



Gale Associates, Inc.

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June 13, 2007

JUN 18 2007

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Ms. Jeanne M. Strickland
Executive Director
Newton Community Development Foundation
425 Watertown Street, Suite#205
Newton, MA 02458

Re: Memorandum of Roof and Masonry Work
Warren House
Newton, MA
Gale JN 817220

Dear Ms. Strickland:

As requested, Gale Associates Inc. (Gale) presents this correspondence as clarification to the scope of exterior masonry and roof renovation work proposed for the above listed property. The scope of work for the Warren House can be subdivided into two main categories: Roof replacements and renovations of all above roof line components, and renovations of all walls below the roofline. For the first part of the project, and as discussed with NCDF, it is recommended that all of the roofs (sloped and low sloped) be replaced and all of the above roof line renovations be addressed at this time. This recommendation is to both prevent future trafficking of the finished roof areas to perform additional miscellaneous renovations, and more importantly, to reduce the potential of moisture intrusion as a result of defective wall and flashing components. The table attached outlines the estimated cost to perform the roof replacements and above roofline renovations, to allow you to budget for these repairs appropriately.

Please note that it is the opinion of this office that the prior tie-in transitions between the low slope roof areas and the steep slope roof areas (slate shingles) will require that the majority of the slate shingles be replaced to render the roofs water tight. Based on our destructive test cuts, it appears that only the lower limits of the slate shingle roof areas have been protected against ice damming. The proper slate roof renovations will require that each area above these transitions be replaced from the ridge line, down to the low slope roof to extend the service life of the individual roofs (please note that slate shingles typically have a life span of 75 years, and the slate shingles that are currently in place appear to be original units from circa 1925, the time of the building's original construction). As the slate shingle roofs that transition to the low slope roofs will be replaced, it is recommended that the remaining areas that face Washington Street, the East and the West elevations also be replaced while the appropriate trades persons are on site to reduce future mobilization costs to perform the work.

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For the second part of this project, and as discussed with NCDF, Gale recommends that all of the miscellaneous brick masonry, cast stone, and sheet metal renovations, and the sealant repairs throughout each of the below roofline elevations be performed at this time. These renovations include, but are not limited to, the removal and replacement of deteriorated brick masonry such as cracked or spalled units, cast stone repairs and/or replacement, the removal of abandoned fasteners which could lead to potential deterioration of the brick masonry units, and the repointing of isolated deteriorated brick masonry mortar joints. Each of these building components are a source of water infiltration into the building during wind driven rain events, and can likely further deteriorate the building exterior through freeze-thaw cycles in the winter months. It is the opinion of this office, that the removal and replacement of these defective units, and the repointing of isolated exterior masonry areas should be the high priority to reduce future deterioration and the water infiltration into the building.

Gale is aware that one source of funding for this project is through the Community Preservation Act (CPA). This funding is predicated on the potential of fully repointing exterior elevations in order to return the original mortar joint configuration and provide the building with a uniform appearance. As there is a potential that funding for the repointing of the entire property may not be available, Gale strongly recommends that prior to performing the aesthetic renovations, NCDF perform the renovations that will reduce water entry into the building and maintain the integrity of the structural components of the bearing wall system.

Upon completion of the brick masonry renovations discussed above, Gale would then recommend that the remaining funds be allocated to the complete repointing of individual elevations that currently exhibit the largest areas of dissimilar mortar joint applications. In our previous discussions with NCDF, we have selected potential elevations that should be considered a priority with respect to the full repointing. Please refer to the attached reduced roof area plan which identifies all of these elevations. At this time it is anticipated that elevations Five, Four and Three are to be 100% repointed to match the building's original weathered joint configuration and mortar color. Also included is 50% repointing of elevations Two and One. The actual conditions and locations of this repointing will be confirmed during the design or construction phase depending on the extent of the deteriorated mortar.

As a result of rising labor and material costs associated with current market climates, and due to the limit of the anticipated funding there is a potential that the 100% and 50% repointing listed above may not be feasible at this time. However, in the event that the apparent low bidder proposes a cost less than that which is projected below, Gale recommends that the Contract Documents include a unit price item for repointing additional large sections of brick masonry. The numbers referenced are based on preliminary evaluations, and the final construction amount could be higher or lower than the recommended budget.



Gale would like to note that, due to different rates of weathering and carbonation, the stabilization and spot repointing may have a different appearance than that of the remaining wall elevation within a few years if the full repointing is not performed. Gale will make every attempt when generating the design documents and proceeding with the construction to have the selected contractor provide field mock-ups for matching of these components.

In summary, following is a list of the renovations that are included in the budgetary estimates presented below for this roof and masonry project:

- Remove and replace low sloped roofing
- Remove and replace steep sloped roofing (slate) and associated components to provide the appropriate low slope roof tie-ins
- Remove and replace the remaining steep sloped roofing to extend the service life of the roof and reduce future mobilization costs
- Install copper copings and flashings
- Perform all miscellaneous brick masonry and associated component renovations *above* the roof line
- Replace all masonry throughwall flashings above the roof line
- Fully repoint all brick masonry above the roof lines (chimneys, balcony walls, etc.)
- Perform all miscellaneous brick masonry renovations *below* the roof line
- Stabilize the cast stone components around the roof elevations
- Repoint isolated sections of brick masonry on the remaining elevations

If funding is available, the additional work listed below will be performed:

- Fully repoint brick masonry mortar joints on elevations Five, Four and Three (note, the above roof line areas above these elevations are included in the roof renovations); work will be performed if funding is available
- Repoint fifty percent of brick masonry mortar joints on elevations Two and One (note, the above roof line areas above these elevations are included in the roof renovations) ; work will be performed if funding is available
- Provide unit pricing and/or alternates to determine additional areas of full repointing on pre-determined elevations; work will be performed if funding is available

The recommended budget for this work, is therefore valued at \$2,507,000. Gale recommends that a fifteen percent contingency be budgeted for this project in the event that unforeseen conditions (additional deteriorated masonry, deteriorated roof deck, etc.) be encountered during the construction phase. Therefore, the recommended construction budget to complete the above referenced summary of work is as valued at \$2,883,000. Please note that this budget is preliminary as the design documents have not been established at this time. Also, these budgetary numbers do not include interior renovations, soft costs associated with NCDF management, and/or modified engineering costs.

Ms. Jeanne Strickland
Warren House
Memorandum of Roof and Masonry Work
June 13, 2007
Page 4



Should all of the masonry repairs and roof renovations be performed as outlined above, Gale anticipates that with routine maintenance and monitoring of the assemblies, the service life could exceed fifteen to twenty years. This routine maintenance will likely include repairs to miscellaneous brick masonry units, isolated repointing, sealant replacement, cleaning of the roof drainage systems, monitoring of shedding slate shingles, and work associated with trafficking the roof membrane during maintenance or related to wind blown debris. Gale anticipates that the annual budget for the roof and masonry maintenance will range from \$5,000 to \$15,000 depending on the level of upkeep that is employed.

We trust this information serves your needs at this time. Should you have any questions or comments, please do not hesitate to contact me at this office.

Sincerely,

GALE ASSOCIATES, INC.

A handwritten signature in blue ink that reads "Chris Musorofiti/pm". The signature is written in a cursive style.

Chris Musorofiti
Project Manager

CM:pmw

Attachment

CC: Mr. Matthew Yarmolinsky – NCDF
Ms. Olga A. Vaysman – Gale



Gale Associates, Inc.

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November 20, 2008

Ms. Jeanne M. Strickland
Executive Director
Newton Community Development Foundation
425 Watertown Street, Suite#205
Newton, MA 02458

Re: Prioritization of repairs at the
Warren House
Newton, MA
Gale JN 817221

Dear Ms. Strickland:

As requested, Gale Associates Inc. (Gale) presents this correspondence to prioritize the sequence of the roof replacement and masonry restoration work at the Warren House. As discussed in previous evaluations and correspondence, it is the opinion of this office that the roof and masonry repairs above the east and west balcony areas should be considered the Newton Community Development Foundation's (NCDF) first priority due to the reported water infiltration. Based on additional areas of reported water infiltration, it is recommended that the remaining roof areas and above roof line masonry components be made the second priority. Gale believes that addressing all of these areas will result in a reducing of the majority of water infiltration into the building.

Once the water infiltration issues are addressed, Gale recommends that the remaining masonry walls be restored. A sequence for the order of the restoration work at these areas was developed in June, 2007 and outlined in a letter dated June 13, 2007. At this time, Gale stands by the recommendation that masonry work should be prioritized to remove and replace deteriorated masonry and mortar, and repair (or replace) deteriorated cast stone components. Although, 100% repointing of the Warren House to match the original mortar joint profile will provide the building with a uniform appearance and be historically accurate, this repair is not crucial to reducing the deterioration of the in place materials. Furthermore, 100% repointing of the building, is an item that can be completed via phased construction.

The following prices are derived from Gale's 2007 cost estimates and are listed in order of priority as outlined above. Note that the new roof replacement project will encompass above roofline work such as, but not limited to, the installation of new masonry throughwall flashings above finished roof surfaces, the repair/replacement of the associated cast stone and masonry components, installation of copper coping caps at the perimeters of the parapet, and repairs of the Tower and Penthouse walls.

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Also, note that the roof renovation cost estimates include 100% repointing and installation of copper sheet metal (i.e. at the parapet caps) as requested by NCDF on behalf of the Historic Commission.

All of the following preliminary budget costs include general conditions, overhead and a recommended fifteen percent contingency for this work in the event that unforeseen conditions are encountered at the site:

Roof replacement and above roofline renovations:

| | |
|--|-----------|
| East and West Balconies of the South Wing* | \$523,500 |
| South Wing Main Roof * | \$253,000 |
| North Wing Main Roof* | \$326,000 |
| East and West Wings* | \$645,000 |

1247500

*Note that in 2007, to address the potential of funding constrictions for the roof work, we broke up the above roof areas into Base Bid work and a series of Alternates. Please refer to the attached phasing plan for how each area was classified.

As previously noted, the restoration of wall and window assemblies below the roofline are not included in the above referenced costs. The following budgets are recommended to address the remaining masonry repairs.

Below roofline renovations:

| | |
|--|--------------|
| Brick Masonry..... | \$250,535 |
| Cast Stone | \$30,000 |
| Miscellaneous (windows and doors, exterior stairs) | \$151,000 |
| 100% Repointing Below the Roofline** | \$1,725,00** |

**Please be reminded that 100% repointing of all of the elevations is not recommended at this time. In a June 13, 2007 letter, Gale prioritized the elevations that are recommended for 100% repointing versus those that need approximately 50% and those that only require miscellaneous repointing (assume 20%). The cost estimate to complete the repointing as outlined in the June 13, 2007 is approximately \$791,000. Refer to the attached diagram for the recommended percentage of repointing work at each elevation.

Note that the above costs are intended to address exterior repairs only and do not include interior renovations, administration costs, engineering costs, or soft costs associated with work at the Warren House. Also please be reminded that these numbers were generated in 2007 and do not account for inflation, or the variability in the costs of copper and fuel which are in constant flux. Finally, please be reminded that the roof/above roofline work and restoration of the walls below the roofline, were calculated as two (2) separate projects. The completion of the work at the same time

Ms. Jeanne Strickland
NCDF
Warren House
November 20, 2008
Page 3



may result in a slight reduction of costs due to a decrease in mobilization costs and some general conditions costs (i.e. erection of staging twice).

We trust this information serves your needs at this time. Should you have any questions or comments, please do not hesitate to contact me at this office.

Very truly yours,

GALE ASSOCIATES, INC.

Olga Vaysman
Olga Vaysman, EIT
Project Engineer

OAV/dmk
Attachments

cc: Mr. Matthew Yarmolinsky – NCDF
Mr. Christopher Musorofiti - Gale

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