

## Construction Project Management The Engineer/Contractor/Management Relationship

By William J Pyznar, PE, Principal

This article outlines the typical roles and responsibilities of the Engineer, Project Manager, and Contractor as they support the Association/Manager in construction/renovation projects.

### The Engineer

Usually, the Engineer is hired to prepare a plan and specification for the work to be completed. Initially, this involves designing a plan and specification that

best suits the client in terms of function, economics, and durability. An Engineer is typically hired for one or more of the following reasons:

1. The town, insurer, lender or state requires it
2. The Association (client) wants to ensure that prospective contractors will be bidding on the same work scope
3. The client is not sure of the extent of work required
4. The client wants a non – biased, third party professional opinion
5. The client wants to be further protected in the case of a construction defect, design deficiency or other issue that may arise from the work scope.

These plans and specifications are based upon the following:

1. Field experience
2. Published industry standards
3. Code requirements
4. Specific design requirements unique to the project.

After the Engineer has submitted the plans and specifications for the proposed work scope, along with a cost estimate for the client's review, the approved plans

are typically sent to Contractors for bidding. Upon reviewing the bids, the Engineer will provide a comparison of the bids to the client for selection of a Contractor by the client.

### The Project Manager

Generally, the Engineer, or one of their employees serves as the Project Manager, to work with the Contractor, to ensure adherence to the specified work, the approval and documentation of any extras, and to approve invoices. The Project Manager is also responsible for project status and issues reporting to the client on a daily, or regular, basis, to ensure the project proceeds as intended.

### The Contractor

The Contractor is obviously hired to implement the specified work scope and is responsible for completion of the work within the terms of the contract. This includes the coordination of delivery and installation of materials, waste disposal, and all ancillary work.

The Contractor is also responsible for obtaining permits and approval from local and state authorities.

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The information presented here is for general knowledge purposes. It is not intended to be offered as specific advice for engineering projects or situations, and should not be treated as such. For specific advice or for more detailed information, please contact The Falcon Group.



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### The Association/Manager

The Association/Property Manager have the most familiarity with the daily situation of any given site and play a vital part in the synchronization of any project. Input and orchestration from the Association's Manager is fundamental for payment processes, organization and communication of traffic pattern changes, input with respect to other on-going site projects and operations, including project history (with respect to related problems) and sensitive issues within the community (i.e. important holidays for the residents, refuse and storage areas) that impact the client — the individual homeowner.

For many larger projects, the Property Manager is not responsible to actually manage the project, however regular communication between the Engineer and the Property Manager is very important to ensure that any and all issues are addressed.

### The Project Team

On every successful project, The Engineer Contractor and Property Manager comprise a team that works for the same client with the singular goal of completing the work as intended and on time. Unless the team works together, the project will be subject to delays, conflicts, an unhappy client and the untimely release of payments. When the project is not completed successfully, the client remembers only the team members and the unsuccessful outcome, not why the project went poorly or who was responsible.

Many Issues or misunderstandings that we encountered by the Engineer and Property Manager include:

- **Failure of the contractor/their personnel to read and fully understand the content of the specification prior to project inception:** The specifications and plans outline how all work is to be completed, the project schedule and materials to be used. After the bid has been accepted, any deviation from the specification and plans must be provided by the project manager, to the contractor, in writing
- **Approval of extras:** All contracts are designed to deal with extras – because all projects have unknowns. The project manager's role is to document applicable extras and quantify them for approval. Communication between the foreman and the project manager on a daily basis eliminates misunderstandings at the end of the project. For example, it is not sufficient for a contractor to provide a receipt for materials purchased – the actual quantity installed in the field must be verified so that a complete report can be provided to the client, from the project manager.

- **All plans and specifications will refer to codes and industry standards for certain issues:** Not every method will be defined in the specification. When an engineer or project manager is on a project, they are authorized by the client to prescribe and/or approve how certain detailing or installations must be met. Ultimately, the engineer must approve all of the work. It is not enough that a municipal authority accepted the work. By New Jersey law, municipal authorities do not have liability. Further, work that is typically acceptable is not always acceptable, if it does not comply with project-specifications.
- **All subcontractors and foremen should be made aware of, and have the opportunity to, review the plans and technical portion of the specifications:** Often work is repeated or materials are brought to the jobsite that do not comply with the specifications simply due to a lack of familiarity with the scope, plans and materials specifications
- **Substitute materials must be approved in writing by the Engineer prior to project inception:** Delays are often created at project inception because the wrong materials were brought to the job site because somebody assumed that they are 'good enough' or equal to those specified
- **In the event of delays caused by an outside source (i.e. materials supplier), it is the foreman's responsibility to notify the project manager in writing when these delays occur:** This:
  - Eliminates efforts by the interested parties to try to place approximate milestone dates (which may need to be changed) on project completion
  - Facilitates approaches to minimize delays
  - Prevents assignment of blame and separates reasonable and unavoidable delays from those that were controllable or avoidable
  - Protects the contractor from being penalized for related schedule overruns.

### Summary

A competent professional team that works in harmony is the key to the success of any project. A weak link at any level will leave a poor image of the project in the client's mind and can be followed by years of attempts at resolution and sometimes even costly litigation – at nobody's gain. A successful project means a satisfied client who will receive a finished product that exceeds expectations and provides personal satisfaction to everyone involved in the project.

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*"Falcon's Energy division services assist our existing clients as well as provide new clients with expert planning or analysis for repairs, upgrades or replacements of building systems to assist each building in becoming more energy efficient. Our energy/MEP division reinforces that Falcon is the most comprehensive firm in the industry"*

*– Andrew Amorosi, PE, RS, Principal*



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## **ATTENTION MANAGERS, BOARD MEMBERS AND HOMEOWNERS**

**Update your Capital Reserve Fund Studies now before its too late!!**

Federal Housing Administration (FHA) approved financing plays a large role in providing individual mortgages as well as funding for large-scale construction projects in condominium communities. An FHA approved loan reduces the risk and protects the lender from financial losses due to defaults and related foreclosures. Due to the increase in mortgage defaults and related foreclosures, FHA has adopted new regulations that specifically target and affect lending in Condominium communities.

In addition to several other more stringent regulations, the newly adopted (December 7, 2009) Federal Housing Administration (FHA) standards for insuring mortgage loans involving condominium units, now requires that a current reserve study be performed to assure that adequate funds are available for funding the replacement or repair of the common elements of your community.

**The new standards require an Association's Capital Reserve Fund Analysis to be no more than 12 months old if certain budget documents requested by lenders do not meet specific standards. The new regulations require mortgagees to review the association's budget (the actual budget for established**

**projects or the projected budget for new projects) for all projects. This review must determine that the budget is adequate and:**

- Includes allocations/line items to ensure sufficient funds are available to maintain and preserve all amenities and features unique to the condominium project;
- Provides for the funding of replacement reserves for capital expenditures and deferred maintenance in an account representing at least 10% of the budget; and
- Provides adequate funding for insurance coverage and deductibles.

So, if your Associations budget documents do not meet these standards or your association needs an updated Study, call the Falcon Group to have a current Capital Reserve Fund Analysis prepared. Due to these new regulations, we are also now offering an option to have an annual update performed on Reserve Studies previously performed by our firm for a minimal cost.



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# Flood Insurance: Documenting That You're High and Dry

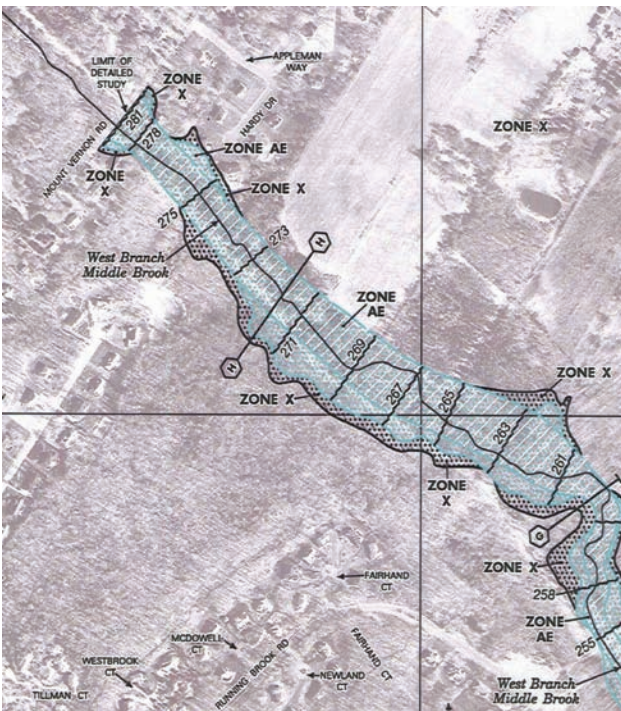
By Nicole Malise, CFM

## Background

In recent years we have all been rudely awakened to the destructive power of flooding. Throughout the state of New Jersey and the entire United States floods have devastated communities, farmland, and properties of all kind. These devastating events should alert property owners to question their potential risk and degree of required protection.

The National Flood Insurance Program (NFIP) was instituted in the 1970's to assist property owners with education, pre-flood warning and post-flood assistance. Since the NFIP was instituted, The Federal Emergency Management Agency (FEMA) began creating flood insurance studies containing flood insurance maps depicting the limits of the 100 year storm. An example of a map is shown in *Figure 1*; The blue area depicts the location of the theoretical floodwaters.

**Figure 1** – Location of Theoretical Floodwaters



With the intense land development that has occurred since the 1960's, FEMA has since updated some of the Flood Insurance Rate Maps (FIRMs) to stay current in its effort to protect property owners from unexpected flood damage, FEMA also recently created a digital platform to

enable each insured to review their own situation. However, some maps remain as originally drawn and may not accurately represent existing conditions.

The modernization process has generated new studies which, in turn, have created new maps with new flood limit lines. Consequently FEMA has mandated many new homeowners and non-residential building owners to purchase flood insurance, if the new map indicates they are in the floodplain. Under the National Flood Insurance Act, lenders must require borrowers whose property is located within a Special Flood Hazard Area (SFHA=100 year storm) to purchase flood insurance as a condition of receiving a federally regulated mortgage loan. With the map modernization efforts of FEMA, lenders have more updated information available to them to assist in the identification of properties requiring the purchase of flood insurance. This may result in revisions to the areas of inclusion, areas in the SFHA, with corresponding status changes to buildings within those areas.

Although this mandate is intended as a protective measure, this added expense will no doubt cause many to question their potential liability. Many may know the history of their property and know whether or not it's prone to flooding, leading to questions about mapping accuracy. Similarly, some in the original mapping area also may have reason to question their flood insurance status.

## How to know for sure?

Many will be required to purchase flood insurance under the assumption that their property falls below the Base Flood Elevation (BFEs), or within the 100 year flood plain. According to FEMA, the BASE Flood Elevation is "the computed elevation to which floodwater is anticipated to rise during the base flood (100 year storm)...The relationship between the BFE and a structure's elevation determines the flood insurance premium." However, just because the maps appear to show the structure in the SFHA, the building may be elevated enough to be exempt.

To help homeowners determine if they have been included incorrectly in the 100 year flood plain, FEMA has authority to provide a Letter of Map Amendment (LOMA) and/or a Letter of Map Revision (LOMR). Depending on the circumstances, these processes will require the

## Flood Insurance continued...

assistance of a Licensed Surveyor and/or, Professional Engineer. The licensed professional will be responsible for obtaining data and completing an Elevation Certificate and other forms, FEMA's mechanism for processing a LOMA/LOMR. This certificate requires elevations to be taken at the top of the bottom floor of the structure and the lowest adjacent grade (LAG), or lowest ground point touching the structure. This information will then be compared to the BFE elevation for that particular floodplain. "For a LOMA to be issued to remove a structure from the SFHA, NFIP regulations require that the lowest adjacent grade be at or above the Base Flood Elevation (BFE). To remove an entire lot from the SFHA, NFIP regulations require that the lowest point on the lot be at or above the BFE."

As long as all requirements are met, a Professional Engineer is required to prepare a Letter of Map Amendment/Revision package.

This package includes pictures of the structure and surrounding grounds and supporting technical information to show conclusively that the property is safe from flooding. This information is submitted directly to FEMA for a thorough review, and written response. This letter can be submitted to your lender and insurance company as proof of exemption.

### What do we do if our elevations are lower than the BFE?

If either of the lowest adjacent grade or top of bottom floor elevations is lower than the BFE, FEMA will NOT grant a Letter of Map Amendment. There are a few options that homeowners and property owners have in this situation. The first option is to elevate the structure above the base flood elevation. This may be required by the community if a structure is being substantially improved, i.e. additions of 75% or more of the value of the existing structure. This can be very costly; however it would protect the structure and its contents, in the event of a flood. Non-residential building owners can also raise their top of bottom floor above the BFE, or a second option is flood proofing, or sealing off the building to prevent floodwaters from entering. An Engineer will be required to inspect the flood proofing, and if all requirements are met, to prepare a Flood Proofing Certificate and submit to FEMA for approval.

### Summary

The scenarios discussed in this article are typical; however there are many variables to be considered when applying for an exempt status, including other NJDEP state regulations. Location of the building within a floodplain, and coastal

locations are just two such factors. It is highly recommended to request the assistance of an Engineer prior to beginning new construction, additions, LOMA processes, or when considering any decision that can impact a property owner's specific flood insurance requirements.

## The Falcon Group has expanded its Bridgewater Headquarters facility to include a new state of the art training/ presentation room for in-house and client use.



## What's New?

### We are pleased to welcome:

**S. George Awwad, PE, CEM, LEED AP, CBCP**, joins our Energy Department as Department Head. George is a licensed mechanical engineer with LEED accreditation and 25 years of experience in design, commissioning, energy audits and feasibility studies.

### Congratulations to our employees who have recently added new professional credentials:

**John Hoffner, RRO**, received his *Registered Roof Observer* certification from the R.C.I. Roof Consultants Institute.

**Carlos Garcia**, received his *New Jersey EIFS Special Inspector* license.

**Lyle Hoffman, HHS**, received his *New Jersey Building Inspector* license.

**Robert Pisano, PE**, has received his Pennsylvania engineering license.

### Congratulations to:

**Terry Foeldvari, V.P of Operations**, who is celebrating her 10th anniversary with The Falcon Group.