The New York Landmarks Conservancy
Lucy G. Moses Preservation Awards
Submittal

Newtown High School
48-01 90th Street
Queens, New York

Exterior Renovation

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+ ENGINEERS
ARCHITECTS

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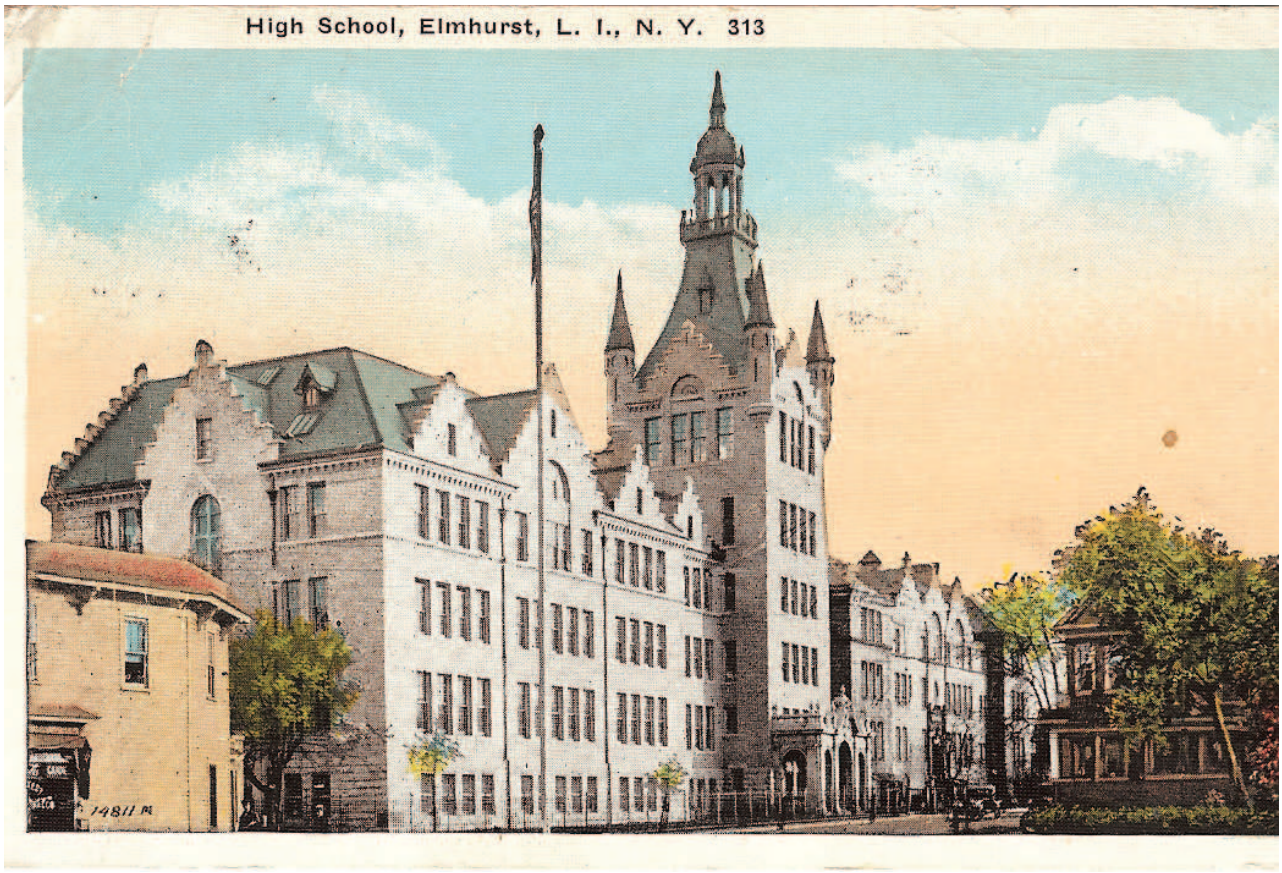


Newtown High School: The Pride of Elmhurst

Newtown High School in the neighborhood of Elmhurst, is one of Queens' most prominent buildings, and a testament to New York City's commitment to public education. Bounded by 48th and 50th Avenues, and 90th and 91st Streets, the school occupies an entire city block. The current building is a result of several building campaigns spanning nearly four decades, three architects, and several architectural styles. Newtown High School has been in operation at this location for over 100 years.

According to the Landmarks Preservation Commission's the site has had a school since 1866, when a small wooden school house was built to serve the children of Newtown and neighboring farms. Due to the site's long history, and the architectural significance of the building, the City of New York designated Newtown High School a landmark in 2003.

The oldest extant portions of the school are from 1921, designed by C.B.J. Snyder in a Flemish Renaissance Revival style. Snyder's choice of this style showed his awareness of New York's and particularly Elmhurst's, beginnings as a Dutch colony. It is one of only a handful of public schools in New York City executed in this style.

Snyder's design was built as an addition to the now demolished Boring and Tilton school completed in 1900, and his design continued the stepped gables of the original building, and features a dramatic 169-foot, centrally placed tower topped by a cupola and turrets. The tower is visible throughout the neighborhood and gives the school it's slogan: "We Tower Above the Rest." The Snyder addition comprises

two wings, having granite-imitating terra cotta bases, and clad with buff and beige brick, limestone, glazed terra cotta, and decorative ceramic tile, corbelled cornices, multi-soldier flat arch lintels, and sculptural relief on entrance porticoes.

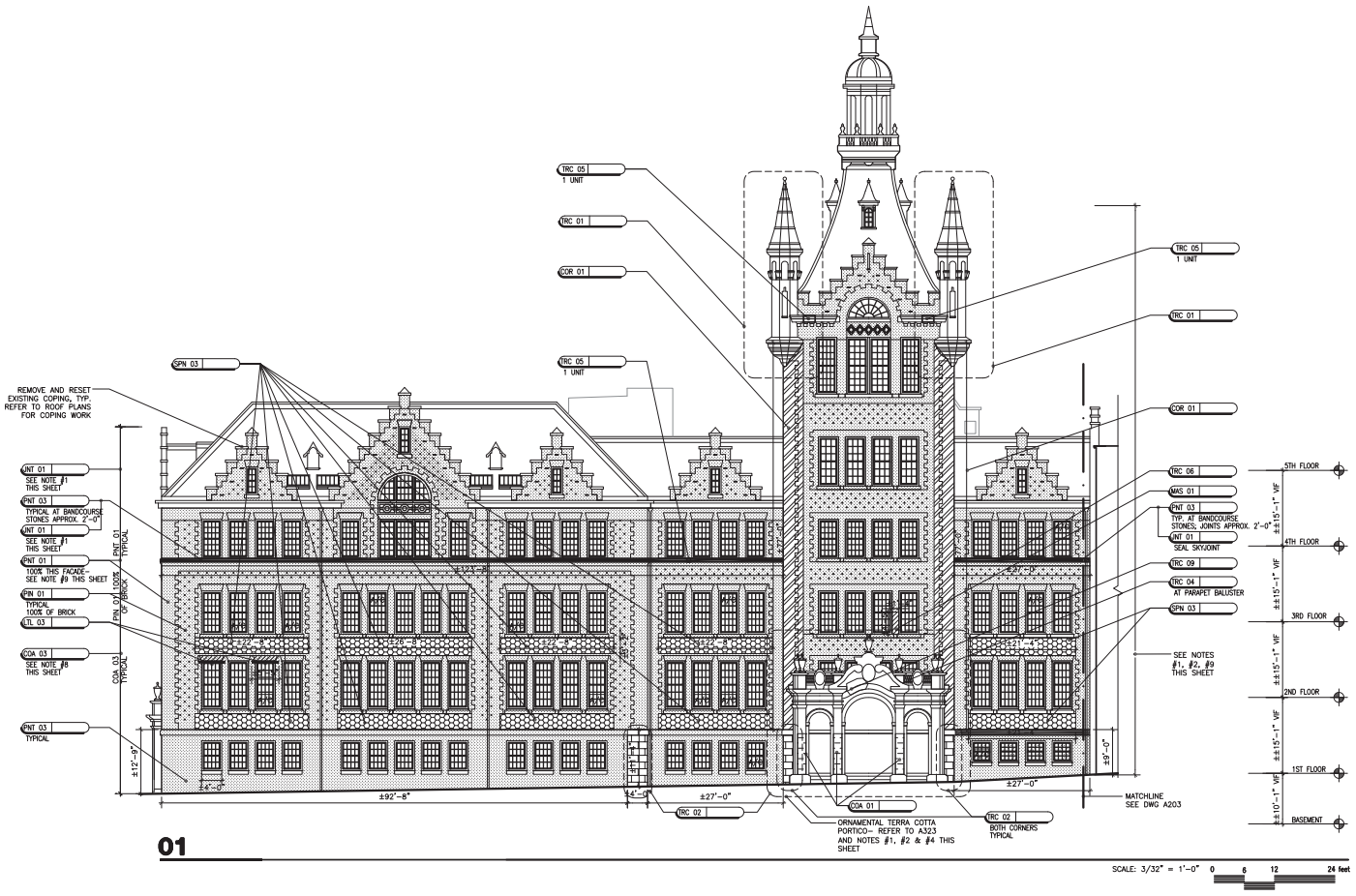
As soon as 1930, another addition was built to accommodate the rapidly growing student population. Architect Walter C. Martin, designed two additional three-story wings, that are stylistically similar but less ornate than the previous Snyder wings. The Martin wings are Clad with buff and beige brick and limestone detailing; one features stepped gables with ceramic tile designs.

The most recent addition was completed in 1958 and designed by Maurice E. Salo and Associates. This wing took the place of the original school building by Boring and Tilton which had been deemed by the Board of Eduction to be deficient and not able to be improved by renovations. Instead of echoing the motifs of the previous additions, the four-story rectangular block addition was designed in the International Style. The steel-frame structure is clad with beige-colored bricks, limestone trim and aluminum panels.

The renovation project completed in 2011, under the auspices of the New York City School Construction Authority, consisted of the following exterior envelope repairs: corner masonry replacement, face brick replacement at various locations, stone and terra cotta replacement at various locations, masonry pointing, lintel reconstruction, spandrel repairs, sealant replacement, parapet reconstruction, coping stone removal and resetting, roof replacement at various roofs, bulkhead window replacement, exterior door at grade replacement, and installation of roof railings. The text accompanying photos on subsequent pages highlights further details of the renovation.

Newtown High School is the architectural focal point of the Elmhurst community. One observor noted: “Solid, dignified and regal, the school looks as if it had been there always and will last forever.” Those working on the recent renovation are honored to have contributed to extending the life of this noble structure.

Sources: Landmark Preservation Commission Designation Report dated June 24, 2003); SUPERSTRUCTURES SHPO Report



Modern Methods for Historic Preservation

The project benefited from SUPERSTRUCTURES' proprietary software-based methodology that is unique in the restoration field. The size, location, and description of each and every defect was noted with a "smart tag". The smart tag is not just a graphic device but a software link to a spreadsheet database, which contains cost information, repair details and enables tracking of work completion during construction administration. This level of accuracy benefited the Owner by providing a very accurate cost estimate.

Contractor bids came in as estimated and even with Owner-requested change orders the project was completed within 10% of the construction estimate.

Terra Cotta

Restoration of terra cotta was a major aspect of the project. Polychromatic murals were replaced with new terra cotta - which involved an extensive color matching process. Rusticated terra units at the base of the building were restored, including localized unit replacement, cleaning, patching and reglazing by an artist. Mockups were done to match the colors and unique texture of the original terra cotta.

Top, left and right: Terra cotta lunettes after restoration; Bottom, left and right: Terra cotta lunettes before restoration.

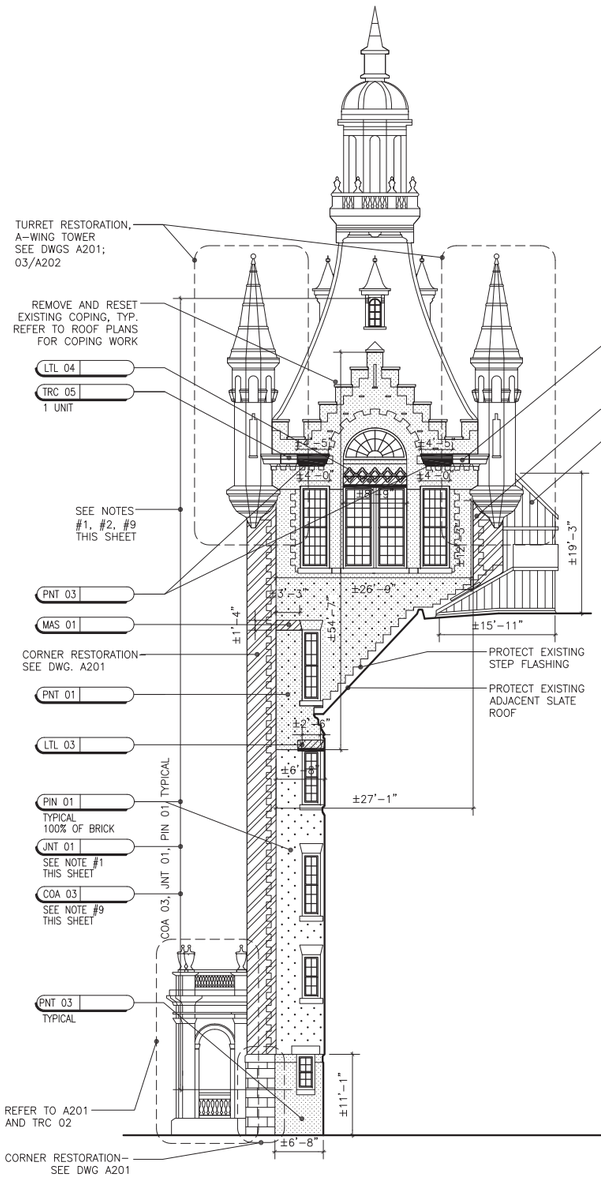
Turret Reconstruction

On the central tower, all four corner turrets were rebuilt. The existing turrets were demolished and rebuilt in kind, matching original brick, terra cotta, steel structure and full copper roofing, The copper on the new turret roofs was specified to match the copper on the main cupola, which was left intact. The turret roofs will eventually develop the same patina as that on the original turrets.

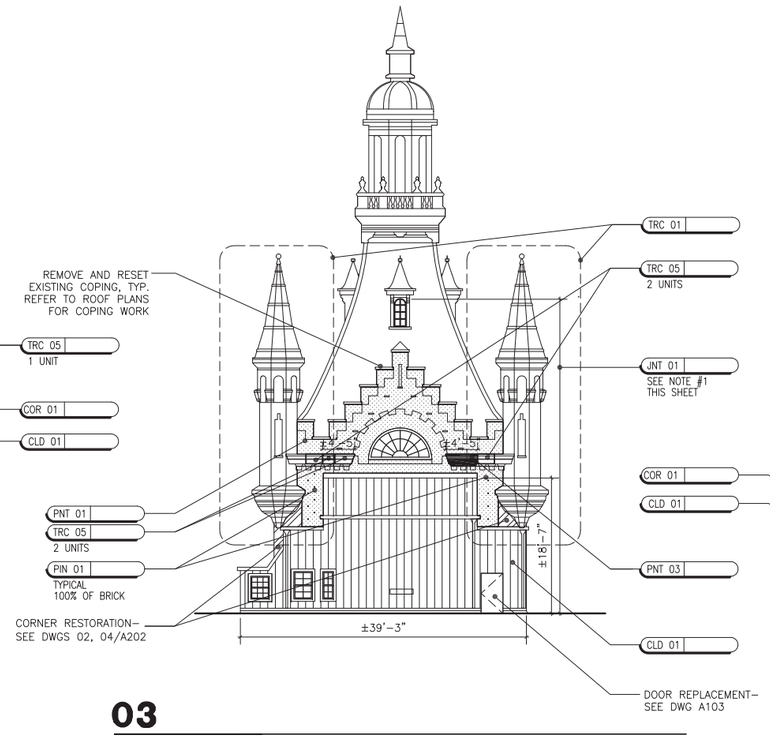
Top, left: Tower before restoration. Top, right: Tower after restoration.
Bottom: Turret roof after restoration.

Turret Reconstruction - continued

Top, left: Deteriorated structural steel in turret during demolition. Top, right: New structural steel in turret during reconstruction. Bottom, left and right: Terra cotta elements of turret during reconstruction

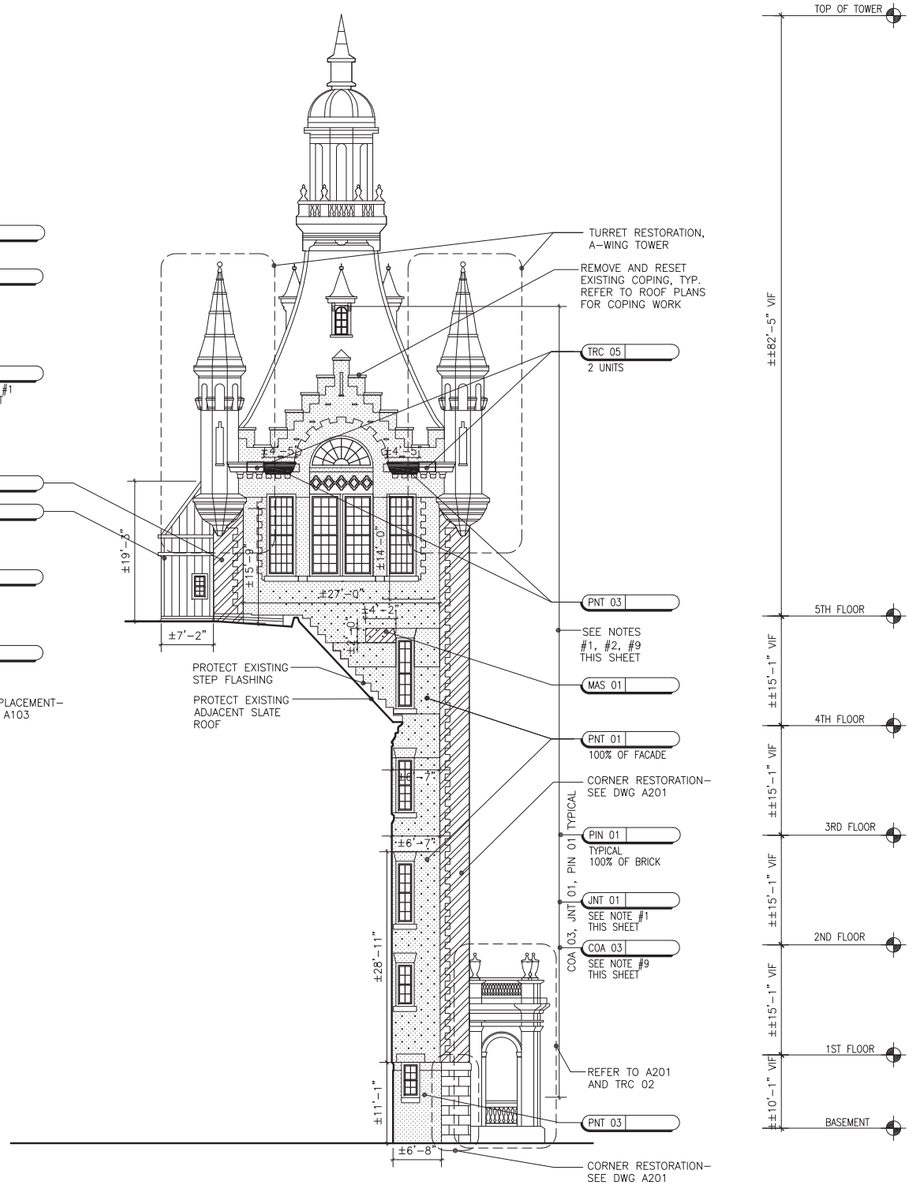


02



03

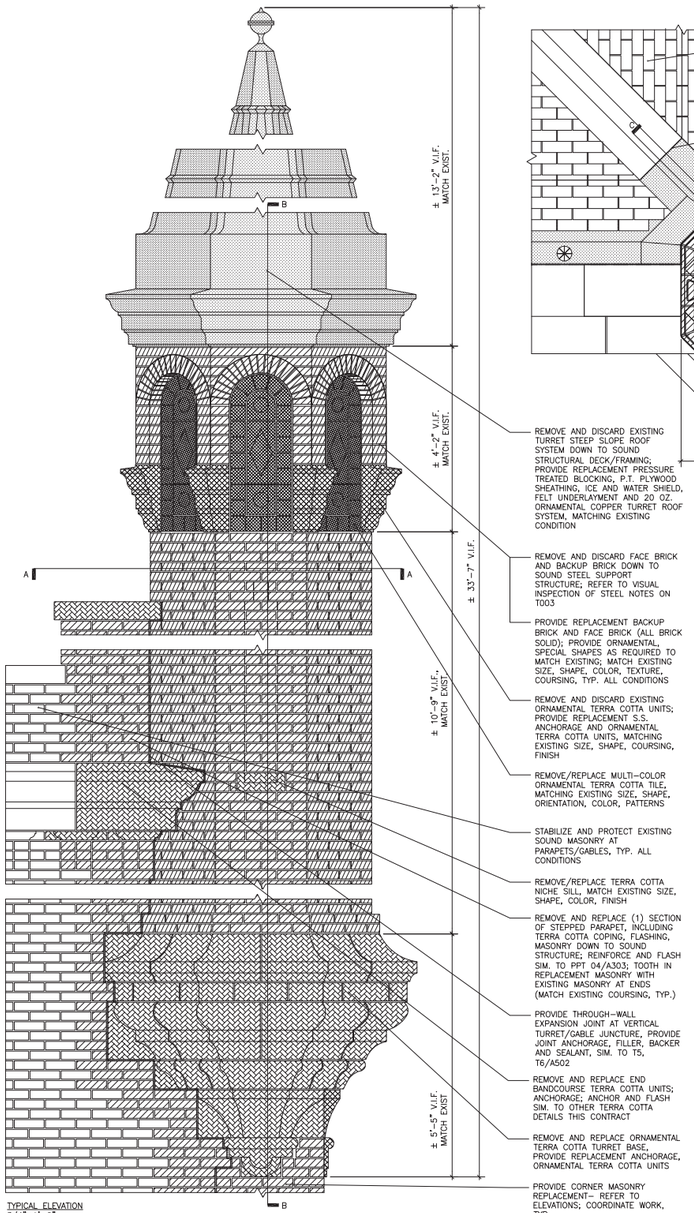
SCALE: 3/32" = 1'–0"



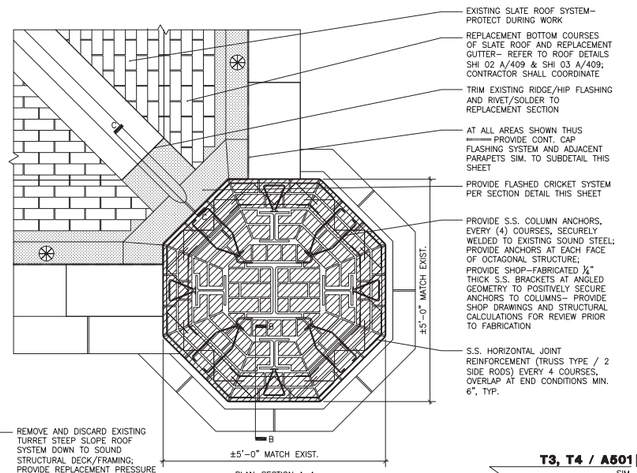
04

SCALE: 3/32" = 1'–0"

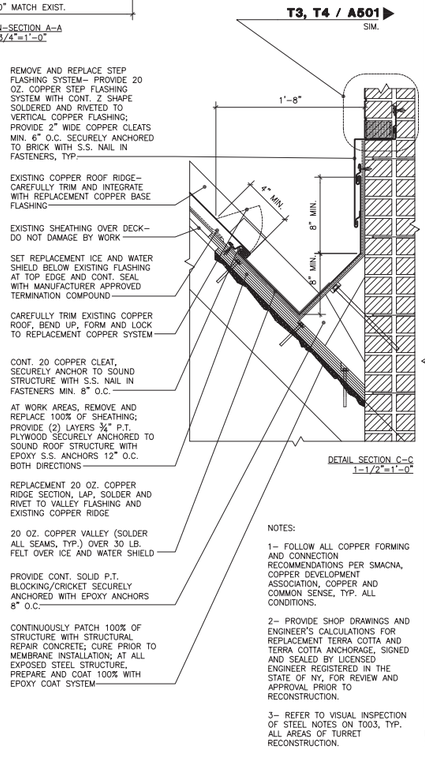
0 6 12 24 feet



TYPICAL ELEVATION
3/4"=1'-0"



PLAN-SECTION A-A
3/4"=1'-0"



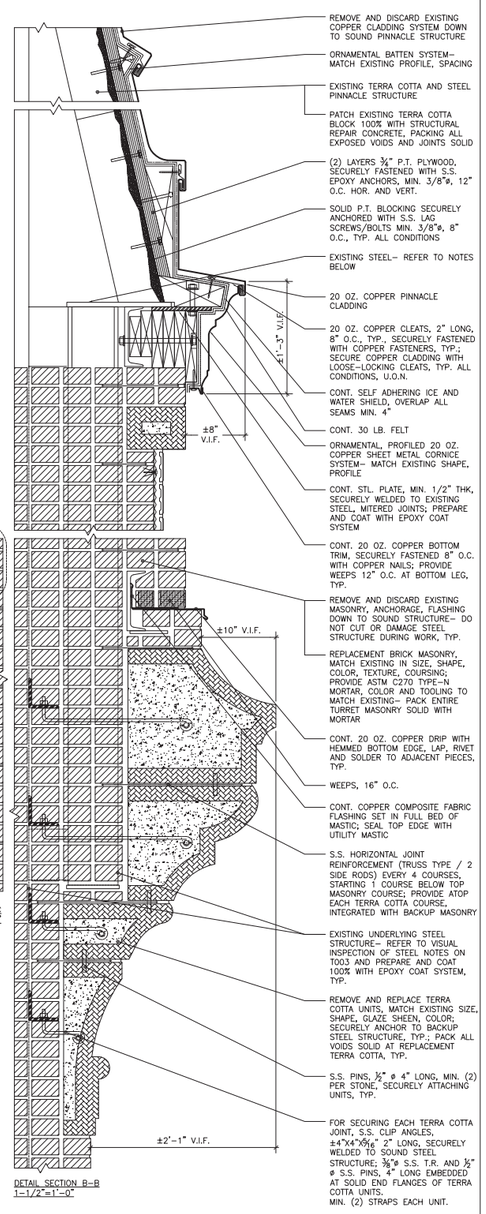
DETAIL SECTION C-C
1-1/2"=1'-0"

NOTES:

1- FOLLOW ALL COPPER FORMING AND CONNECTION RECOMMENDATIONS PER SMACNA, COPPER DEVELOPMENT ASSOCIATION, COPPER AND COMMON SENSE, TYP. ALL CONDITIONS.

2- PROVIDE SHOP DRAWINGS AND ENGINEER'S CALCULATIONS FOR REPLACEMENT TERRA COTTA AND TERRA COTTA ANCHORAGE, SIGNED AND SEALED BY LICENSED ENGINEER REGISTERED IN THE STATE OF NY, FOR REVIEW AND APPROVAL PRIOR TO RECONSTRUCTION.

3- REFER TO VISUAL INSPECTION OF STEEL NOTES ON T003, TYP. ALL AREAS OF TURRET RECONSTRUCTION.



DETAIL SECTION B-B
1-1/2"=1'-0"

TRC 01

T.C. TURRET ~~RECONSTRUCTION~~

SCALE: AS NOTED

Roof and Parapet

Roof replacement was done as required, bulkhead windows were replaced and roof railings were installed for code compliance in such a way so as not to be visible from the public way. The bulkhead cladding was restored from previously installed stucco to historically accurate standing-seam copper.

Upon investigation it was discovered that the parapets on the 1958 wing of the school were very poorly reconstructed during a prior restoration campaign, being filled with materials such as beer bottles, so extensive reconstruction was required.

Top, left: Bulkhead before restoration. Top, right: Bulkhead after restoration. Bottom, left: New railing installed on roof. Bottom, center: Inferior workmanship discovered inside existing parapet. Bottom, right: New parapets on 1950s wing after restoration.

Masonry

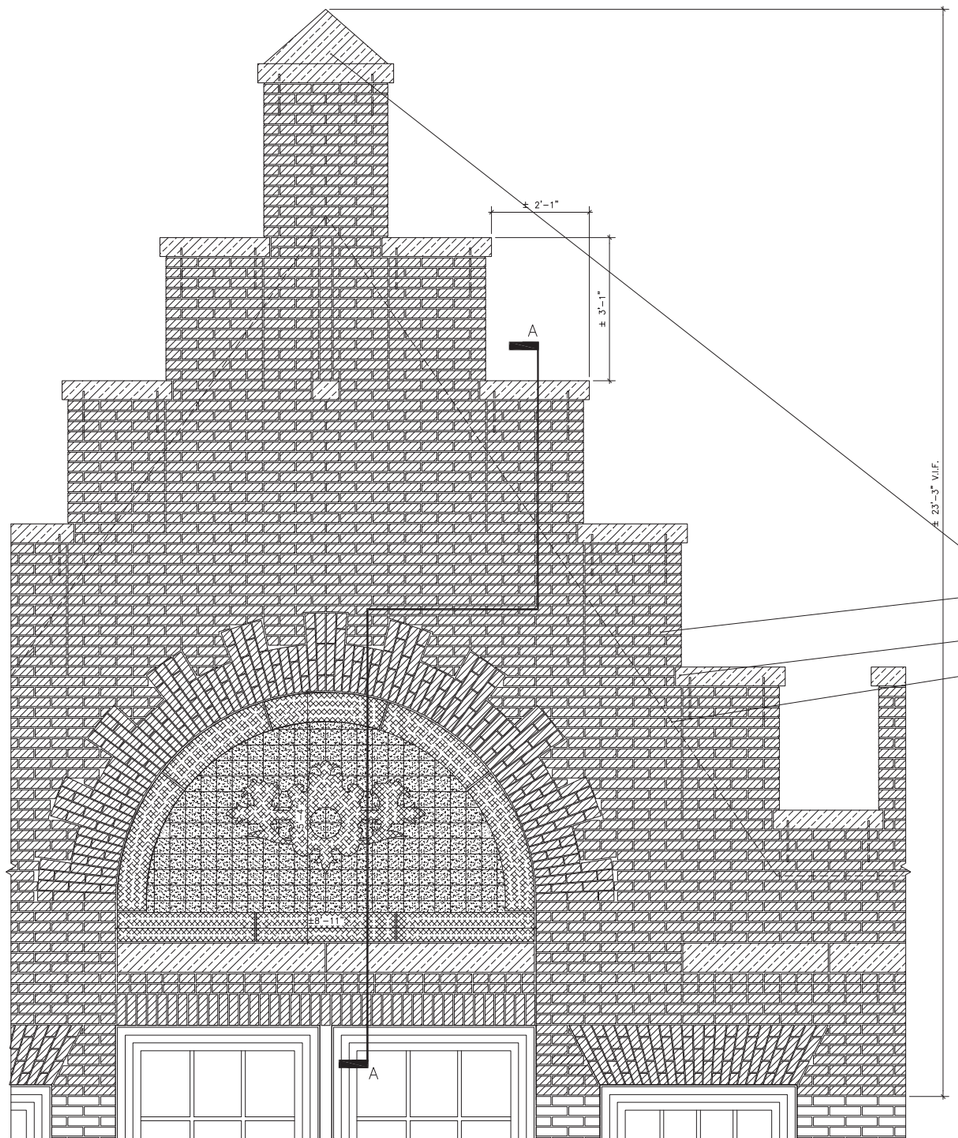
Pigmented color which had been added on the ground level walls up to 12' for graffiti prevention was removed and the original materials restored to their original colors. Graffiti haloes were removed. Pointing of masonry and lintel reconstruction were also done. Clear breathable anti-graffiti coating was applied to prevent future abuse.

Top, left: 91st Street entrance before restoration. Top, right: 91st Street entrance after restoration. Bottom, left: 91st Street façade, rusticated terra cotta before restoration. Bottom, right: 91st Street façade, rusticated terra cotta after restoration.

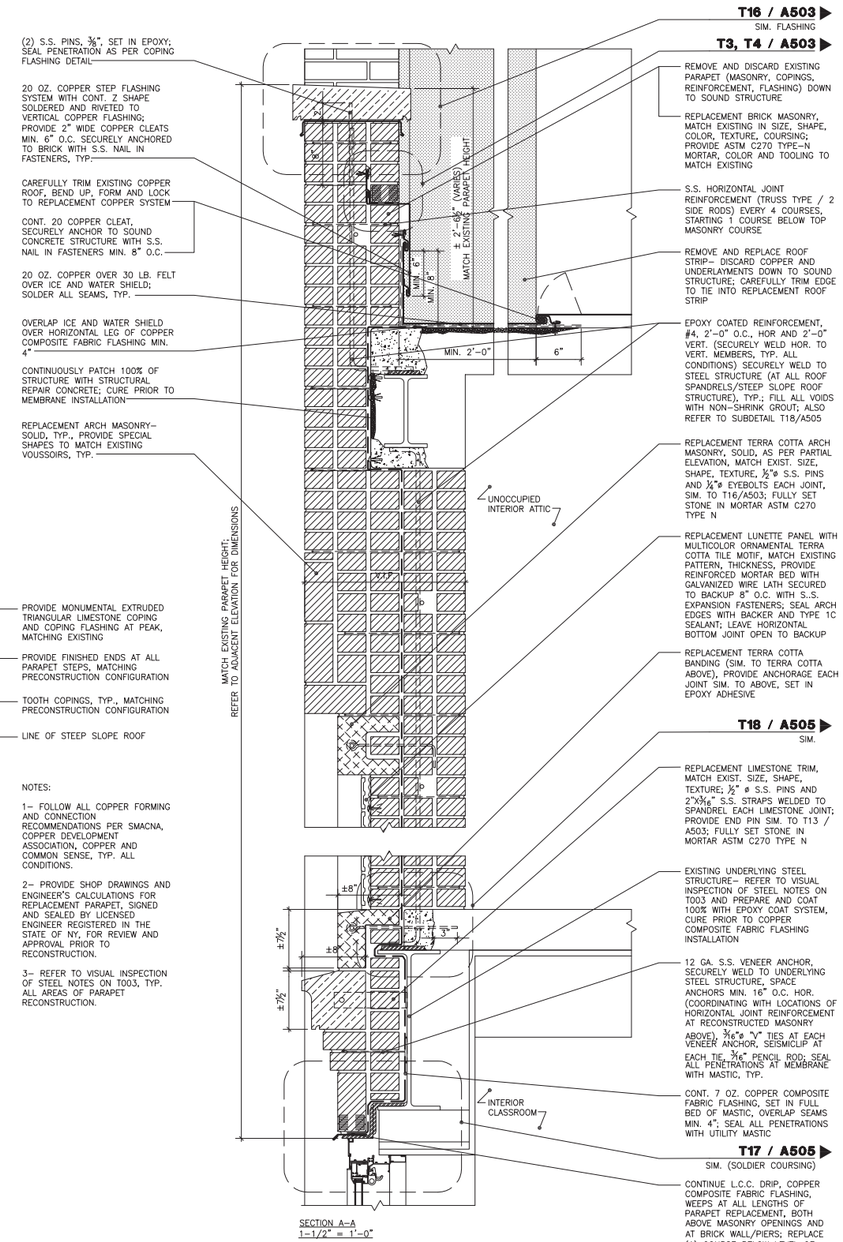
Materials Matching

The project involved extensive matching of a number of materials in kind, among them masonry, terra cotta, and slate roof tile.

Top, left: Matching bluestone. Top, right: Matching limestone. Bottom, left: Matching slate tile. Bottom, center: Slate tile before restoration. Bottom, right: Slate tile after restoration.



PARTIAL ELEVATION
3/4" = 1'-0"



SECTION A-A
1-1/2" = 1'-0"

PPT 04

PARAPET REPLACEMENT - TYPE 4

SCALE: AS NOTED