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2080 Broadway.NYC Parapet Restoration



















LM3 Existing West 72nd Facade Detail Conditions















LM4 Existing Broadway Facade Detail Conditions











LM5 **Existing Parapet Detail Conditons**

Historic [1932] & 1940 Tax Lot Photographs LM6

Proposed West 72nd Elevation

Existing Broadway Elevation

Proposed Broadway Elevation

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Existing/Proposed Elevation LM7

Existing West 72nd Elevation

Minimum % of Assumed Damaged Tiles= 19% Number of Tiles= 42 Number of Damaged Tiles= 8

Note: Survey is Based on Visable Through Bolts & Angles Condition of Tiles Behind Existing Signage is Unknown All Visible Tiles Have Alligator Cracking on the Finish Surface

Existing Broadway Elevation

Minimum % of Assumed Damaged Tiles= 23% Number of Tiles= 122 Number of Damaged Tiles= 29

2080 Broadway.NYC Parapet Restoration

Damage Tile Survey Diagram/Photos LM8

THE VSA GROUP ARCHITECTS • ENGINEERS • CONSULTANTS

June 5, 2018

By Email at <u>JohnFiore@StahlRE.com</u>

Mr. John Fiore Vice President The Stahl Organization 277 Park Avenue, 47th Floor New York, NY 10172

Subject: 2080 Broadway – New Exterior Panels at Rebuilt Parapet Structural Analysis of Proposed Material Substitutions

Dear Mr. Fiore,

As part of the project development for the 'Parapet Replacement at 2080 Broadway', we have conducted a study to evaluate the anticipated impact on the existing building framing of varied materials to replace the exterior blue glossy and glazed architectural terra cotta panels of the parapet. For this study, we have specifically focused on Modern Terra Cotta, GFRC (Glass Fiber Reinforced Concrete) and FRP (Fiber Reinforced Polymer).

EXECUTIVE SUMMARY

The project scope includes the removal of the Existing Terra Cotta units required by proposed demolition of the deteriorated parapet. The removal process might cause an estimated breakage of not less than 75-80% of these units, which would no longer be reusable. In that case, we recommend replacement of the Existing Terra Cotta units with an FRP system to match the existing color, finish and layout. The FRP system is based on a lighter material that imposes a limited load on the aged framing of the building, with a better ability to match the color, finish, and texture of the existing Terra Cotta units.

Based on the age of the building, on the limited information available for a comprehensive load analysis, and our study of the physical material properties, it is our opinion that the existing structural framing should not be subjected to the loads of Modern Terra Cotta and GFRC units, which are comparable to the weight of the Existing Terra Cotta and significantly heavier than the FRP system. Moreover, the FRP has the added benefit of the matching color and the glazed finish embedded into, and baked with, the panel assembly, without the needs of additional and subsequent coatings as required by GFRC units.

INTRODUCTION

The steel framed 2-story property at 2080 Broadway (see Photo 1) was constructed in 1938 and is located at the South-East corner of the street intersection between Broadway and West 72nd Street. In 1990, it was included by the Landmarks Commission in the newly designated 'Upper West Side-Central Park West Historic District'.

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LM9 Structural Analysis Report

MATERIAL

Existing Architectural Glazed Terra Cotta

Modern Terra Cotta Units

Glass Fiber Reinforced Concrete (GFRC) U

Fiber Reinforced Polymer (FRP) Units

* Sources:

Terra Cotta in Architecture, by Walter

Bostonvalley.com

Gfrcconstruction.com

American Composites Manufacturers A ** Includes 1sq.ft of material with (3) 4in. *** Includes 1sq.ft of material with (3)4in

	WEIGHT* (lbs/cu.ft.)	PANEL THICKNESS	PANELIZED MATERIAL (lbs/ sq.ft.)	UNIT WEIGHT (lbs/sq.ft.)
Units	122	1-1.5 in.	10.2 min.	20.4 min.**
	130-135	1 min.	10.8 min.	21.6 lbs/sq.ft.**
Jnits	130-134	0.75 min.	7.8 min.	17.6 lbs/sq.ft.***
	112-144	3/16 in.	1.75 min.	3.75 lbs/sq.ft.***
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Association				
returns + 71hs allowance for supporting system				
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Mock-Up Photographs LM11

Coping to be replaced using FRP to match existing. Egg and Dart Cornice to be potentially salvaged. To be VIF.