear space under wall-hung fixtures can be included in the 5'-0" (1520mm) requirement.
- The washroom must have at a minimum one sink and one toilet.

Appendix E. Bridgwater Information Material on VisitAble Housing



Visitable Homes Mean Access for All

The Neighbourhoods of Bridgewater offer an exciting variety of housing options, including visitable homes that provide easy access for everyone. Winnipeg's most popular new development is a growing, dynamic community with a broad range of dwelling options, from starter homes to premier properties, single and multi-family town homes and a selection of visitable homes.

Visitable homes are designed to offer easy access to the home, especially for people with limited mobility, people with disabilities or families with small children.

Visitable design features include:

- one-level, front door entrance with no steps
- front door entrances – minimum 91.4 centimetres (36 inches) wide
- interior doorways – minimum 81.3 centimetres (32 inches) wide
- wheelchair accessible bathroom on main floor

Other visitable home options can include:

- reinforced bathroom walls to support grab bars
- levered door handles, single-lever kitchen and bathroom faucets
- raised electrical outlets – 45.7 centimetres (18 inches) from floor
- lowered climate control and light switches





Fifty per cent of the homes in the Bridgwater Lakes neighbourhood will meet visitable design standards, making the Bridgwater neighbourhood one of Canada's first new developments to offer such a large selection of visitable homes. They will be designed to accommodate wheelchairs, scooters and walkers for those with disabilities. They are also more convenient for seniors and families with small children. Individual adaptations can be incorporated into any home plan, as needed.

The outdoor spaces, streets, sidewalks and pathways throughout the Neighbourhoods of Bridgwater provide easier, overall access to all residents and visitors to the community.

**For more information on visitable homes
in the Neighbourhoods of Bridgwater:**

Phone: 204 945-5744

Email: housing@gov.mb.ca

www.bridgwaterneighbourhoods.com

Visitable homes are designed to offer easy access to the home, especially for people with limited mobility, people with disabilities or families with small children.





Manitoba Housing and Renewal Corporation (MHRC) Visitable Housing Design

HOMES DESIGNED WITH
VISITABLE FEATURES
MAKE LIFE SIMPLER FOR
ALL AGES AND ABILITIES.

FOR MORE INFORMATION
ON VISITABILITY,
PLEASE CONTACT:

Manitoba Housing
and Renewal Corporation

203 – 280 Broadway
Winnipeg, MB R3C 0R8

Phone: 945-2663
(in Winnipeg)
Toll-free: 1-866-689-5566

Visitable housing is the concept of designing and building homes with a basic level of accessibility. Visitable homes provide independent access for everyone, including people with limited mobility or those with disabilities.

A level entrance provides easier access to the home for all ages and abilities. People who may require the use of mobility aids such as wheelchairs, walkers or scooters, as well as seniors and families with small children, can benefit from visitable homes.

VISITABLE DESIGN FEATURES

A residence incorporating minimum visitable design features would include:

- One level, no-step entrance — minimum 36 inches (91.4 centimetres) wide — on an accessible route
- Wider doorways — minimum of 32 inches (81.3 centimetres) clear passage throughout
- A wheelchair accessible bathroom on the main floor

The MHRC is encouraging the use of visitable design, as shown by several of its recent initiatives. Houses have been built under the Affordable Housing Initiative's Infill Housing Program to include these basic visitable design features. Renovations to MHRC-owned properties are now incorporating basic visitability at a minimum. Future new residential construction, funded with

public contributions, will promote the use of visitable design. The MHRC is promoting quality, affordable housing that includes visitable features and demonstrates that these housing designs can benefit people of all ages, including visitors with mobility restrictions.

Other inexpensive visitable design features may be added to improve the convenience and suitability of a home. These include:

- Reinforced bathroom walls (for the installation of grab bars, if desired)
- Levered door handles and single-lever kitchen and bathroom faucets
- Raised electrical outlets — 18 inches (45.7 centimetres) from the floor
- Lowered climate controls
- Lowered light switches — 48 inches (121.9 centimetres) from the floor

Visitable house designs that include a bedroom and a full bathroom on the main floor provide an attractive housing option for a resident with disabilities.

Homes with visitable features demonstrate the first stage of universal design. Further adaptations to assist with a disability can be easily added to a visitable home, if and when the need arises.





BUILDING A VISITABLE HOME IN WINNIPEG

For more information:

■ On obtaining a building permit please contact:

Zoning & Permits Branch
Planning, Property and
Development Department
PH: (204) 986-5140
FAX: (204) 986-6347

■ On lot grading requirements and approvals please contact:

Water and Waste Customer
Service
PH: (204) 986-5858
FAX: (204) 986-6515
TTY: (204) 986-2149

■ On approaches and standard construction specifications contact:

Public Works
PH: (204) 986-7623

■ On financial assistance available:

Winnipeg Housing Policy
PH: (204) 940-3074
FAX: (204) 940-3077

■ For general information contact:

Universal Design Coordinator
PH: (204) 986-2131

This publication has been designed to provide basic information for builders, developers, and citizens in Winnipeg who are interested in the design of Visitable housing.

What is a "Visitable" Home?

A "Visitable" home is one that allows basic and essential access to both residents and visitors who experience difficulties with steps because of mobility limitations.

Visitable Design Features

A residence incorporating minimum visitable design features would include:

- ◆ One level, no-step entrance minimum 36 inches (91.4 centimetres) wide — on an accessible route
- ◆ Wider doorways minimum of 32 inches (81.3 centimetres) clear passage throughout
- ◆ A wheelchair accessible bathroom on the main floor

What should the Developer/Homebuilders Consider?

When building, renovating, repairing or rehabilitating a building or structure, developers, architects, and homebuilders alike need to reference regulatory construction requirements prescribed by City of Winnipeg By-laws and the Manitoba Building Code for complete requirements, including building permits, electrical or plumbing permits, lot grading by-law and approach regulations.

General considerations may include:

- ◆ Addressing drainage issues, provide run-off of storm water to waste water systems and prevent flooding.
- ◆ Flexibility in desired square footage to accommodate specific design requirements.
- ◆ Appropriate lot size and configuration to accommodate a larger floor plate.
- ◆ Retention of a landscape architect to address aesthetic preferences and retention of a professional engineer to address lot grade requirements.





Visitable Design

Bridgwater Forest, located in southwest Winnipeg, is one of Canada's first new developments to offer a selection of homes designed with wide doors and hallways and no-step entries for everyone's comfort and convenience. Now, getting into a beautiful Bridgwater Forest home is easy for all.

The design is called "visitable housing", a concept that makes entry and movement easier for anyone looking for the convenience of no-step entries and wider doorways and hallways. Arlt Homes, Artista Homes and Maric Homes, have constructed three visitable show homes that recently opened for the 2010 fall parade of Homes. The homes feature a no-step entry, a wheelchair accessible main floor bathroom, wide doors and hallways for convenient interior circulation for young families with strollers and for those with mobility challenges. These features make everyday living – from bringing in groceries or moving furniture – easier.

Visitable housing is the concept of designing and building homes with a basic level of accessibility for everyone. Located on an accessible route, a home with visitable features includes a no-step entrance that is a minimum of 36 inches wide; and wider hallways a minimum of 32 inches wide, with clear passage throughout and a wheelchair accessible bathroom on the main floor.

Homes with visitable features demonstrate the first stage of what is called "universal design". Other features may be added inexpensively to improve the convenience and suitability of a home. These may include reinforced bathroom walls for the installation of grab bars, levered door handles and single-lever kitchen and bathroom faucets, raised electrical outlets, lowered climate controls, and lowered light switches. Homes designed with visitable features make life simpler and more convenient for everyone.

Visitable lots are currently available in Phases 2 and 3 of Bridgwater Forest. Additional visitable lots will be available in Bridgwater's second neighbourhood which will feature up to 50% visitable lots. Called Bridgwater Lakes, the second neighbourhood will offer lots to designated builders as early as 2011.

For more information visit: manitoba.ca/housing

To find out more about Winnipeg's top selling new residential neighbourhood visit:
www.bridgwaterforest.com

NewsRelease



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April 18, 2006

MANITOBA'S VISION FOR WAVERLEY WEST COMMUNITY SHOWCASES INNOVATIVE DESIGN, INCREASED GREEN SPACE

Increased green space, high-density and accessible housing, as well as leading-edge geothermal heating and cooling, are among the features of Manitoba's vision for its share of Waverley West, Family Services and Housing Minister Christine Melnick and Energy, Science and Technology Minister Dave Chomiak announced today.

"With exciting environmental innovations and high-density and accessible housing, we are creating not only a new development, but a new kind of neighbourhood," said Melnick, who is also minister responsible for the Manitoba Housing and Renewal Corporation. "This government's balanced approach to housing development will also see profits from the development of Waverley West invested in more improvements in Winnipeg's inner city. We are creating more housing choices for Manitobans at all income levels."

A public hearing that continues the extensive public planning process for the community of Waverley West is set for 5 p.m., Thursday, April 20 at Winnipeg City Hall, 510 Main St. At open houses in 2005 and 2006, concepts were presented to the public. The input received guided development of a planning framework known as the area structure plan.

The province adopted five main concepts, based on planning session feedback:

- A higher proportion of green space than the standard approach.
- Increased density of housing that is more than the current practice.
- Consideration of the use of geothermal technology to heat and cool homes.
- Homes with design features that make them more accessible for persons with disabilities. The province's recently-appointed visitable design consultant is providing advice on accessible housing.
- Environmental innovations such as passive solar heating, home energy-saving devices and low-impact developments.

The province also announced Manitoba Hydro is conducting studies on the viability and engineering

aspects of maximizing the use of geothermal energy for Manitoba's portions of the new community. In addition, an environmental consultant is providing advice on environmental innovations such as passive solar heating, home energy-saving devices and low-impact developments for the province's section of the new community.

"Geothermal energy uses the earth's own stable temperature to heat or cool homes and buildings," said Chomiak. "It's not only energy efficient but is environmentally responsible as it reduces greenhouse emissions. We applaud Manitoba Hydro for exploring the best energy solutions for our land in the new community."

"Geothermal is a well-proven heating alternative and Waverley West would be the largest concentration of cold-climate heat pumps," said Bob Brenann, president and CEO of Manitoba Hydro. "The studies under way will provide the economic and technical answers as to the use of geothermal technology on a large scale and we're excited by the possibilities of such a unique opportunity."

Waverley West is a tract of land in Winnipeg's desirable southwest area. The provincial government and Ladco own most of the land proposed for the new community. Both groups have worked closely with the City of Winnipeg and its planning process which included a series of public meetings to develop a framework plan. Each party will also create more detailed, specific plans for their respective neighbourhoods.

The new Waverley West community will be developed in stages over 20 years depending on future demand for building lots. The city had anticipated development of the community with the provision of infrastructure to help meet the growing demand for housing in Winnipeg.

Legislation proposed last week would see Manitoba's share of the profit from the development of Waverley West invested in further improvements in Winnipeg's inner-city housing through programs such as Neighbourhoods Alive!, resulting in more variety and greater housing choices for people at all income levels.

Profits of approximately \$1 million from the Royalwood subdivision in Winnipeg are now available for improvements in inner-city housing through programs such as Neighbourhoods Alive!.

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RETURN



NewsRelease

September 27, 2010

PROVINCE ANNOUNCES ITS SECOND NEIGHBOURHOOD FOR WAVERLEY WEST

Up to 1,150 Lots to be Offered in Bridgwater Lakes: Irvin-Ross

More housing options will become available in Winnipeg with the development of the province's second neighbourhood in Waverley West, Housing and Community Development Minister Kerri Irvin-Ross announced today.

As many as 1,150 lots will be offered in Bridgwater Lakes, whose neighbourhoods will include unique new home designs and styles, including those with porches and visitable designs, which benefit both young and older Manitobans, said the minister. Lots will become available to designated builders in 2011.

"Each street has a variety of home designs which provides character and traditional charm, and underscores the uniqueness of the neighbourhood," said Irvin-Ross, during an event held at a Bridgwater Forest visitable show home today. "The neighbourhoods are in a natural setting with mature forests, pathways, lakes, sidewalks and back lanes."

Approximately half of the homes planned for Bridgwater Lakes, located in the northwest quadrant of Waverley West, will be what the housing industry calls visitable. This means the homes will be easy to access for young families with strollers, or Manitobans who use walkers or wheelchairs. Bridgwater's visitable homes will have no front steps, wider doorways and hallways, as well as a main floor bathroom that accommodates people with disabilities and those with mobility challenges.

Bridgwater Lakes will be the second of five neighbourhoods the province will build in Waverley West in the next 20 years, said Irvin-Ross.

The first Waverley West neighbourhood, Bridgwater Forest, was the number one new community in the city with a total of 150 building permits taken out in 2009. In the first eight months of 2010 alone, Bridgwater Forest builders have already taken out 189 permits, once again leading the city, the minister noted.

Funds raised by the province from the development of Waverley West are being used for inner-city revitalization, a key element of the province's overall housing strategy. Proceeds from the development are invested in revitalizing mature neighbourhoods under the Housing Development and Rehabilitation Fund and will support the government's two-year investment plan, HOMEWorks! and the longer-term commitment to create 1,500 units of social housing over five years, said Irvin-Ross.

"The government is providing leadership in encouraging a range of housing options for families, from innovative new neighbourhoods to apartments with rent geared to income," she said.

To date, \$4.3 million in proceeds from Bridgwater Forest and Royalwood have been reinvested in neighbourhoods in need. Over the last year, proceeds funded over \$2 million in HOMEWorks! projects and \$2.3 million toward urban development projects such as McFeetors Hall at the University of Winnipeg, The Edge on Princess and the Avenue Building.

The Bridgwater Forest neighbourhood was named in honour of the late Arthur Bridgwater, a chief of the Fort Garry Police Department from 1945 to 1974. The name also reflects the natural environment of the neighbourhood, which includes several lakes and more than 25 acres dedicated to forest.

More information about Waverley West is available at [www.manitoba.ca/housingand
www.bridgwaterforest.com](http://www.manitoba.ca/housingandwww.bridgwaterforest.com).

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