Perry High School/Traditional Academy

Application Materials for Certificate of Appropriateness

Issue Date: 10/05/2026



Prepared for:

Pittsburgh Public School
1305 Muriel Street
Pittsburgh PA 15203

408 Boulevard of the Allies / Pittsburgh, PA / 15219 / o 412.391.2884 / f 412.391.1657

Table of Contents

Section	Description	Page
A	Full Design Review Narrative	3
B	Satellite Photo	4
	Contextual Photographs	5
	Building Photographs – Existing Conditions (October 2026) – Refer to 2026-08-31 Perry Facade Repairs DD set	10
	Building Photographs (Details)	17
	Historical Photographs	20
C	Proposed Material and Specification Sheets	21
	Appendix A – NPS Preservation Brief #16 Substitute Materials, 2023, page 19 – Glass Fiber Reinforced Polymers (FRP)	22
	Appendix B – Architectural Mall, Inc. Specification Section 06610 – Architectural Fiberglass	23
	Appendix C – NPS Preservation Brief #16 Substitute Materials, 2023, page 18 – Fiber Reinforced Concrete (GFRC, CFRC)	29
	Appendix D – Conproco Specification Section 040120.91 – Terra Cotta Repair	30
D	Drawings and Site Plan (Refer to 2026-08-31 Perry Facade Repairs DD set)	1-19

Application Materials for Certificate of Appropriateness

Date: October 5, 2026

Property Address: 3875 Perrysville Avenue, Pittsburgh, PA 15214

Owner: School District of Pittsburgh

Historic District: **Perry High School/Traditional Academy - Parcel: 0115D00319000000**

Project Summary:

The project encompasses stone and brick facade repairs, restoration of the wood cornice components, and repairs to the concrete retaining walls at the Pittsburgh Public School's Perry High School in the Perry North neighborhood of Pittsburgh. The project will be publicly bid and constructed in phases, over a period of possibly four (4) years. The specific scope of work is as follows:

1. Concrete Repairs
    a. Patch structural concrete as directed by the engineer.
    b. Repair, patch and/or replace concrete retaining walls as indicated in the DD drawings.
    c. Replace damaged terracotta units with GFRC units at the stair bridge arch.
    d. Remove and replace terracotta arches with new GFRC units as indicated in the DD drawings.
    e. Repair spalled terracotta units with cementitious patching compound.
2. Masonry Repairs
    a. Clean masonry surfaces on the façade, as indicated in the DD drawings.
    b. Repoint masonry and brick as indicated in the DD drawings.
    c. Remove and replace sealant at sky-facing brick and stone joints as indicated in the DD drawings.
    d. Remove and replace sealant at expansion joints as indicated in the DD drawings. Color to match existing.
    e. Repoint windowsills as indicated. Color to match existing.
    f. Install metal caps (match existing) over stone copings as indicated in the DD drawings.
    g. Remove and replace cracked brick (match existing) as indicated in the DD drawings.
    h. Repair/replace steel at masonry opening as indicated in the DD drawings.
3. Exterior Carpentry Repairs and Cornice Replacement
    a. Replace rotten and decayed wood cornice components with matching materials.
    b. Remove plaster cornice and replace with fiber-reinforced plastic molding to match existing.
    c. Remove and replace copper flashing as indicated in the DD drawings.
4. Exterior window treatments
    a. Remove and replace window screens as indicated in the DD drawings.
5. Exterior Painting and Sealant Repairs
    a. Remove and replace sealant at door and window perimeter joints. Color to match existing.
    b. Remove and replace sealant at stairs as indicated in the DD drawings. Color to match existing.
    c. Clean, prepare, and paint wood and fiber-reinforced plastic molding at the cornice as indicated in the DD drawings. Color to match existing.

Satellite View

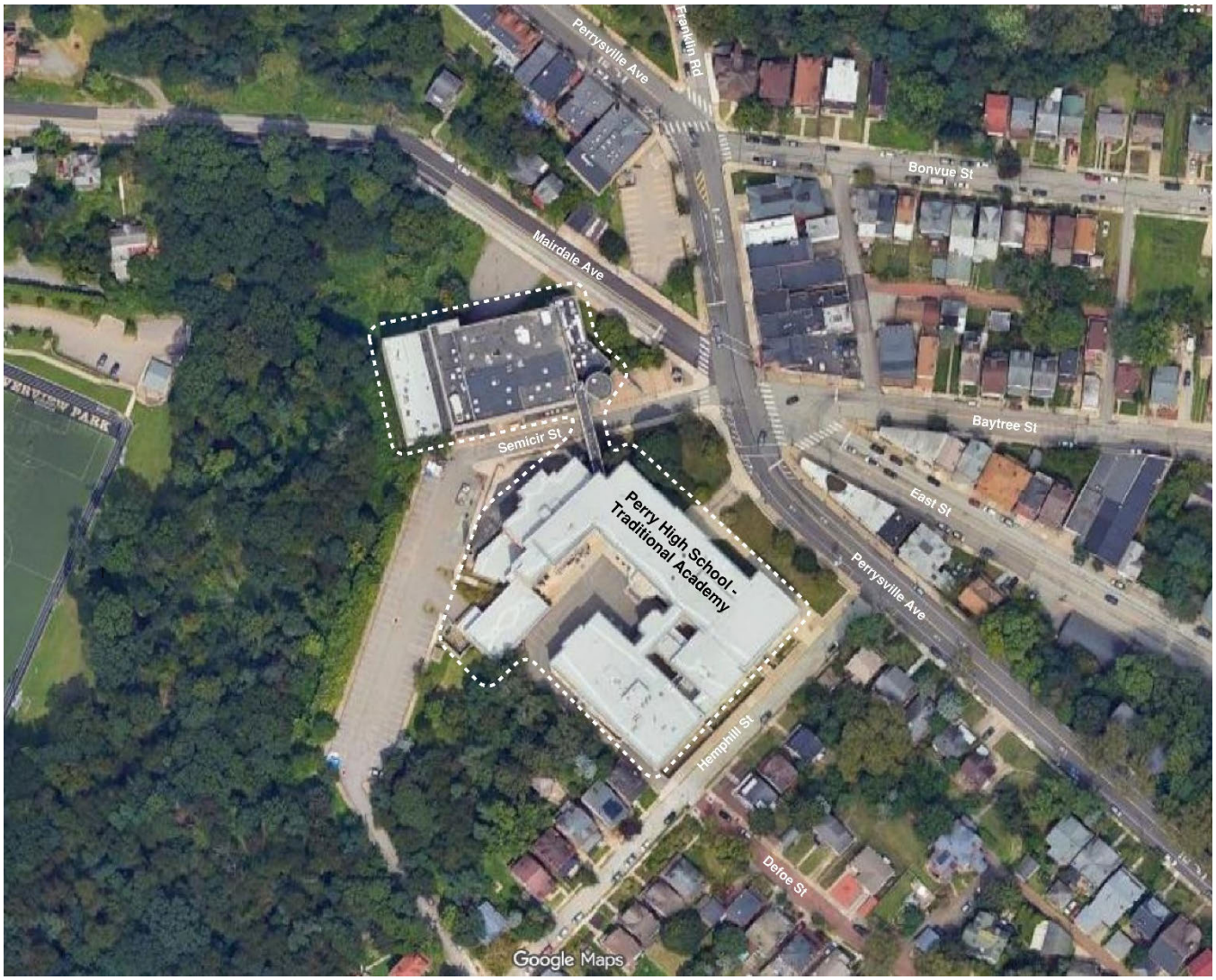


Figure 1 – Satellite View

Contextual Photographs



Figure 2 - Looking northwest, down Mairdale Ave.



Figure 3 - Looking north, up Perrysville Ave.



Figure 4 - Looking east, across Perrysville Ave., to Baytree St.



Figure 5 - Looking southeast, up Perrysville Ave.



Figure 6 - Looking south, up Hemphill St.



Figure 7 - Looking southwest, up Hemphill St.



Figure 8 - Looking southeast, up Defoe St. from Hemphill St.



Figure 9 - Looking southwest down Hemphill St.

[redacted]



Figure 10 - Looking northwest at access drive behind school.

Building Photographs – Existing Conditions (October 2026) – Refer to 2026-08-31 Perry Facade Repairs DD set



Figure 11 – See drawing 16/S207 – North Elevation of Pool Building.



Figure 12 – See drawing 15/S206 – East Elevation of Pool Building.



Figure 13 – See drawing 15/S206 – East Elevation of Pool Building.



Figure 14 – See drawing 13 & 14/S205 – South Elevation of Pool Building.



Figure 15 – West Elevation of Building from Semicir St (rear parking lot).



Figure 16 – See drawing 12/S204 – West Elevation of Original School Building.



Figure 17 – See drawing 1/S200 – North Elevation of School Building.



Figure 18 – See drawing 1/S200 – North Elevation of School Building.



Figure 19 – See drawing 2/S200 – East Elevation of School Building.



Figure 20 – See drawing 2/S200 – East Elevation of School Building and Stair Bridge Arch – See drawing 2d/S200



Figure 21 – See drawing 3/S201 – South Elevation of School Building.



Figure 22 – See drawing 4/S201 – West Elevation of School Building.

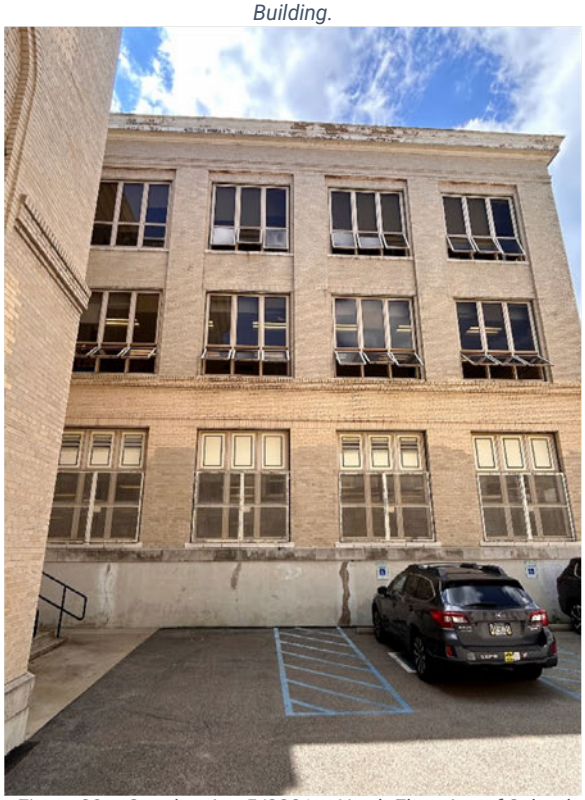


Figure 23 – See drawing 5/S201 – North Elevation of School Building.



Figure 24 – See drawing 6/S201 – West Elevation of School Building.



Figure 25 – See drawing 7/S202 – South Elevation of School Building.



Figure 26 – See drawing 7/S202 – South Elevation of School Building.



Figure 27 – See drawing 8/S202 – East Elevation of School Building.



Figure 28 – See drawing 10/S203 – South Elevation of School Building.

Building Photographs (Details)



Figure 29 - West cornice at the corner of Hemphill St. & Perrysville Ave.



Figure 30 - Close-up of the west corner – Plaster molding at cornice.



Figure 31 - Close-up of west corner framing.



Figure 32 - Close-up of plaster molding attachment. The upper fasteners have deteriorated; only the copper flashing above is holding it in place.

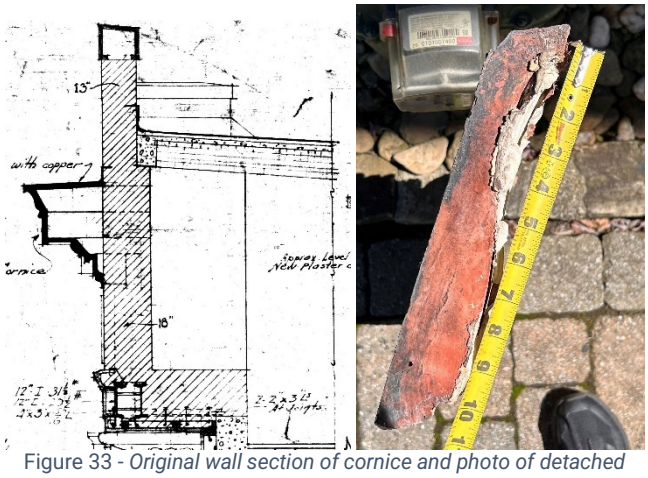


Figure 33 - *Original wall section of cornice and photo of detached plaster molding.*



Figure 34 - Photo of detached plaster molding from cornice.



Figure 35 - Wood repair or replacement at cornice along Hemphill St.



Figure 36 - Removal of all terracotta at stair arch. Install sealant between stone and brick joints.



Figure 37 - Stair arch at Hemphill Street. Due to water infiltration within the wall, terracotta units have broken off.



Figure 38 - Close-up of the back of terracotta unit to be replaced.



Figure 39 - Close-up of deteriorated concrete stair structure.



Figure 40 - Close-up of sealant between concrete stair and masonry cheek wall.



Figure 41 - Close-up of stone base. See drawing 1-S200.



Figure 42 - Area of stone masonry to clean, repoint, and install backer rod and sealant joint at sky-facing joint.

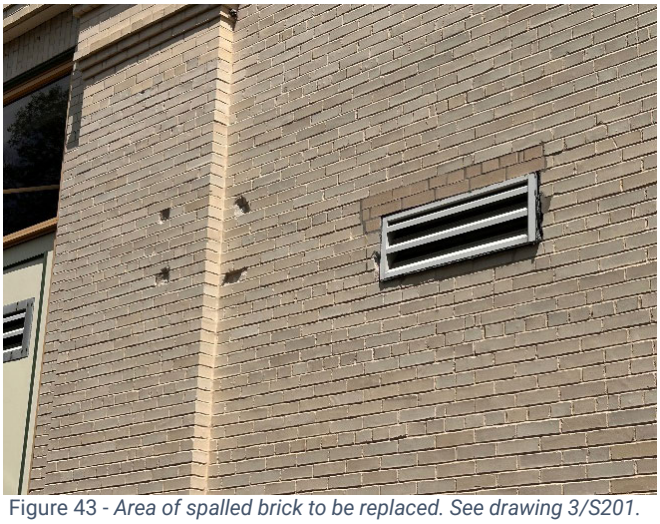


Figure 43 - *Area of spalled brick to be replaced. See drawing 3/S201.*



Figure 44 - Close-up of exposed terracotta bisque to be patched and glazed. All terracotta and masonry to be repointed, sky-facing joints to be filled w/ sealant. Window grilles to be replaced.

Historical Photograph



Figure 45 - *Above: Front (north) façade along Perrysville Ave, circa 1970*

Proposed Materials and Specification Sheets

Item	Existing	Proposed
1.	Plaster molding at cornice.	Fiber Reinforced Polymers (FRP)
	 *Figure 46 – Original plaster cornice removed from the building.*	Fiberglass Reinforced Polymer (FRP) cornice is architectural crown molding made from fiberglass and marine-grade resin. With 35–40% fiberglass content and a minimum wall thickness of 3/16 inch, it delivers superior strength while remaining lightweight and weather-resistant — ideal for exterior projects. A custom mold will be made from the existing piece to produce an FRP of identical ornate detail. The length of mold created will be determined by the FRP manufacturer. Refer to Appendix A for additional details per the NPS Preservation Brief 16 substitute material and specification (Appendix B).
2.1	Terracotta Arch at Stair Bridge	Glass Fiber Reinforced Concrete (GFRC)
	 *Figure 47 – Close-up of terracotta, brick, and concrete cheek wall.*	Glass Fiber Reinforced Concrete (GFRC) is a strong, lightweight composite material made from Portland cement, sand, water, acrylic polymer, and alkali-resistant glass fibers. Custom molds will be made from (2) existing pieces to reproduce the replacement units in GFRC. Refer to Appendix C for additional details per the NPS Preservation Brief 16 substitute material.
2.2	Terracotta – repair	Refer to Conproco Terra Cotta Repair specification (Appendix D).
3.	Spalled Face Brick (color: buff)	Replace brick with size, color, texture, and mortar to match existing.



Figure 19. A new, lightweight fiber reinforced polymer is attached to a new metal armature to replicate damaged and missing elements of a terra cotta cornice. Photo: Quinn Evans.

Glass Fiber Reinforced Polymers (FRP, Fiberglass)

MATERIAL: Fiberglass is the most well-known of the FRP products generally produced as a thin, rigid, laminate shell formed by pouring a polyester or epoxy resin gelcoat into a mold. When tack-free, layers of chopped glass or glass fabric are added along with additional resins. The surface gel coat can be pigmented or painted. Reinforcing rods and attachment devices can be added when necessary. Because of is low shrinkage in curing, it can be produced using molds taken directly from the building. Rather than being produced as standard components, FRP is custom fabricated for individual applications.

PROPERTIES

- Isotropic
- Lighter weight than masonry, similar to sheet metal
- More thermally driven expansion than masonry or metals
- No load bearing capacity, so underlying framework must be used to accommodate any loads
- High strength to weight ratio
- Typically flammable, but can be fire-rated for an upcharge.
- Not vapor-permeable
- Can be produced in larger sections efficiently reproducing repetitive elements or features that were originally made up of small individual units
- May be difficult to match false joints in multi-unit assemblies to actual joints that need to accommodate movement
- Color can be incorporated into the surface gel-coat, or the surface may be coated

SECTION 06610 – ARCHITECTURAL FIBERGLASS

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Fabrication of fiberglass–reinforced polyester cornice profiles.

B. Related Documents and Sections:
   1. General Conditions, Supplementary Conditions and Division 1 General Requirements apply to the work of this section.
   2. Section 06100, “Rough Carpentry”, for blocking.
   3. Section 07901, “Joint Sealants”.

1.02 QUALITY ASSURANCE

A. The fiberglass manufacturer shall b one who is cur ntly in the business of manufacturing and s plying architectural fiberglass components for the building constr i n industry and who can demonstrate the capability

B. The fiberglass manufactu r sha ve been engaged in the fiberglass industry for at le t 10 years doing work with projects comparable in si cope, d ail, and complexity to that shown and specified.

C. Single Source e onsib y for Architectural Fiberglass: Obtain archite t ral fibe lass from a single source with resources to prov de pro cts c plying with requirements indicated without d aying the rk.

D. Fire T t Re onse Characteristics: Provide architectural fiberglass and rela materials with fire test response characteristics as specified elsewhere in this section as determined by testing identical products per test method ASTM E-84 or other testing and inspecting agency acceptable to authorities having jurisdiction. Provide written certification that supplied architectural fiberglass panels meets or exceeds the criteria.

1.03 SUBMITTALS

A. Qualification Data for firms and persons specified in the “Quality Assurance” Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses,

DRAFT

names and addresses of architects and owners, and other information specified.

B. Product Data:

1. For products of standard manufacture, not custom fabricated for this work, submit manufacturer's catalog illustrations, specifications, anchor details and installation instructions.

C. Original Cornice

1. Remove a section of the original plaster cornice that can provide the most detail for the original mold.
2. Return original plaster cornice and mold casting to owner at the end of the project.

D. Color Selection:

1. Architectural Mall FRP is manu actur in standard white, however Architects can sub it custom or sample selection chips of actual aterial showing olor, texture and sheen available fo nitial r iew.
   a. FRP Finish to b W ite unless (see B)
   b. Archit ill supply c tom paint color sample for match g.

E. Shop Drawings:

1. S bmit sh p drawings for fabrication and erection. Inc de lans, vations, sections, profiles, and details of cornic panels. Indicate dimensions of each profile and mpon t Include for comparison a dimensioned dra ing showing plan elevation section and details of exis ng cornice section used for model purposes if ap cable. Indicate those features, which differ from erglass replication. Include details for panel connections, anchorage to substructure and all miscellaneous accessories. Show all special corner pieces, splices for panels and inside corner transitions and terminations for panels. Provide layout drawings including seam locations for each elevation.

F. Samples:

1. For each cornice type submit sample cornice panel section, large enough to include all panel features including joints. Construct sample panel to show all connection points, embedded connection and reinforcing clips, include typical fasteners to complete the submission.

DRAFT

G. Submit detailed maintenance instructions for inclusion in final operation and maintenance manuals.

H. Submit warranty on completed fiberglass components in writing against defects of materials and workmanship and to meet the specified requirements of this Section for a period of one (1) year from delivery to site.

1.04 HANDLING AND SHIPMENT

A. Provide shipping crates of sufficient size and strength to protect components during shipping or ship fiberglass components in padded dedicated moving van.

1. Provide additional protection as may be necessary to prevent soiling of surfaces and marring of finish.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURES

A. Subject to compliance with requi nts, fiberglass manufacturer offering products that may be incorp ated in work include:

1. Basis of Desig

Architectural Mal nc
323 St l Blvd
Car Stream, IL 60 88
T 77-279 9993
F. 8 7-0480
www.c mnsandbalustrades.com
s s@ar itecturalmall.com

2.02 MATERIALS

A. General: The fiberglass reinforced polyester plastic components shall be designed, fabricated and erected to conform to the state of Building Code, Local Codes and to the Architect's design criteria.

B. Glass cloth, matt and "Chop" shall be equal to the products of PPG-Owens Corning. Type "E" random chopper fibers.

C. Polyester resins when requested shall be equal to Class A, AMI Spec 67. The resin shall be flame retardant, promoted thixotropic polyester resin designed for use in hand laid up and spraying processes. The resin shall be specifically formulated for use in applications that require an ASTM E 84, Class I flame spread

DRAFT

rating, without the use of fillers or antimony trioxide, with an ASTM E 84 flame spread rating of *25* unfilled smoke density of *380* or under.

D. Gel Coat: The gel coat shall be a high-performance product with ultraviolet inhibitors as recommended by the gel coat and fiberglass panel manufacturer.

E. Fiberglass-reinforced polyester components shall be manufactured using the specified resins, reinforced with chopped glass fibers. All exposed surfaces shall be finished with custom colored gel-coat.

F. Internal metal reinforcement, anchorage clips, brackets and all other “built-in” accessories shall be captured and additionally reinforced with additional glass fiber and matt of sufficient thickness as required by the panel manufacturers design.

G. All metal hardware, both loose and embedded, shall be stainless steel.

H. Gel coat thickness shall be 0.015” min mum 0.025” maximum.

I. Panel thickness shall be 3/16” m imum.

J. FRP Properties, Min. Values:

1. Gel Coat Thick 22 mils. W t
2. Bearing Strengt 9,00 i per ASTM D638
3. Shear Strength: 500 si
4. Flexur ength: ,000 psi per ASTM D790
5. Flex al M ulus: 0 x 10^6 psi per ASTM D790
6. T sile St ngth: 12 000 psi per ASTM D638
7. Com re sive S ngth: 17,000 psi per ASTM D695
8. Relati Density (Specific Gravity): 1.5

2.03 PANEL FABR CATION

A. Pri to co mencement of work review the job site before select demolition begins to determine the layout, spacing and termination of the existing cornice. Duplicate these layouts intersections and relationships in so far as practical. Identify and resolve panel detail conflicts in advance and identify such condition and resolutions on the shop drawings.

B. Carefully measure each existing cornice assembly component and replicate size, profile, position, and detail in the finished panel so far as practical. Indicate on shop drawings those indentations and/or detail which cannot be duplicated in the replication due to physical limitations of the manufacturing process.

C. Full-size models and mock-ups shall be hand carved and machined as required to produce the replication patterns.

DRAFT

D. Production molds shall be constructed from successive layers of glass fiber with tooling gel coat or alternately from rubber molds. Molds shall be constructed with sufficient thickness and rigidity to prevent deflection, warp age and defects during panel production.

E. Form panel ends with sealable lap joints. Use lap joints with sufficient depth to accommodate mating and alignment of panel surfaces and panel-to-panel sealant components.

F. Provide all special transition, corner pieces (inside and outside) and special closures necessary for a complete, visually continuous, weather tight installation.

1. All inside and outside corners shall be shop fabricated. Fabrication of corners in field will not be permitted.

G. Coordinate cutouts required for drain inlets ainwater conductors and other penetrations. Reinforce panel required and provide special formed closures to make joints and in rsection weather tight.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Coordinate required bloc ng r attachment of cornice panels to substructure ide ad onal, wood preservative treated or metal stud f aming s may e required to attached and reinforce cornice p els fo solid installation.

1. Coordi te installation with any metal gutter lining work or fl ing a ve and wood/metal substrates.

B. E ct cornic panels plumb, square and true to line and level. Foll w fibe glass panel manufacturer's recommendations with regard installation clearances, notches, and formation of panel-to-panel joints.

C. Install sealant and accessories as work progresses, so as to make the work weather tight.

D. Provide each panel with joints such that adjacent panels mate to produce flush joints. Recess blocking or notch continuously behind each panel joint. Set panels to ensure a maximum joint thickness of 3/8".

E. Prepare each cornice panel section for installation by carefully sanding joints and shrinkages where blocking occurs to assure a tight flush fit.

DRAFT

F. Fill joints with a continuous bead of sealant. Tooling finished joints to a slightly concave profile ensuring complete filing and flush installation.

G. Carefully monitor ambient temperatures at time of panel installation and observe all panels to panel clearances recommended by the fiberglass manufacturer.

H. Do not cut or abrade finishes, which cannot be completely restored in the field. Installer to make small inconspicuous finish repairs using manufactures color matching gel fill finish. If to large of a repair is needed return to fiberglass manufacturer for alterations or new units.

I. Use only stainless steel connectors approved by the panel manufacturer and which will develop the strength required by fiberglass panel manufacturer's calculation. The installer shall supply these connectors.

J. Countersink all exposed fasteners. Patch all attachment holes with gel fill finish supplied by the fiberglass panel manufacturer for field application. Finish attachment points so that there is no detectable difference in the completed panel surface.

K. Clean installed panel to remove all dirt, smudges, and construction dirt. Use only the cleaning products and procedures recommended by the fiberglass manufacturer.

End of Section

DRAFT



Figure 18. Missing historic terra cotta spandrel panels on all floor levels were recreated utilizing glass fiber reinforced concrete (GFRC) replacements. New spandrels were fabricated as individual components and attached with metal clips between historic terra cotta piers. Photo: Kris Frail, Dewberry.

Fiber Reinforced Concretes (GFRC, CFRC)

MATERIAL: Fiber reinforced concretes are lightweight concrete compounds modified with additives and reinforced with alkaline resistant glass fibers (GFRC), or less frequently carbon fibers (CFRC). They are generally fabricated as thin-shelled panels and applied to a separate structural frame or anchorage system. GFRC is typically sprayed into forms, although it can be poured, and anchoring devices are included in the fabrication. The color is derived from the natural aggregates and, if necessary, a small percentage of added pigments. Because of its low shrinkage in curing, it can be produced using molds taken directly from the building.

PROPERTIES:

- Isotropic
- Lighter weight than solid masonry
- Expansion/contraction similar to stone
- No load bearing capacity, so underlying framework must be used to accommodate any loads
- Material can be fire-rated
- Vapor-permeable
- Can be produced in larger sections efficiently reproducing repetitive elements or features that were originally made up of small individual units
- Large range of colors achievable by varying aggregates, but when pigments are needed UV stability may be reduced
- May be left uncoated or may be painted

conproco®

Terra Cotta Repair

Division 4: Masonry

Composite repair and coatings, formulated to be compatible with the color and physical properties of parent material.

SECTION 040120.91 – UNIT MASONRY RESTORATION

PART 1 GENERAL

1.1 SUMMARY

Provide labor, materials, equipment and supervision necessary to complete the application of product to existing substrate.

1.2 SYSTEM DESCRIPTION

Repairing terra cotta shall include bisque and glaze repair. The bisque repair should be categorized as either a deep repair (bisque spall ½" or greater) or shallow repairs (spall < ¼")

Deep repairs shall be repaired with products that meet or exceed the following performance standards:

Base		Cementitious		
pH	Wet Mix	>12		
Water/dry material ratio	Wet mix	0.20		
Dry bulk density	ASTM C188	92 pounds per cubic foot		
Setting time by vicat needle	ASTM C191	240 minutes		
Percent air – pressure method	ASTM C231	4 percent		
Water absorption	ASTM C140	11 percent		
Water vapor transmission	ASTM E96	5.2 perms		
Length change	ASTM C157	<500 µstrains at 28 days		
Modulus of elasticity	ASTM C469	2.6 x 10^6		
Slant shear bond strength – epoxy	ASTM C882	1800 psi		
		7 Days	14 Days	28 Days
Compressive strength – psi	ASTM C109	2900		3000
Tensile strength – psi	ASTM C307	400	480	560

Shallow repairs shall be repaired with products that meet or exceed the following performance standards:

Base:				
Powder		Cementitious		
Liquid Admix		Acrylic Polymer		
pH	Wet Mix	>12		
Liquid/dry material ratio	Wet mix	0.33		
Dry bulk density	ASTM C188	93 pounds per cubic foot		
Setting time @ 1/8" thickness	ASTM C191	Initial 15 minutes Final 30 minutes		
Durometer hardness	ASTM D2240	70		
Water vapor transmission	ASTM E96	5.1 perms		
Accelerated Weathering	ASTM G154	2000 hours – excellent – no effect		
		7 Days	14 Days	28 Days
Compressive strength – psi	ASTM C109	2900		3000
Tensile strength – psi	ASTM C307	400	480	560

Custom colored glaze repairs shall be repaired with products that meet or exceed the following performance standards:

Base:		Aqueous
Polymer		100% Acrylic
pH		9.0 – 9.5
Percent solids by weight		54%
Viscosity	ASTM D562	90 KU – paint paddle
Density of liquid coating	ASTM D1475	8.4 lbs./gal.
Water vapor transmission	ASTM D1653	10 perms – wet cup
Water Penetration and Leakage	ASTM E514	100% reduction
Accelerated Weathering - QUV	ASTM G154	10000 hours – UV-B cycled with condensation – no effect
Hiding power of coating	ASTM D2805	Excellent – minimum thickness 8mils WFT

Clear glaze repairs shall be repaired with products that meet or exceed the following performance standards:

Base:		Aqueous
Polymer		Carboxylated Styrene Acrylic
pH		>9.5
Percent solids by weight		53%
Viscosity	ASTM D562	90 KU – paint paddle
Density of liquid coating	ASTM D1475	8.0 lbs./gal.
Water vapor transmission	ASTM D1653	11 perms
Water Penetration and Leakage	ASTM E514	100% reduction
Accelerated Weathering - QUV	ASTM G154	2000 hours – UV-B cycled with condensation – no effect
Gloss Finish – terracotta tile	ASTM D523	85 F untreated 1.5 – treated 11.0

1.3 SUBMITTALS

A. Manufacturer’s current product data bulletins.

B. The Matrix Certified Applicator shall prepare a test panel of the repair installed on the actual structure as a submittal for approval of proper application and adhesion.

C. The Matrix Certified Applicator shall submit to the specifier a list of five projects that he has completed within the last five years, exhibiting the applicator’s skills. The list shall include project name, location, and description of work and completion date.

1.4 QUALITY ASSURANCE

Products shall be installed by a trained applicator with a minimum of five years’ experience and meet the requirements of the specifier.

1.5 DELIVERY, STORAGE & HANDLING

A. Deliver all products and all accessories in original labeled, sealed, and undamaged containers or bundles.
B. Store all products in accordance with manufacturer’s printed instructions.

C. Handle products in accordance with manufacturer's printed instructions.

1.6 PROJECT/SITE CONDITIONS

All products shall be applied at substrate and ambient temperatures of 40 degrees F or above. A minimum temperature of 40 degrees F shall be maintained 24 hours after completion of work. Protect products from weather and other damage for a period of 24 hours after installation. Do not apply products to frozen surfaces.

1.7 SCHEDULING

The work requires close coordination with related sections and trades.

PART 2 PRODUCTS

2.1 MANUFACTURERS

The following manufacturers are approved for the project.
Conproco

2.2 MATERIALS

Deep repairs (bisque spall ½" or greater) -
Matrix: A colored cement-based repair mortar formulated to match the appearance and physical characteristics of the masonry substrate. Designed for use on terra cotta

Shallow repairs (spall < ¼") –
Matrix TR: A colored acrylic modified cementitious repair mortar formulated for thin masonry repair.

Colored glaze repair –
Terra Color – a colored acrylic coating formulated for terra glaze repair. Multiple colors can be layered to recreate look of original terra cotta glaze.

Clear glaze repair –
Terra Cotta Finish – a clear acrylic coating formulated to recreate the sheen/gloss on some architectural terra cotta.

PART 3 EXECUTION

3.1 EXAMINATION

A. Installation shall be performed strictly in accordance with manufacturer's current product data bulletin.

B. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.

C. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas and landscaping from contact due to mixing, handling, and application of materials.

3.2 SURFACE PREPARATION

A. Prior to application of the product, inspect the substrate for proper cleaning and treatment of structural cracks, texture differences, damage, etc. Work shall not proceed until unsatisfactory conditions are corrected.

B Remove loose and deteriorated material, laitance, dirt, dust, oil and any surface contaminants that will inhibit proper bond.

C. For deep repairs in the bisque (1/2" or greater) saw cut edges with a diamond blade at a 90 degree angle to eliminate feather edging. Avoid polishing the edges, as this will inhibit bond.

D. Avoid bruising or micro cracking during surface preparation. Refer to ICRI Surface Preparation Guide 03732.

E. Repair zone must be a minimum of 1/2 inch deep (for Matrix), of simple geometry, with no complex edge conditions. Feather edging can be done for shallow (Matrix TR) repairs.

F. Avoid long, narrow repairs, these have a greater tendency to crack.

G. Remove all scaling rust from embedded metal and steel and apply ECB anti-corrosion coating.

H. Saturate substrate with clean water (Saturated Surface Dry/SSD), with no standing water during Priming or Application.

3.3 APPLICATION

Matrix – Deep Repairs (bisque spalls ½" or greater)

A. Priming –

1. Prime prepared substrate including all edges with a putty coat of Matrix. Work the bond coat into the substrate to ensure intimate contact and establish bond. The repair mortar must be applied into the plastic putty coat (while it is still wet). If the bond coat dries, remove and re-apply.

B. Mixing

1. Thoroughly mix the primary pigments with the base powder prior to adding water and mixing.

2. Place four and half parts Matrix to one part of potable water in a clean container

3. Mix continuously using a low speed drill (400 – 600 rpm) and mixing paddle or mortar mixer for 3 minutes to a uniform, lump-free consistency.

4. Additional water will affect final color. For multiple batches, do not vary the water addition rate.

5. Mix only as much material as can be placed in 15 – 20 minutes.

6. Do not overmix, as this will entrain excess air.

7. Do not re-temper, this will affect final color.

C. APPLICATION

1. At time of application surfaces must be saturated surface dry but hold no standing water.

2. Place matrix in repair zone, ensuring that material is properly compacted with masonry trowel.

3. It is recommended to install full depth whenever possible. (However, Matrix may be applied in multiple lifts of not less than 3/8 inch, if necessary. If patching in lifts, be sure to allow each lift to stiffen to thumbprint hardness before continuing. If lifts are allowed to cure overnight, begin with new SSD and putty coat applications. Be sure to score and scratch the surface between lifts to create a rough open pore face for subsequent the lift.)

4. Over-build repair zone by 1/8 - 1/4 inch.

5. Shave to final form with miter rod up to 2 hours after application.

6. Do not overwork the finish. Clean up any mortar smears at edge of repair zone with closed cell rubber foam sponge.

D. CURING

1. Keep damp with a fine mist of water for 24 hours. If repair is inaccessible, tape polyethylene over the area to retain moisture. Do not allow polyethylene to contact Matrix as this will cause discoloration.

2. Protect repair from direct sunlight, wind, precipitation and frost during curing period.

Shallow spalls (< ¼")

F. MIXING

1. Mechanically mix Matrix TR powder and K88 admix with a low speed drill (400-600 rpm).

2. Mix continuously for 3 minutes to a uniform, lump free consistency

3. Do not retemper

G. APPLICATION

1. At the time of application, surfaces should be saturated surface dry (SSD) but hold no standing water.

2. Apply with a sponge float, towel or brush. Maximum thickness should be 1/16" per lift.

3. Finish with sponge float or trowel after initial set.

H. CURING

1. Protect repair zones from direct sunlight, wind, rain condensation and frost during curing period.

Glaze repair coatings

I. MIXING

1. Mechanically mix coatings with a low speed drill (400-600 rpm).

J. APPLICATION

1. At the time of application, surfaces should be dry. Masonry repairs should have cured for a minimum of 7 days prior to coating

2. Apply a uniform thickness for each coat. Apply a second coat after first is dry to the touch.

K. CURING

1. Protect coatings from moisture for 24 hours.

3.4 CLEANING

A. Material left over at the job site by the approved applicator shall be removed.

B. All adjacent surfaces and materials shall be cleaned.

C. Cured material must be removed mechanically.

END OF SECTION 040120.91