

REPORT CONSTRUCTION INVESTIGATION & RETAINAGE ASSURANCE

FOR

NEW Multifamily HOUSE

LOCATED
AT

85-87 Monitor Street

Prepared for:

Jersey City Building Department
1 Jackson square
Jersey City, NJ 07302

Prepared by:

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#GE-40534

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Introduction

Presented herein are the results of the engineering investigation for the property located at 85=87 Monitor. The purpose of the investigation was to investigate the construction possibilities of the building located at the above noted addresses. The primary focus of our investigation of the surrounding properties for deficiencies, which may influence the construction of the new multi- family house.

Project Description

The project site is located at the above referenced addresses is located on the east side of the street on level area and the house was built 90 plus years ago. The 85-87 Monitor Street structure is a two-story colonial attached house on both sides, which is legally a residential two-family house and extends 5/8 length of property. The structure is wood conventional frame with a flat roof and full basement. The front side siding wall is a veneer connected to the inner wood framing. The foundation walls are composed of block and mortar. The building interior elements appear to show signs of deterioration with settlement of the floors greater than 2" in less than 12ft span. Both walls on the south and north sides are shared and the roof.

The existing wood structures has been built by the balloon construction method. The primary members are wood studs for the wall, which support wood joists for the floor loading and wood rafters for the roof loading. The secondary members are the walls plaster, lath and floors sheathing. All members have shown signs of aging. The attached houses on the north side share a wall and divisions were not in place at the time. The studs for the 83 Monitor is exposed and most likely without any sheathing.

The project centers on the construction of the foundation walls near the adjacent property line.

Assessment

The Demolition of the 2-houses is possible, if the appropriate construction demolition activates are follow. The structure is old and structurally unsound for livable condition without major repairs. Demolition by mechanical means such as an excavator with claw may be allowed if the adjoining home is properly protected prior to use of equipment. The adjacent buildings have a shared footings on both sides. Therefore, contractor must be observant of the shared wall. Any new wall for new house must not impede on the shared wall of the neighbor's house.

Our engineering evaluation focused on determining the appropriate criteria for the new foundations based on architects' plans. *Based on the findings of the investigation, the footings can be installed to a depth of 5 ft. below grade in both sides which is estimated from the shared foundation walls. The new footings must follow the adjacent property foundation wall line. The footing along these walls must be equal depth to the adjacent level* The following sections of the report outline the design and construction criteria for these items. The Demolition of the abandoned house is possible, if the appropriate construction demolition activates are follow. **Demolition by mechanical means such as an excavator with claw is allowed partially.** Based on engineering judgement, any mechanical equipment on site would cause damage to the adjacent house at 83 Monitor.

Our engineering evaluation focused on determining the appropriate criteria for the new foundations based on architects' plans. ***Based on the findings of the investigation, the house can be demolished as long as the house on south sides are sheathed and secured. During Demolition, a full assessment would be required as to the extent of repairs which may be needed. It does appear that the walls are shared therefore the 2"x4" stud wall and foundation cannot be removed during excavation but must be shored up in order to achieve proper stability of the existing house remaining see recommendations.***

Compacted Fill

All compacted fill and backfill placed beneath new floor slabs, sidewalks and used for backfilling foundation walls and utility trenches should be performed in a controlled manner using onsite fill material free of organic matter and debris. The fill material should be placed in 8-inch thick loose lifts and compacted to 95% of the maximum dry density as determined ASTM D 1557. Compaction can be performed using a "jumping jack" type compactor. The maximum particle size should not exceed the lift thickness.

Engineering Recommendations

One site inspection was performed and noted deficiencies to the existing building.

The following are the recommendations.

- Contractor shall not demolish any floors or walls until the engineer is on site.
- Provide for protection of adjoining property in accordance with NJAC 5:23-2.34
- Properly disconnect the roof membrane from 85/83 and repair the same day the roof membrane.
- **Place fireproofing application in all open gaps at the 85/83 houses.**
- The demolition of the building requires saw cut perpendicular bearing walls to the property line walls and from the top down on the south side place temporary shoring of the 85 monitor inside at 3 ft space inside the house along the entire house long way parallel to 83 Monitor exterior wall. Once all the floors are removed from the top down, secure 83 Monitor.
- If exposed joists then placement of plywood is required. Cut front and rear wall for 4ft lifts and place additional 2"x4" studs as needed with 5/8" thick CDX plywood. Anchor to wall with 3" long structural screws. Don't use nails. Continue removal of side walls and placement of plywood at the same time. The contractor must be observant of the adjacent property as not to cause too much vibration, since the building is attached excessive vibration may cause walls to crack and damage. The shared party wall will remain the support for the adjoining home. At no times shall the party be exposed to elements over night without proper water resistance material. Once 83 Monitor is secured and repaired. Then demolition by excavator can proceed.
- All construction activities such as the use of sizer mechanical equipment is not allowed, all demolition must be performed by hand. No removal of the foundation wall without observing the adjacent property wall. Foundation wall cannot be removed by mechanical means.

- Once the adjacent property walls are secured with plywood if sheathing is not in place than placement of 1hr exterior sheetrock board is required with tyvek, waterproofing membrane. Final siding along the side wall is option to adjoining owner cost, if he want to place it.
- At time of demolition, assessment of 83 Monitor is required, if weakened in any way contractor must place diagonal to the ground 2-2x12 headers perpendicular to the walls at 4ft spacing secured tightly to building 83 Montor and the ground.
- Jersey City building permits are required and proper inspection as needed by the building department.
- Once verified, Demolish the building completely and grade the site.
- Place a 6ft high fence along the front and sides of the property as not to allow adjacent property occupants to get access to the site,
- *Maintain the existing footings in place, do not remove the footing along the lot lines. The footings are shared the new house can be built on an offset from the wall with grade beam. This provide a new support for the new house while not effecting the old footing.*
- Rebuild new footing equal with existing adjacent property footing depth.

If proper means and methods for the demolition of this home can be completed, then the lot can be level to grade. No exposed areas, entire lot should be graded once removed of the building is complete. Please take regards to the recommendation noted above.

Closure

After demolition is complete a new report must be issue as to how to protect the adjoining property during construction. We are confident that the information contained herein will meet the needs of the project. Thank you for the opportunity to be of service. If you have any questions or if we can be of further assistance, please call me at 201-430-9173.

Regards,

Guy Lagomarsino, PE
GE #40534



Photo 1-1: Front house view with connection to 87/89 Monitor



Photo 1-2: front view of house with 83/85 Monitor .



Photo 1-3: Rear view with connection with 87/89 Monitor