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Structural Report and Construction/Augmentation Management Plan
at
Emlaghmore, Ballyconneely, Co. Galway.

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19th March 2020

O'MCE

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Client	Mr. Patrick Ridge
Project Number	1475.100
Project Title	Structural Report and Construction/Augmentation Management Plan
Location	Emlaghmore, Ballyconneely, Co. Galway.
Date of Inspection	13th of March 2020.
Weather Conditions	Cold and Dry

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TABLE OF CONTENTS

1.0 Introduction & Disclaimers

A window condition report was carried out on 13th of March 2020, which observed the newly installed windows at the existing house on Emlaghmore, Ballyconneely, Co. Galway. The areas of inspection will concentrate solely on the quality, workmanship and any defects noted on the day of the newly installed timber and aluminium window/doors only and is not a full structural report of the existing house. A review of the current building regulation and window standards reference by the installation company also make up the analysis of the report. The building regulations 2020 take precedent over all remedial works mentioned in this document and must be adhered to at all times. Once the information was observed and assessed, conclusions were drawn up as to how to resolve the issues raised on site. The photographic survey can be found to the end of this document in appendix A. The areas of inspection included the materials used, the method of construction used and the state of the ruins as they exist presently. Once the information was observed and assessed, we made conclusions on whether the existing ruins would be economically and structurally viable.

2.0 Location and Age of Property

Located in Emlaghmore Townland, east of Ballyconneely Village, the existing cottage property was believed to have been constructed in the early 1900's. The property is located adjacent to the ocean to the west. Site coordinates are: 465902, 742357.

Fig 1.0 – Subject Property Location (Source Bing Maps 2020)

3.0 Existing Structure.

(Exterior has been inspected from ground level only). Due to the age of the existing house we noted several minor cracks throughout the building which is largely down to the age of the building. The existing buildings foundation was constructed out of random rubble stone. The foundations are close to the surface given the nature of the undulating ground conditions. The existing floors within the house is level and is comprised of concrete floors and same should be removed and replaced with new sub-floors. The original external 600-900mm masonry walls were constructed primarily of locally sourced stone with a binding agent compromising of a sand/lime mix mortar. Overall the original 600-900mm walls are structurally sound. Although the stone size in the existing wall are random, it is of good quality and has a high crushing value, which is common of the local stone in the area. The lintels over the windows and doors were constructed by bridging a large stone onto the load bearing wall. The rear elevation shed/ruin requires new floors and walls to be reconstructed at wall plate level.

Fig 1.1–Original External Walls Are In Good Order

Fig 1.2–Works required to existing rear elevation ruin.

Fig 1.3–Chimney is still in position

The main roof of this property is a cut pitch roof construction and finish to same appears to be replaced within the past 30 years with a metal roof cladding. The roof timbers are in poor condition and same will need to be replaced with heavy gauge roof timbers. The metal roof cladding is to be changes to architects details and we have no structural concerns in relation to the additional loading of same. The timber battens and roof slates should also be replaced. New fascia and soffits are to be installed. It appears that some internal works were carried out in more recent times and that the quality of same is of poor quality. The existing chimney is still in place within the house and same appears to be structurally sound.

Fig 1.4. – Main External Roof – New Roof To Be Installed

(Brief description of the type of windows and their condition, where possible to examine them) The windows throughout the property are single glaze, top/side hung timber material, and appear to be in poor condition. We note that some of the opening sections do not appear to close securely into the window frames leading to excessive draughts. We would recommend that all doors and windows be replaced with double/triple glaze windows and fitted by a suitably qualified window installer.

Fig 1.5. – Windows and Doors Require Replacement

The house requires new electric and plumbing systems. The ceilings and internal finishes within the existing house to be replaced with architect specifications.

4.0 Scope of Proposed Works.

It is proposed to renovate the original building via the following steps using the below method statement:

1. The existing four external walls shall remain and same shall be re-pointed and dry-lined once the building has been weather proofed.
2. The existing roof shall be replaced. The existing roof battens and roof felts should be replaced with new materials.
3. The existing internal floor shall be replaced with new insulated concrete slab with 1000 gauge damp proof membrane to prevent rising damp into the renovated structure.
4. The original external walls shall be plastered with a lime render finish externally and insulated internally with breathable insulation with moisture barrier.
5. The new rear extension shall have a foundation and will be tied into the existing remaining walls.
6. The new external walls of the proposed works shall be comprised of a plastered 350mm cavity block wall.
7. The windows and door shall have triple glazed windows, with the front elevation retaining the windows of similar nature.
8. A proposed band beam be constructed at wall plate level to accommodate, and give a level base for the wall plate, the roof will also have a secondary function in that it will tie in the external walls.
9. All the existing lintels will be removed and replaced with the continuous band beam at wall plate level.
10. The gutters and down pipes will used to divert the rainwater into a selected soakaway area.
11. New electrics
12. New Plumbing and heating
13. New internal and external plaster finish
14. New floor finishes.
15. New internal joinery.
16. Internal finishing works to clients requirements.

17. The above works shall comply with building regulations s noted below.

Fig 1.5. – Existing Floor Plans

Fig 1.6. – Proposed Plans

Fig 1.7. – Band Beam Detail

5.0 Building Regulations (Selected with relevance to the building).

The following is a list of the technical guidance documents with relevance to the nature of the proposed builds:

Structure (Part A) – House

The existing bungalow house is in need of internal refurbishment and with minor patch repair works to the external walls same can be restored back to its original state with the introduction of new building materials. The existing external walls and foundations in our opinion, once the remedial works are carried, with the addition of the band beam to tie the old and new sections together would significantly improve the load bearing capabilities of the existing walls and would allow the proposed buildings to introduce a new raised roof with slates.

Fire Safety (Part B) – House

The existing house and proposed extensions shall be upgraded so that all habitable rooms shall have adequate means of escape. All windows shall have a clear opening of 550mm x 850mm and shall be the required distance from Finished floor levels to the window opening level. The new dwelling house shall be fitted with LD3 electric fire and smoke alarms in each room. All new building materials are to be non-combustible.

Resistance to Moisture (Part C) – House

It is proposed to install a new 200mm concrete floor with associated 1000 gauge damp proof membrane within the existing house. 150mm of insulation shall also be used to reduce heat loss though the floors. This will act firstly as a solid uniform base and secondly to improve the resistance of the rising damp which may occur within the building. The new extension shall have new foundations with relevant damp proof course and insulation.

Materials (Part D) – House
The majority of the building materials will be new and shall have the required BBA or IAB certificate. All new materials shall be checked on site by the engineer prior to installation.

Sound (Part E) – House
The existing dwelling house and proposed extension shall have acoustic levels that are permissible to that of any new dwelling house or development as per part E of the building regulations.

Ventilation (Part F) – House
The existing dwelling house and proposed extension shall have vents in all rooms. The proposed roof detail for both the apartment and the dwelling house shall incorporate a continuous 50mm ventilation gap at soffit level. A mechanical ventilating system may be chosen by the client at a later date.

Drainage and Waste Water Disposal (Part H) – House
The surface water generated will be collected in the galleys and diverted into the proposed soakaway area as noted on the site layout plan.

Fig 1.8. – Site Layout Detail

6.0 Conclusion and Limitations
In our professional opinion, after inspecting the existing bungalow house the most practicable and economical approach is to redevelopment and conserve as much of the external 600-900mm masonry original walls as possible. After reviewing the existing structure, we would be confident that the existing walls can be salvaged, subject to recommended remedial works such as grouting of the existing repairs been carried out on the existing house. The band beam around the wall plate level will further strengthen the building once complete. The introduction of new extension will not add any significant loading onto the existing 600-900mm walls, therefore the risk of the existing foundation settling further would be minimal. The proposed redevelopment can be broken down into four main stages:

1. Installation of the new 200mm/300mm concrete floor with damp proof membrane underneath.
2. Grouting of existing walls and installation a band beam at wall plate level to further strengthen the external walls and enable it to transfer the roof loads adequately.

3. Installation of new roof.
4. Construction of new rear extension.
5. All internal works.

In conclusion the existing walls and foundations are deemed to be structurally sound. The majority of the proposed works will be on the rear elevations as well as the wall plate up to the roof level (with the roof timbers to be retained). The economic consideration for redeveloping the existing ruin described in the scope of the proposed works, far out weights a total demolition and rebuild or any other alternative building methods. The proposed rear extension shall no adversely affect the existing structure on completion of same.

There are no further limitations other than the limitations as set out in the margins of the report. In general the main structure of this property is structurally sound and requires substantial up-grading/repairs as outlined and as expected.

Finally, in accordance with our standard practice statement we confirm that this report is for the use only of the party to whom it addresses, and no responsibility is accepted to any third party for the whole or part of it's contents. The report is prepared on the basis of full disclosure of all relevant information and facts.

Signed

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APPENDIX A