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## ENGINEER'S SURVEY REPORT

### 2nd Hand House Survey

<b>Property:</b>	<b>Countryside, Rural Ireland, Ireland.</b>
<b>Client:</b>	<b>John Joe O'Neill</b>
<b>Inspected on:</b>	<b>1<sup>st</sup> July 2020</b>
<b>Inspected by:</b>	<b>Peter Conran</b>

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## GENERAL INFORMATION

**A1 Name and Address of Client**      **John Joe O'Neill,  
1 Naas Road,  
Town Centre,  
Co. Dublin.**

**A2 Address of Property**                      **Countryside,  
Rural Ireland,  
Ireland.**

**A3 Date of Inspection**                      **1<sup>st</sup> July 2020**

**A4 Client's Brief**

Conor Furey & Associates Ltd. was requested to carry out an Engineers Survey of the above-mentioned property. This survey was required to record the current condition (by visual inspection only) of the property. This report does not make any reference to the planning status of the property.

**A5 Use of the Report**

This report is for the use of John Joe O'Neill to record the current condition of the property on 1<sup>st</sup> July 2020.

## EXECUTIVE SUMMARY

The property is located in a rural area a few kilometres outside of Main Town, Rural Ireland. The property is a two storey detached house. There was an original two storey house on the site, built in the 1930's (approximately). In the early 1980's this house was partially demolished and a large two storey extension added.

The property is in a reasonably good structural condition but otherwise is in poor condition and requires significant refurbishment and upgrading to bring it up to a modern day residential standard.

The property has two roofs. The extension roof is in good condition and requires no work. The roof of the older section is in fair condition but repairs are required to the rear elevation of this roof. These are detailed in the report.

The external walls are in good structural condition and have been recently painted.

Internally the property is in very poor condition.

We note some concerns with the ground floor slab in relation to dampness. Structurally there is no issue with the ground floor but we note some concerns in relation to dampness in the ground floor slab. Our conclusion is that there is no major issue in relation to dampness in the slab and we think that once the house is fully occupied and proper heating is in place there will be no ongoing issue. However, we note that this is our best assessment based on a visual inspection.

The existing windows and doors are timber framed single glazed. We also note that none of the opening sashes in the first floor windows would satisfy current building regulations for means of escape in case of fire. Our recommendation is that all of the windows and doors are replaced.

All of the services such as heating, plumbing, electrical, fitted kitchen, fitted wardrobes are substandard compared to current standards and we recommend that a view is taken that all of these items will have to be completely replaced.

The situation with the existing drainage pipes and septic tanks are detailed in the report and our recommendation is that a view is taken that a completely new septic tank and percolation area will be required to adequately provide for the house and to comply with current regulations in relation to septic tanks.

## INTRODUCTION

### **C1 Second hand property**

The survey is intended to establish the condition of the property at the time of the inspection. As the dwelling is a second hand property, any reference to the finish of the property (unless specifically mentioned) is based on the fact that the property will need general decoration. In respect of the general condition of the doors as a second hand property, there will be inevitable wear in the door mechanisms and there is likely to be door keys missing. We would recommend that a specific request be made of the vendors to supply these if possible. Any comments relating to decoration or condition of doors should bear the above comments in mind.

Where reference is made to hairline cracks, it refers to cracks that the author does not consider at this moment, to be structurally significant. It does not offer a full indemnity in respect of the cracks as there is always the possibility that should a problem arise in the future from some event not identifiable at present the evidence may appear in the same area as these cracks.

### **C2 Scope of Survey**

As stated previously this survey was conducted to record the visual current condition of the property on the day of inspection. Our Client requested us to conduct this survey as a pre-purchase survey in order to report on the general condition of the property as the property is a second hand property the survey will take into consideration the age when commenting on the standard of paintwork and decorative finishes.

Note that no planning issues in relation to this property have been investigated as part of this survey and such investigation is beyond the scope of this survey.

### **C3 Survey Procedures**

The survey took the form of a visual inspection.

### **C4 Restrictions during Survey**

Our inspection of the property was a visual inspection only to those areas accessible to ourselves. These areas are namely as follows:

- External roof inspection and site details were carried out from ground level only.

- Attic space (inspection from view at attic access hatch location only).
- All interior habitable rooms.
- Heavy items of furniture were not removed in the course of the inspection and no comment is made in respect of any such areas covered up.

## EXTERIOR SURVEY

### A Roofs:

#### **General**

This is a two storey property in a rural area. There was an original two storey, South East facing, property on the site dated back from the 1930/40's (estimated). In the early 1980's (estimated) the original property was partially demolished and a large extension added. The extension is now the larger part of the house with the remaining section of the original house is on the North East gable of the extension.

The extension has a pitched open gable roof with manufactured slate covering. The original house has a pitched open gable roof also that abuts against the gable wall of the extension with a slightly lower ridge line than the extension roof. This roof has a concrete tile covering.

#### **Extension Pitched Roof**

The roof is covered with manufactured slates. The slates are complete with no broken or missing slates evident. The ridge line is even and the gauge is correct.

#### **Original Pitched Roof**

The roof is covered with a red concrete roof tile. There is a matching ridge tile bedded in with mortar. The roof abuts against the gable wall of the extension. The ridge line is uneven in particular on the left hand side (viewed from the front) between the chimney and the gable wall of the extension. The ridge tiles are intact and there is no evidence of any leaks. Internally in the attic space there is some evidence of repair works having been carried out around the chimney and this accounts for the uneven ridge. Currently the ridge is intact, there is no evidence of any leaks but externally it is visually slightly incorrect. At the open gable end of the roof the tiles overhang the gable slightly which is good practice but there is a difference between the front slope and the rear slope. On the front there is a 75mm (approx) overhang while on the rear there is little or no overhang. The vertical line of the old gable wall is probably a bit off. This is not a structural issue but again is slightly visually off.

We note below that there is no sarking felt on this older roof. This was a common form of construction when this roof was constructed and it is perfectly adequate as long as there are no broken or missing tiles. On this roof the tiles on the front elevation are good and internally no leaks are evident. However, on the rear elevation there are two locations where tiles are damaged. Viewed from the rear there is a broken tile on the top right just below the ridge line between the chimney and the gable. This has been repaired with a piece of flat metal sheet. Internally there is no evidence of a leak in this area so the repair is doing the job, nevertheless, it is a temporary repair and a proper repair with a new tile is required. A second area is on the lower left hand side of the rear elevation (viewed from the rear).

Approximately 6 rows up from the gutter and 8 tiles in from the open gable there is a cracked tile. The problem, with not having any felt under the tile, is that when a tile cracks, as in this case, there will be a leak internally. This is evident on the sloped ceiling of the room immediately below this portion of the roof. There is a second tile in the same area that appears to have a damaged surface that may also be leaking.

So work is required to the tiles on the rear elevation. An experienced roofer will need to be engaged, because on this old roof, care is needed to ensure that additional tiles are not damaged while trying to carry out repairs to the few that need attention now. This is all the more important when you have a situation, as in this case, where there is no felt under the tile.

### **Chimney Stacks**

There are two chimney stacks that sit astride of the ridge, one on the old roof and one on the new.

The chimney on the new roof is block built with a napp render finish. The chimney is in good structural condition and the lead flashing around the chimney is in good condition. Internally there is no evidence of any leaks around the block/roof joints.

The chimney on the older roof is also a block built structure with a render finish. No structurally significant cracks evident. The render covers over the flashing at the chimney/roof joint. Internally there is some evidence of past minor leaks around the joint but these are not recent and the chimney is dry internally and there is no evidence of any current leaks.

### **Flues**

The newer chimney has two flues that serve the open fire in the ground floor front sitting room and the solid fuel stove located in the rear dining room. They appear to be in good condition.

On the older chimney there is a flue that serves the open fire in the ground floor small sitting room. Internally in the attic space there is some staining on the blockwork that indicates there may be some small gaps in the flue liner joints. If so it is minor but nevertheless if the fireplace is going to be in regular use we would recommend that the flue is inspected internally with a camera and it may require a flue liner. Alternatively one could make the assumption that a flue liner is definitely required and have it done. As part of the general refurbishment this fire place may also be removed.

### **Eaves Fascia and Soffit**

There is a timber fascia and soffit to the front and rear elevations of both roofs. The gables are finished with a poured concrete barge. The fascia and soffit on the extension roof are in good condition but will require painting from time to time. On the older roof there is also timber fascia and soffit which appears to be in reasonably good condition. Similar to the gable/roof joint mentioned above the line of the soffit varies along the length of the wall and this indicates that the vertical line of the wall is slightly off. Similar to the gable, this is not structurally significant, but is unsightly.

## **B Walls:**

### **General**

The original house was block built with a single leaf 225mm cavity block with an external napp finished render and plastered internally. The extension wall is a 300 thick wall and is probably a cavity wall construction with two 100mm block leaves and a 100mm cavity. Given that this extension was built in the early eighties it is likely that there is 50mm of basic insulation in the cavity but we cannot be certain of this.

### **Extension Walls**

Externally there is no evidence of any structurally significant cracks and the walls are in good structural condition. It is apparent that the walls have been recently painted and they have a good general appearance.

### **Original House**

These walls are also in good structural condition. As noted above the vertical line is slightly off with the roof but this is not structurally significant. Along with the extension these walls have also been painted recently and have a good general appearance.

## **Ancillary Items:**

### **Gutters**

There are half round PVC gutters on both roofs. Generally in good condition but on the rear of the old roof there is significant grass growth in the gutter and they badly need to be cleared.

We also noted there is a wasp/bee nest at the soffit/gable corner of the old roof where there is a lot of grass in the gutter.

### **Waste Pipes**

There is a 100mm PVC waste pipe from the first floor bathroom (see later comments under drainage). This is the soil vent pipe and extends up to the gutter as well as down to the drain. The pipe terminates at the gutter which is a bit low for a soil vent pipe. It is recommended that the pipe is extended at least 500mm above the gutter to ensure that foul smells are not drawn back in through first floor windows.

At ground floor level there is a waste from the kitchen sink that drains into an external gully. The pipe is fine but the gully needs cleaning (see comments on drains below).

### **Windows and Doors**

The windows are single glazed timber framed throughout. When the extension was done the windows in the old part of the house that was retained were probably replaced and it appears that all the windows are of the same vintage. These are single glazed timber framed windows. We note that the opening sashes are small with three individual opening sashes rather than one larger opening sash. From a fire safety and means of escape perspective these windows would not be acceptable under current building regulations.

It is probable that any general refurbishment of the house would include total replacement of the windows and doors given that they are single glazed and timber frame. This becomes a necessity if compliance with fire and means of escape requirements are taken into account.

### **Foot Paths**

There are wide paved areas to the front, rear and both gables. The areas are concrete throughout. There are a number of cracks evident and the joints are rough in places with weeds growing up. Tidying up and maintenance work is required, however, the paths are in reasonable structural condition and there are no major cracks or dips in the paving.

## INTERIOR SURVEY

### Attic Space:

#### **General**

As noted above there are two roofs, the new extension and the older original roof.

#### **New Roof Timbers**

Cut timber roof with timber rafters at 400 mm spacing supported by timber purlins at half way point between the eaves and the ridge. The roof is in good structural condition.

#### **Underfelt/Sarking**

Underfelt is complete and undamaged. Underfelt is flashed properly around openings, soil stacks, ridge vents units etc.

#### **Old Roof Timbers**

This is also a cut timber roof but has much shorter spans between the eaves and the ridge line. The access to this space is much tighter than the extension roof and our view was only from the relatively small access hatch. Generally the timbers are in good condition and no evidence of timber decay was noted. Note that we did not have a view of the rafter ends or the wall plate and the previous statement must take this into account. There has been some repairs carried out to rafters near the chimney and this was referenced earlier in regard to the line of the ridge. The repair to the rafter is good and no ongoing problems were noted.

When the broken tile is being repaired it may be found that repairs are required to some rafters in that area. We were unable to view the area directly internally. However, given that there is no sag in the roof it is more likely that the timbers are structurally fine and may just need to be dried out.

Over half of this roof the ceiling has been dropped below the original sloped ceiling that followed the slope of the rafter.

#### **Underfelt/Sarking**

As noted earlier in the report there is no felt on this section of the roof. A lime parging is fixed to the underside of the tile which helps to seal gaps and hold the tile in place. This is in good condition.

As referenced above, the problem with not having felt is that there is no second line of defence in the event of a problem occurring with the roof tile.

#### **Insulation**

There is a basic 100mm layer of insulation in both roofs. An additional 200mm of insulation is recommended.

### **Tank and Pipe Insulation**

There is a PVC water storage tank and a header tank for the heating system. Both tanks are in good condition. They are located on a platform approximately 900mm above the ceiling level in the extension attic space. The platform for the tanks is level and as originally constructed. However, the timbers used and the general construction of the platform is a bit light and we recommend that a more substantial platform is constructed to support the tank. The tanks are not insulated and given the high level in the attic, insulation is strongly recommended. This should include all of the pipes going to and coming from the tanks.

### **Access to Roof Space**

Both access hatches need to be insulated. The hatch to the extension roof is a good size but the access to the older roof is difficult.

### **Roof Spaces**

The current owner has some items stored in the new attic space.

## **INTERIOR GENERAL**

### **General**

The property has had very little work done to it since the extension was added in the early eighties. The kitchen and bathroom facilities are particularly basic and any refurbishment will realistically require complete replacement. With the kitchen, it is likely that it will have to be moved to the larger dining room area and a utility made of the existing kitchen.

The heating and electrical installations are very basic and replacement of the existing with new is likely to be the requirement.

It appears that the house is no longer occupied full time and there is a general damp feel due to the lack of regular heating over the winter months.

The property requires a major refurbishment to bring it up to a modern day standard.

### **Ceilings**

Ground floor ceilings are plasterboard with a smooth scim finish. The ceilings are in reasonable condition but there are a number of minor cracks that need to be filled and repaired. There is also evidence of dampness which is the result of the premises been left unoccupied over the winter period.

First floor ceilings are generally plasterboard with a scim finish. In the original part of the house some of the ceilings are lath and plaster. There are some minor cracks in the ceilings but none are structurally significant.

As referenced above at first floor level the ceiling in bedroom 6 at the gable end of the old part of the house is badly marked due to dampness. The cause of this has been identified as the damaged roof tiles and when the roof is repaired this section of the ceiling will dry out. It may be necessary to replace the ceiling after it dries out but it could also be ok to just redecorate.

In bedroom 2 on the first floor there are some damp patches on the ceiling in the wardrobe. This is likely to have come from the water tank rather than any leak in the roof. Some minor leak may have occurred or it could have been caused by condensation on the un-insulated tank.

### **External Walls**

The inside face of the external walls is plastered. Generally the walls are dry and in good condition.

On the ground floor in the old part of the house (bedroom 1) there is some evidence of dampness at low level on the dividing wall at the back of the chimney breast. There is also dampness at ceiling level on the front wall and rear wall. The dampness looks minor and following, some repairs, making good and regular heat and use of the house, will most likely not be an ongoing issue.

### **Internal Walls**

In the extension there are solid block walls and some plasterboard partition walls at both ground floor and first floor level. All in good condition. In the older part of the house there is a solid dividing wall at ground floor level that extends up through the first floor to the ceiling level. There is a timber stud partition with hardboard sheeting at first floor level between the hall and bedroom 5.

### **Floors**

The ground floor is a ground bearing concrete slab. The floors are covered with a mixture of carpet, tiles and lino. The floors are level throughout and there are no dips or hollows that would indicate any structural problems. The front door and hallway are part of the extension which was built in the early eighties. The floor here is covered with a lino. The lino has lifted in places and the concrete slab underneath appears to be damp. The floor in the front room and at the back of the house would have been installed at the same time and there does not appear to be any dampness issues with the floor in these areas. We also noted that the heating generally in the whole house is poor.

It is very unlikely that there was no damp proof membrane under the slab given that it was built in the eighties. Our conclusion is that the most likely explanation for the lino lifting in the hall is the general lack of use of the house and the poor heating rather than a more fundamental cause such as no damp membrane. We think that once the house is fully occupied and a proper heating system is installed that the issue will resolve itself. However we note that this is our best estimate based on the evidence available from a visual inspection.

The floor in the older part of the house is similar and again we feel that regular heat and occupancy will resolve any issues.

### **Windows**

As noted above we recommend that all of the existing windows are replaced. Internally all window frames are in good condition.

### **Doors & Frames**

There are flush panel timber doors in the extension and older style timber sheet doors in the older part of the house. All in reasonable condition.

### **Skirtings, Architraves etc.**

There are timber skirting boards throughout in reasonable condition.

### **Tiling**

Wall tiling in the first floor bathroom is in reasonable condition but needs a thorough cleaning if it is to be retained. However, as part of a general refurbishment it is likely that it would all be removed and replaced with new.

### **Kitchen Units**

Realistically this property has no functioning kitchen and complete replacement is required. Given the size of the area of the existing kitchen it will either have to be moved into the larger dining area or an extension added. The ceiling of the existing kitchen is in poor state due to the lack of ventilation over the cooker and general lack of heat and use of the property.

### **Ventilation**

When new windows are being installed, permanent ventilation slots should be included for any rooms without existing permanent ventilation.

### **Wardrobes**

Some rooms have built in wardrobes but these are in poor condition. As part of a general refurbishment, new built in units would be required in all bedrooms.

### **Sanitary Fittings**

There is a whb, WC and bath in the bathroom on the first floor in the extension. While everything is working and there are no leaks evident the general condition is poor, old and dated. As part of a general refurbishment complete replacement of all sanitary ware is likely.

### **Fireplaces**

There is an open fireplace in the front sitting room with a large back boiler. This along with a solid fuel stove in the rear dining room area are the heat source for the limited number of radiators. These types of boilers were commonly installed when this extension was built but they are grossly inefficient and labour intensive to use. If a modern oil fired central heating system is installed the back boiler should be removed and a standard fireback installed.

In the old part of the house there is a second open fire place. Two open fires in a modern property is very energy inefficient and removal of this fireplace would probably be part of a general refurbishment. If it is to be used, note our earlier comments in relation to lining the flue.

### **Staircases**

Timber staircase with timber newel posts and rails, all in good condition. The stairs is open underneath in the hall area. As part of a general refurbishment the underside of the stairs might be covered in or a press built in under the stairs.

**Hot Press**

A copper cylinder with an old type insulation jacket is in place in a press beside the solid fuel stove in the dining room. Replacement of the cylinder with a pre-insulated cylinder would be part of a general refurbishment.

**Decorative Condition**

Internally the decorative condition is very poor throughout. Any occupation of the property will require complete redecoration top to bottom.

## SERVICES / OTHER SITE DETAILS

### **Heating Systems:**

The heating system consists of a low pressure hot water radiator system with a solid fuel stove and an open fire solid fuel back boiler. There are only a limited number of radiators and not all rooms have radiators. The heating pipes that are there are surface mounted and the workmanship is rough. Essentially the property requires a completely new heating system.

### **Electrical:**

The property is wired with modern type PVC/PVC cable and has a modern type sub distribution board located in the hall of the extension. However the level of sockets provided throughout is minimal for modern day living standards. In addition, some of the electrical workmanship is poor. Hence, our view is that the property needs to be rewired throughout.

### **Plumbing:**

There are only very basic plumbing services in the house with one bathroom upstairs and a very small kitchen on the ground floor. Some of the existing plumbing may be of use but our overall view is that a completely new installation will be necessary.

### **Water Supply**

The water supply is from a Local Authority supply. No issues were noted.

### **Smoke Detectors**

Detectors are not installed.

### **Septic Tank and Drainage**

When this property was originally constructed back in the thirties there was a septic tank installed to the front of the house on the South West side of the house. (This is on the right hand side as you drive into the rear of the house). There is a small block built shed that was originally an outside toilet facility. This is now used for a washing machine and a dryer. This septic tank served the outside toilet and the kitchen in the original house.

When the extension was built in the eighties a new septic tank was installed at the rear of the house. This was located at a high level and possibly in ground that was dugout for the foundations of the new extension. The height of this septic tank means that it cannot service the existing kitchen or anything on the ground floor level. The waste pipe from the first floor level comes out the rear

wall and goes across at high level to the high ground where the new septic tank was installed.

Both tanks are covered over with brambles and it is apparent that neither has been inspected, cleaned or anything done with the tank in years. Apparently they are working away without problems but the use has been low over recent years.

Current day regulations require that these are registered, opened up and inspected. Everything about the current septic tank set up is unsatisfactory and will need to be addressed.

We would recommend that a view is taken that the two existing tanks will be made redundant and a completely new tank and percolation area is installed in line with current regulations. The one tank should be located so that it can serve the whole house. Therefore the tank put in installed in the eighties will not suffice. The older tank from the thirties would just need replacement anyway.

Some of the existing drainage pipes around the house that serve the 1930's septic tank may be reused but this would depend on the location of the new septic tank. If they are kept in use a thorough cleaning will be required.

#### **Boundary Walls & Fences:**

We noted that there is a shared entrance from the public road for the first number of meters. A neighbouring property has a right of way (or shared ownership) to access the rear of his property with a vehicle.

We recommend that the boundaries, ownership and rights of way are clearly understood before any purchase is finalised.

We understand that the property extends to a number of acres. Hence, an assessment of the site boundaries did not form part of this survey.

#### **Out Houses**

There is a block built shed and some small block built outhouses on the site. These are generally in poor condition but a detailed survey of these was not part of this survey.

## CONCLUSIONS AND RECOMMENDATIONS

### **E1 Note.**

While the survey was carried out in as much detail as was possible without undergoing any destructive tests it must be pointed out that work covered up including foundations and wallplates were not inspected. The survey did not enable us to reach any conclusion regarding the presence of dry rot, wet rot, woodworm and/or beetle infestation therefore no responsibility will be accepted for such. Furthermore there is also the possibility of the non-apparent presence of the above defects.

### **E2 Signature.**

**Signed:**

**Print Name:** Peter Conran

**Qualifications:** BE C Eng MIEI

**Date:** 1<sup>st</sup> July 2020

**CONOR FUREY & ASSOCIATES LTD.  
CONSULTING ENGINEERS**

**F APPENDIX A - PHOTOGRAPHS**



Photo 1 General View Front Roof of Extension



Photo 2 General View Rear Roof Extension



Photo 3 Rear old Roof Note poor ridge line. Broken tiles need to be replaced



Photo 4 Wasp Nest, Grass in Gutter and varying Width of Soffit Old Roof



Photo 5 Soil Pipe cased into wall at high level going to high Level Septic Tank



Photo 6 Typical View of Roof Timbers in Extension



Photo 7 Water Tanks in Attic are not Insulated and Supported on a Weak Platform



Photo 8 Good Dry Blocks of Chimney in Extension



Photo 9 Dropped Ceiling in Original Part of House



Photo 10 Roof Timbers in Original Roof



Photo 11 Lime Parging rather than Felt to Original Roof



Photo 12 Soot Markings on Old Chimney. Flu may Need Liner if Chimney is to Continue in Use



Photo 13 Poor Condition of Main Bathroom



Photo 14 Damp Patch in Bedroom 2 Under Location of Attic Tank. Pipes going up into attic are not Insulated Above



Photo 15 Patched Floor in Bedroom 4. Leaks from Heating Pipe may Have Damaged the Floor Joists



Photo 16 Dampness on Ceiling Bedroom 6 Due to Damaged Roof Tiles Above



Photo 17 Localised Damp in Bedroom 1 Ground Floor Old House



Photo 18 Solid Fuel Stove in Dining Room serves a Limited number of Radiators



Photo 19 Poor Condition of Kitchen Ceiling