

# Windwood HOMES

CCB# 50196

*"Building homes since 1982"*

February 25, 2013

Chris Koback  
Hathaway Koback Connors  
520 SW Yamhill #235  
Portland Oregon 97204

**Subject: Carmen House Forensic Investigation  
Lake Oswego Oregon**

Dear Mr. Koback:

As you have requested, Dale Richards, owner of Windwood Construction Inc., met with you September 22, 2012, at the above referenced site to perform an investigation of the existing structure to evaluate the actual footprint as it relates to the timeframe of construction and the areas that have subsequently been added onto the original structure. The scope of this report also includes an evaluation of the structure, the areas that are in need of repair, the areas that are unsafe, as well as an evaluation of the cost to bring the structure to current code, earthquake requirements, and generally habitable. We did not evaluate steps that a prospective purchaser would likely take to alter the configuration of rooms, walls and other features that currently do not support modern family living.

The original structure is currently not being occupied. One of the areas of the structure that has been added to the original structure is currently being occupied by a caretaker, who is a member of the Carmen family. The scope of this report includes visual observations and to evaluate the original structure, the additions, the condition of the structure, and recommend repairs, and or other options associated with the findings of the structure.

The professional opinions expressed in this report are based solely on the conditions present at the time of the site observation. And the recommendations are the opinions based on the conditions of the structure observed.

#### OBSERVATIONS: ORIGINAL STRUCTURE

The Carmen House is a structure that is located in Lake Oswego. The original structure, built in the mid 1800's consists of a three-story structure that has a basement area with app. 680 square feet, a main floor of approximately 770 square feet and an upper floor approximately 770 square feet. The original structure is currently not being occupied. There was an addition of approximately 980 square feet added in the mid 1900's. It is being occupied by a member of the family. The porches on the south and east sides were added on at approximately the same time. The main structure is currently not heated.

The basement has numerous issues relating to water intrusion, high moisture content, mold/ mildew concerns and structural integrity. The foundation walls are constructed of boulders ranging in size from 3 inches to 2 feet. The original walls were not constructed on a footing and have not sealed. At a later date the walls were grouted with cement in an attempt to limit the water intrusion. There is evidence

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CCB# 50196 of excessive water intrusion with staining on the walls, discoloration of the floors and organic material on the floors. The moisture content in the floors exceeded the limits of the moisture meter in all places, after no rain for two months. The walls also showed elevated moisture content above acceptable levels. There is evidence of mold and organics on the foundation walls. There is a door into the basement from the exterior that is graded twenty-five feet away with grade into the basement. There are no stairs or drains to keep the water from entering the structure at this point.

In addition to moisture and mold, there are numerous structural issues involved in the basement areas. The posts holding up the structure are showing signs of deterioration at the bottoms of the posts, as well as signs of organic material. This affects the structural integrity of the existing structure. The main support beams are over spanned, and the joists on the west side have been notched at some point in time for some retrofit. The notches on the west side joists are approximately fifty percent on the depth of the joists. The stairs into the basement do not meet code, and are a hazard, in that they have no railings and the bottoms of the landing and stringers are rotten. The basement windows are leaking and dry rotted. The base of the fireplace structure is showing stress cracks, as well as the balance of the fireplace. The exposed areas of the brick at the roof are broken, with minimal amounts of mortar holding the fireplace together. I was unable to inspect the interior of the fireplace and chimney. There is an old oil tank in the basement that needs to be removed. Some of the stone foundation is beginning to fall apart, and is detaching from the rest of the structure. The concrete floor was poured in 1902 in the basement.

The main floor of the house has had a bay window added to it sometime in the mid 1900's. The bay window is held up by two 2x4's that are not fastened to the structure. It is our opinion that this addition is not structurally sound. There is evidence that the Bay window is moving, because the floor is sloping away from the rest of the structure. The bay window was sided with newer, not original material. The east elevation has a newer French door added in place of the original door, and six to seven feet of the east wall has been re-sided with newer, not original material. There is evidence of structural movement in the first floor, based on the number of stress cracks in the walls and ceilings. There is no plumbing to the first floor, or second floor. Numerous windows are broken, non-functional and showing sign of rot.

The second floor has some of the same issues as the first floor with regard to the cracks, and window issues. The squirrels invaded the structure a number of years ago, causing extensive damage to the attic and roof structure. There are holes in the walls and ceilings where they did extensive damage to the structure. The damage was so extensive, that their invasion created leaks in the roof. There are still holes from the squirrels, and mold and organic growth left over from the invasive nature of the animals. The wiring will need to be updated. The siding in the north side of the structure is showing signs of rot. The stairs are not to code, the risers exceed eight inches, and the treads are less than nine inches. The guard railings are less than 30 inches, and both provide a hazard.

The main structure does not have fire blocks in any of the walls. While, this aspect is not inconsistent with construction of this age, and building officials may not require retrofitting for them, many prospective owners would insist that something be done. The fire hazard associated with this type of construction is severe. In the event of a fire, the structure would burn extremely fast.

OBSERVATIONS: 980 Square foot addition.

The addition was put on in the mid 1900's. It has electricity, as well as plumbing. The foundation is showing numerous large cracks in excess of one-quarter inch. The roof structure over the east side has

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CCB# 50190x4 rafters that are over spanned and not properly supported. There a couple of areas that daylight can be viewed from inside of the attic space. The crawl space has no ground cover, and the cast piping is showing signs of deterioration. There are also signs of animal nests. The siding on the west side is showing some signs of rot. There is no evidence that this was ever part of the original structure.

## OBSERVATIONS 420 Square foot porch

This part of the structure was added at a later date. The tails of the rafters have had 2x4's added to the tails on both sides to hold up the rotted tails. The posts are showing signs of rot, as well as a few areas in the ceiling. There is also some evidence of organic growth. The rafters are framed with 2x4's 24 inches on center, at a span of 7'6". These rafters are over spanned.

## RECOMMENDATIONS:

Due to the level, and the diversity of issues, here are the recommendations that we feel should be addressed to solve the issues:

The basement has numerous water intrusion issues. It is apparent that these issues have been there for years. Due to the construction of the foundation, it will not be effective to try to stop the water from the inside. The water needs to be stopped from the exterior. This requires that the exterior foundation walls be excavated back three to four feet, and one to two feet below the wall. The foundation must be waterproofed and a perimeter drain system installed to take the water away from the foundation. Drain rock must be reinstalled to channel the moisture away from the original structure. When this is complete, the floor can be repaired and sealed. The dirt and organic material will need to all be removed prior to sealing the floor.

All of the posts should be replaced where there is dry rot. The over spanned beams need a footing poured, and new posts installed. All of the notched joists, as well as the structural issues should be reviewed by a structural engineer.

The oil tank needs to be removed and certified, as well as the soil tested and certified. The basement door needs to have walls and steps installed, and drains. The slope of the ground needs to slope away from the structure.

All of the windows need to be replaced, as well as the stairwell and staircase to comply with current standards. The walls will need to be furred out and insulated. The earthquake standards will need to be reviewed by a professional engineer for recommendations. The chimney will need to be rebuilt at all exterior elevations, and evaluated for further structural integrity. The windows in the first and second floors will need to be replaced.

The original structure will need to be updated for earthquake. This will require that most to all of the interior plaster will need to be removed. The wiring will need to be updated; there is no insulation in the walls or ceilings. The ceilings upstairs will need to be removed to evaluate, and repair the damage caused by the squirrels. All of the ceilings and walls will need to be removed to evaluate the damage caused by the leaks, and to determine the extent of the mold issues. Most of the siding on the north side needs to be replaced, as well as all of the cornice moldings on the original structure. As we mentioned previously, the walls do not have fire blocks. Since the walls will have to be opened for other reasons, it is most likely that a new owner will have fire blocks installed if that is feasible.

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The front porch will need to be removed due to rot and mold issues, as well as structural issues including: rotten posts, no connections between post and beam and foundation, as well as the over spanned rafters. The structure that was added to the north side has some foundation issues, including fairly significant cracks. There are structural issues in the attic including: over-spanned 2x4 rafters, and non-supported rafters, no insulation, some rotted windows, and areas of possible water intrusion.

## CONCLUSIONS:

In order to bring this structure into compliance with current codes and to make it waterproof, structurally sound, and earthquake proof, the balance of the interior of the original structure will need to be stripped to the studs. All of the windows will need to be replaced, and the structural work will need to be re-done. There will be very little left of the original structure, with the exception of the stone foundation and some studs and rafters. This is an extensive renovation project, that may not, in the end, justify leaving any of the existing structure in place. In the end, there will be very little of the original structure left in place. There will be an estimate attached to do the work associated with this report.

We do not believe that it is feasible or safe to attempt to relocate the structure to another location. The original structure is not stable enough to allow movement without serious risk to the structure and persons moving it. As we mentioned above, the supporting beams and joists are not structurally sound and are over-spanned. The additional stress associated with moving the structure would create a risk that the joists would collapse. An additional factor relates to the additions. Particularly the kitchen/bedroom addition has been incorporated into the existing structure in such a way that it would be impossible to separate the original structure. We do not feel it is possible to raise both the original structure and move it to a new location safely.

WINDWOOD CONSTRUCTION, INC.

  
Dale Richards

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9/26/12

RE; CARMEN HOUSE RENOVATION

SCOPE OF WORK:

EXCAVATE PERIMETER OF BASEMENT FOUNDATION FOUR FEET, AND TWO FEET BELOW THE BOTTOM OF THE FOOTING, CLEAN STONE FOUNDATION, INSTALL WATERPROOF SYSTEM, PERIMETER DRAIN, AND RAINDRAIN SYSTEM, FILL WITH DRAIN ROCK, INSTALL EXTERIOR STAIRS TO BASEMENT AND RE-GRADE PERIMETER TO PROVIDE POSITIVE DRAINAGE.

REMOVE BASEMENT FLOOR, INSTALL WATERPROOF MEMBRANE, AND REPOUR FLOOR.

ADD FOOTINGS AND POSTS TO CORRECT BEAMS THAT ARE OVERSPANNED, REINSTALL FURNACE, REPLACE ALL DRYROT, AND CORRECT ALL OF THE STRUCTURAL ISSUES WITH THE FLOOR JOISTS.

RE BUILD BASEMENT STAIRS TO COMPLY WITH CODE.

REMOVE ALL INTERIOR PLASTER, AND INSTALL EARTHQUAKE RETROFIT AS PER ENGINEER RECOMMENDATIONS.

REWIRE ORIGINAL STRUCTURE, INASALL NEW DRYWALL.

RE BUILD INTERIOR STAIRS AND RAILS TO MEET CODE.

REMOVE ALL DRT ROT, AND MOLD.

INSULATE ALL ECTERIOR WALLS AND REPAINT.

REMOVE ROTTED PORCH STRUCTURE AND RE-INSTALL TO MEET CURRENT CODE.

REPLACE ALL WINDOWS AND ROTTED SIDING

PERMITS, ENGINEERING FEES EXCLUDED

TOTAL COST:\$475,000

WINDWOOD CONSTRUCTION INC

M. DALE RICHARDS PRESIDENT

