

GOVERNMENT OF
THE VIRGIN ISLANDS OF THE UNITED STATES

DEPARTMENT OF PROPERTY AND PROCUREMENT

INVITATION FOR BIDS

Invitation No. IFB016DOEC17(C)

Date: June 12, 2017

Pursuant to Laws of the Government of the Virgin Islands sealed bids in Quintuplicate (5) copies ((1) original and (4) copies) for the work described herein will be received until **Tuesday, July 11, 2017 at 10:00 a.m. at the Department of Property & Procurement Conference Room.** And at this time **publicly** open.

Description of Work and Project Number: IFB016DOEC17(C) Roof & General Building Repairs to the Ricardo Richards Elementary School in the St. Croix District

Pre-Bid Conference: A Pre-Bid Conference will be held on **Thursday, June 22, 2017 at 10:00 a.m.**

Cost Per Set: **\$25.00 NON REFUNDABLE**

Liquidated Damage: **\$30.00**

Completion Time of Work: **120 calendar days**

Information regarding bidding documents

Bidding Documents include the Public Notice, this Invitation to Bid, Instruction to Bidders, Contractor's Qualification Statement, the Contract, Performance and Payment Bonds, General Provisions, Special Provision, Supplemental Specifications, Plan and Specifications. All documents may be obtained from the Department of Property and Procurement.

Each bid must be accompanied by a Bid Guarantee as provided for in Form No. P&P-ITB-CC-16-73 (Instruction to Bidders) which is hereby made a part of this Invitation and by this reference incorporated herein as fully and effectively as if set forth in detail. Bid Guarantee for Preferred Bidders will be as specified in 31 V.I.C. 236a (Act No. 2995 approved April 16, 1971) if Preferred Bidders Act applies. If Preferred Act does not apply, failure to provide a five (5%) percent bond will render the bid unresponsive. It is the Bidder's responsibility to determine if the Act Applies.

The Bid Guarantee for bidders not claiming or having the status of a preferred bidder will be Five (5%) per cent of the bid price. Bid Guarantee will be in the form of a Bond (Corporate or Individual Surety), Money Order, Certified Check, Irrevocable Letter of Credit or Cash.

No Bidder will be allowed to withdraw his bid within a period of thirty (30) calendar days following the date set for the opening thereof.

Preferred Bidder:

Any bidder claiming eligibility as a "preferred bidder" under the provision of the Preferred Bidder's Act (31 VIC 236a – Act No. 2995, approved April 16, 1971) must request that his name be added to a preferred bidder's list to be maintained by the Commissioner of Property and procurement.

If a bidder has not previously filed a notarized Certificate with the Commissioner of Property and Procurement, copies thereof may be obtained from the Department of Property and Procurement, Division of Procurement, Building No. 1, Sub Base, Third Floor, St. Thomas, Virgin Islands and/or from 3274 Estate Richmond, Christiansted, St. Croix, Virgin Islands.

Certificate must be fully completed, notarized and filed in the Division of Procurement before the day and hour set for bid opening.

Contractor's Qualification Statement

Each bidder must submit with his bid an executed copy of Contractor's Qualification Statement which is hereby made a part of this Invitation and by this reference incorporated herein as fully and effectively as if set forth in detail.

BONDS:

A Bid Bond, Performance Bond and Payment each are required as follows:

Bid Bond:	0% of the Contract
Performance Bond:	0% of the Contract
Payment Bond:	0% of the Contract

INVITATION FOR BID

INSULAR ABCs INITIATIVE DEFERRED MAINTENANCE REDUCTION PROGRAM

Ricardo Richards Elementary School

Roofing & Cistern Overflow Repairs

ST. CROIX, UNITED STATES VIRGIN ISLANDS

Invitation for Bid (IFB) Contents

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Section 1 Scope Overview:

Ricardo Richards Elementary school consists of a total of nine buildings numbering 01 thru 09 (Attachment 1 – Site Map). Building 01, houses the majority of classrooms, administration, cafeteria, kitchen and ancillary functions; and three smaller buildings, numbered 02, 03 and 04, are connected to the main building through a 10'-0" covered walkway. These smaller buildings house additional classrooms, storage and maintenance functions.

Building 01 is a 39-year-old masonry structure with a galvanized metal roof and an insulated acoustical drop ceiling. The roof over this building is in reasonably good condition while the roof over the walkways is corroded and leaks in several areas. The guttering system is mainly 6" aluminum in fairly good condition but not anchored firmly; it leaks at many joints and in many cases is not securely attached to its base or the downspouts. The main building's walkway roof is supported by C-channel framing with metal sheathing; all supported on 3"x3" steel posts at 25'-0" on center.

The general scope of the work shall include: repairing a small canopy that connects Building 02 with the main building, repairs to structural purlins and support columns, prepping and coating top and underside of flat walkway roofs, cleaning, caulking and anchoring loose guttering, and replacing rotting soffit and fascia and rehang sections of sagging suspended ceiling in classrooms. Work also includes replacement of the Cistern-Overflow at Building 01 and reconnecting to existing drainage system, pressure testing for leaks, and repair of leaks, if found. If ground disturbance is required for repair, then the Historic Preservation Office will be contacted and agreement reached prior to repair work. Estimates

are required to be submitted using the attached Bid Sheets and where applicable descriptions of repair items in Attachments 3-6.

Section 2 General Bidder's Instructions and Requirements:

1. The selected licensed General Contractor (hereafter, "Contractor") shall be responsible for thoroughly inspecting all relevant existing conditions associated with this IFB. It is the contractor's responsibility to establish exact quantities and existing circumstances based upon the documents, instructions issued herein and his site visits.
2. The Scope of Work shall include all work on the accompanying Bid Sheet and Specifications, if any.
3. The Contractor shall provide all labor, materials, tools, accessories, equipment, and incidentals required to complete all of the work specified or reasonably implied therein, as falling within the Scope of Work of this project.
4. The contractor's prices submitted for work to be done shall include all possible costs, including overhead, taxes and profit.
5. The Contractor shall be disqualified if any bid sheet is not legible or fully complete. The government shall not be responsible to interpret any omission or illegible entries. The Contractor's prices submitted for work to be done shall include all possible costs, including overhead, taxes and profit.
6. Unit prices submitted on the itemized bid sheet shall be utilized by the Government of the Virgin Islands in its discretion and at its sole benefit to determine any credits and/or debits to the project, which, if necessary, shall be addressed only in the form of a formal Change Order to the Project.
7. All bidders are required to attend a mandatory Pre-Bid conference and Site Walkthrough. Failure on the part of a bidder to attend the scheduled site walkthrough shall be grounds to disqualify a bidder.
8. Bidders are encouraged to bring to the attention of the government any and all areas or issues of concerns during the period open for questions and clarifications. Failure on the part of a bidder to raise any questions regarding any unusual or known circumstances during the bid preparation period shall not relieve or give cause for a bidder to subsequently advance a claim or cause for changes to the scope of work.
9. When applicable, the Contractor shall be responsible to file for and secure any and all permits and /or inspections which may be required prior to, during or at the completion of the work installed.
10. All work to be performed on this project shall be furnished only during normal (regular) business hours, 7:00 AM to 5:00 PM, Monday through Friday. If the Contractor elects to perform work outside these days and times he/she shall be responsible to make all necessary arrangements with the school Administrators at their convenience. Any special provisions required, due to project scope, are to be discussed at the pre-bid walkthrough. Contractor is reminded that this is an operational public school where occupant safety and comfort are of paramount concern to the Government. All Contractor actions need to consider the welfare and safety of building

occupants. Any Contractor activities deemed by the Government to be contrary to occupant welfare and safety will be grounds to stop work.

11. Bidders shall furnish one original and four copies of its bid response which must include the bid sheet signed by the bidder.
12. A mandatory pre-bid conference and site walk-through will be conducted and must be attended by all prospective bidders as follows:

MANDATORY SITE VISIT AT: **Ricardo Richards Elementary School**

Date / Time: _____

BID SUBMISSION DATE and TIME:

**PLEASE SUBMIT FIVE (5) COPIES OF YOUR PROPOSAL. PROPOSALS SHALL BE SUBMITTED
IN A SEALED ENVELOPE ADDRESSED AS FOLLOWS:**

**Honorable Lloyd T. Bough, Jr.
Commissioner Nominee
Virgin Islands Government
Department of Property & Procurement
Building No. 1, Sub Base
St. Thomas, U.S. Virgin Islands 00802**

Section 3 Contractual Requirements:

All bid proposals and subsequent contract and supporting documents (if selected) must reflect the legal name of the entity. Supporting documents that must be submitted prior to contract execution and within the time established by the Government shall include, but not be limited to, the following:

1. Certificate of Resolution, as to the authorized negotiator and signer of a contract.
2. Current Virgin Islands Business License issued to the legal name of record of the entity by the Government of the Virgin Islands, Department of Licensing and Consumer Affairs.
3. Current original Certificate(s) of Good Standing/Existence, in legal name of the Contractor by the Virgin Islands Office of the Lt. Governor, Division of Corporations and Trademarks.
4. Certificate of Issuance or Renewal of Trade Name issued by the Virgin Islands Office of the Lt. Governor, Division of Corporations and Trademarks, if applicable.
5. Articles of Incorporation or Organization, as applicable; or documents governing operation.
6. Certificate of Liability Insurance indicating proof of coverage of Professional Liability Insurance and General Liability/Public Liability Insurance – no less than double the amount of the project cost. The Contractor must provide a Certificate of Liability Insurance and Declaration/Endorsement pages that indicate that the Government of the Virgin Islands, Department of Education is a “certificate holder” and an “additional insured” on the General Liability/Public Liability Insurance. The Professional Liability Insurance must cover the services to be provided under the contract.
7. Certificate of Government Insurance/Copy of Certificate providing firm/agents are covered by Workers’ Compensation Employee’s Liability.

Please note the above-referenced documents are subject to modification at the Government's discretion.

Any silence, absence, or omission from the contract specifications concerning any point shall be regarded as meaning that only the best commercial practices are to prevail.

All contractual documents including insurance certificates/policies must be kept updated and maintained throughout the term of the contract.

During construction, potential lead based paint (LBP), asbestos containing material (ACM) and/or air conditioning refrigerants may be present on or within structures where repair/replacement work will be conducted. General Contractor is responsible for the proper identification, handling, and disposal/recycling of hazardous materials including LBP, ACM and/or air conditioning refrigerants (according to Federal, USVI, State and local laws, regulations, and guidance) encountered in connection with the current scope of work. In such events, remediation of the hazardous material may be considered a Change Order.

Attachment 1 - Site Map



Ricardo Richards Complex Plan

**Government of the Virgin Islands
Department of Education
Deferred Maintenance Reduction Program**

Facility: Ricardo Richards

District
St. Croix

ATTACHMENT 2

SCOPE OF WORK AND BID SHEET

	ITEM NO.	DESCRIPTION	QTY	UNITS	UNIT PRICE	TOTAL PRICE
1	239921	Pressure wash 6,000 square feet of metal shed roofing (both sides of main building)	6000	SF		
2	239921	Prep 6,000 SF of roof by removing loose screws, stitch screwing loose area of sheets between purlins, patch minor corroded areas and apply rust inhibiting prime coat	6000	SF		
3	239921	Apply (2) two coats Silicone membrane roof coating or approved equal.	6000	SF		
4	239921	Pressure wash 6,000 square feet at underside of shed and apply two coats Silicone roof coating or approved equal.	6000	SF		
5	239797	Repair 100 linear feet of 12" C Channel closure end framers under building No 1 north shed roof. Assume 30% has to be replaced. (Photo Details 1 and 9).	100	LF		
6	239797	Repair corroded metal 12" anchor C-channel headers under building No 1 shed roof. The channels are shed framing members anchored to the building's north wall. Assume 50% has to be replaced. (Photo Details 1 and 9)	3	EA		
7	239797	Cut, remove and replace (3) detached metal post base. Sandblast, prime and paint columns. (Photo Detail 9)	3	EA		
8	239797	Repair 10 metal post 4 X 10 inch base. Sandblast, prime and paint columns. (Photo Details 9)	10	EA		
9	239921	Examine flashing along both sides of shed connection with main building and repair when required.	600	LF		
10	239921	Repair gutter/leader connections at various areas where leaking; replace inserts where loose or corroded. (Photo Detail 2,5,6)	14	EA		
11	239921	Examine 100 linear feet of guttering on southside of building #3 and #4, restrap firmly as required install 8" X 12" trough (scupper) directly across where water enters the 6" gutter from leader above. (Photo Detail 6)	100	LF		
13	239843	Remove and replace corroded ceiling grid and 2 X 2 tile system - (two classroom)	300	SF		
14	239921	Pressure wash all guttering and caulk all seams Bldgs #1, #2 and #3 and main building	1800	LF		
15	239921	Remove 168 SF square feet of metal from canopy connecting the main building to building # 2. (Photo detail 13)	168	SF		
16	239921	Remove and replace corroded metal caps. (Photo Detail 15)	4	EA		
17	239921	Repair wood framing where necessary and paint. (Photo detail 13)	168	SF		
18	239921	Replace with new metal with grade to match existing. (Photo Detail 13)	168	SF		
19	239921	Remove wood louvers at main bldg gable end	24	SF		
20	239921	Install commercial grade vent louvers	24	SF		
21	240089	Pressure wash and paint northside of main Bldg below shed roof including caulking around windows, doors and AC units. Apply one coat of matching paint.	3,500	SF		

**Government of the Virgin Islands
Department of Education
Deferred Maintenance Reduction Program**

Facility: **Ricardo Richards**

District
St. Croix

ATTACHMENT 2

SCOPE OF WORK AND BID SHEET

	ITEM NO.	DESCRIPTION	QTY	UNITS	UNIT PRICE	TOTAL PRICE
22	239921	Remove and replace wood soffit and fascia around cafeteria's south and west sides. Framing to match existing (Photo Detail 13)	110	LF		
		(16, 13 and 8)				
23	239921	Remove and replace 6" guttering. Store and reuse guttering. (Photo Detail 13)	120	LF		
24	239859	Remove and replace 6"x4" PVC elbow from existing cistern overflows and replace it with a 6" tee. Connect 6" overflow from other cistern overflow with newly installed 6" tee and extend overflow array (6") to the building's existing drainage manhole. (Photo Detail 16)	1	LS		
25	239921	Remove and reattach 4" downspouts	5	EA		
26	239859	Pressure check all portable water lines to identify source of leak; repair where found.	1	LS		
28	239797	Remove existing 2 inch and 1 1/2 inch electrical conduits from face of Building No 1, north wall, to gain full access to 8"x24" reinforced concrete beam. Remove spalling areas and repair as proscribed in existing specifications. Beam is approx. 30'-0". (Photo Detail 4,14)	30	LF		
29	239921	Remove and replace existing deteriorated fascia and soffit system on cafeteria's north wall. See architectural details. Fascia system is approximately 30'-0". (Photo Detail 12)	30	LF		
30	239797	Remove and replace two (2) severely corroded metal anchor plates that support the shed's metal framing system. (Photo Detail 3)	2	EA		
		Subtotal				
		General Conditions				
		Total	\$			

The undersigned vendor, service provider, contractor hereby certifies that he/she has thoroughly examined the entire scope of work, visited the project site(s) and familiarized himself/herself with all conditions, and hereby proposed to furnish all labor and tools.

All work and services provided herein shall conform in all project plans, specifications, written Scopes of Work and applicable local, federal, construction trade, and or Manufacturers' Product Specifications; equipment current applicable codes, standards and procedures.

The vendor, service provider, contractor, pledges to complete all work herein within One Hundred Twenty (120) calendar days.

The total contracted cost of project:

Official Use Only

Vendor's Signature	Date
Company Name/Mailing Address:	

Attachment 3 – Condition Photos

Ricardo Richards Elementary School



Photo Detail 1



Photo

Photo Detail 2



Photo Detail 3

Attachment 3 – Condition Photos

Ricardo Richards Elementary School



Photo Detail 4



Photo Detail 5

Attachment 3 – Condition Photos

Ricardo Richards Elementary School



Photo Detail 6



Photo Detail 7

Attachment 3 – Condition Photos

Ricardo Richards Elementary School



Photo Detail 8

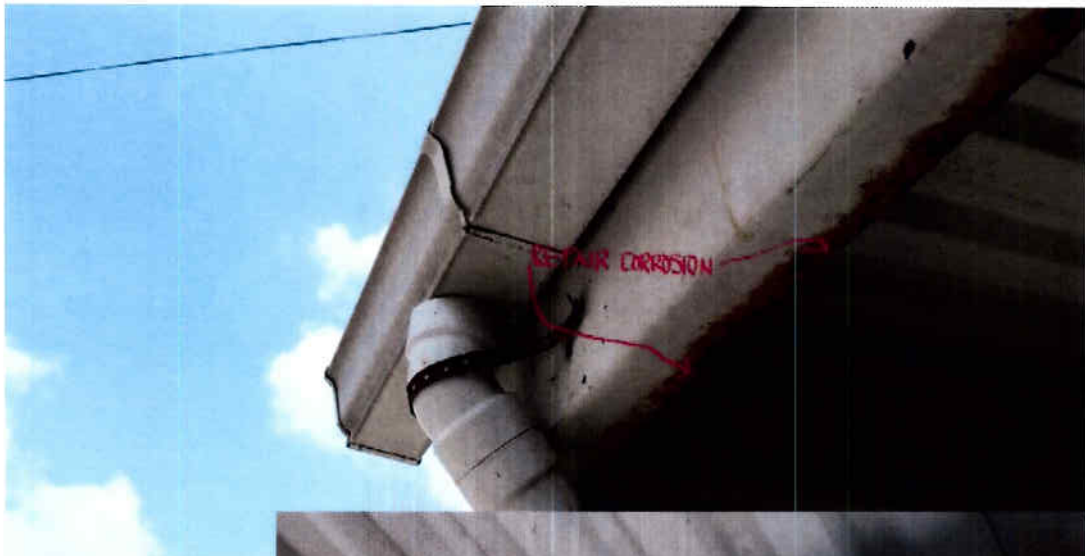


Photo Detail 9



Photo Detail 10

Attachment 3 – Condition Photos

Ricardo Richards Elementary School



Photo Detail 11



Photo Detail 12

Attachment 3 – Condition Photos

Ricardo Richards Elementary School

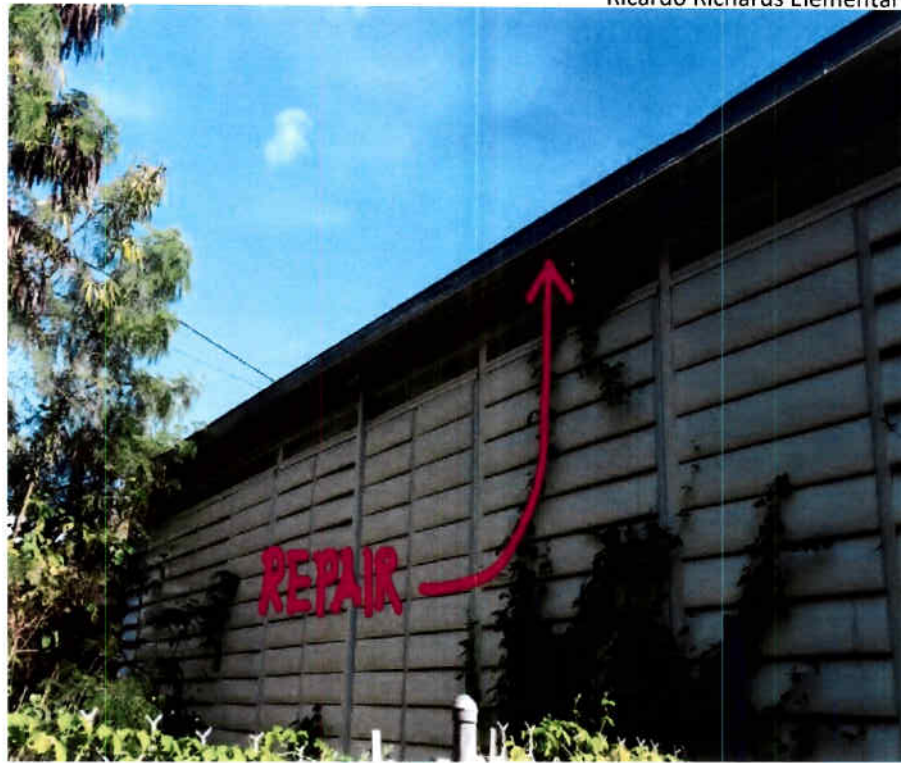


Photo Detail 13



Photo Detail 14

Attachment 3 – Condition Photos

Ricardo Richards Elementary School



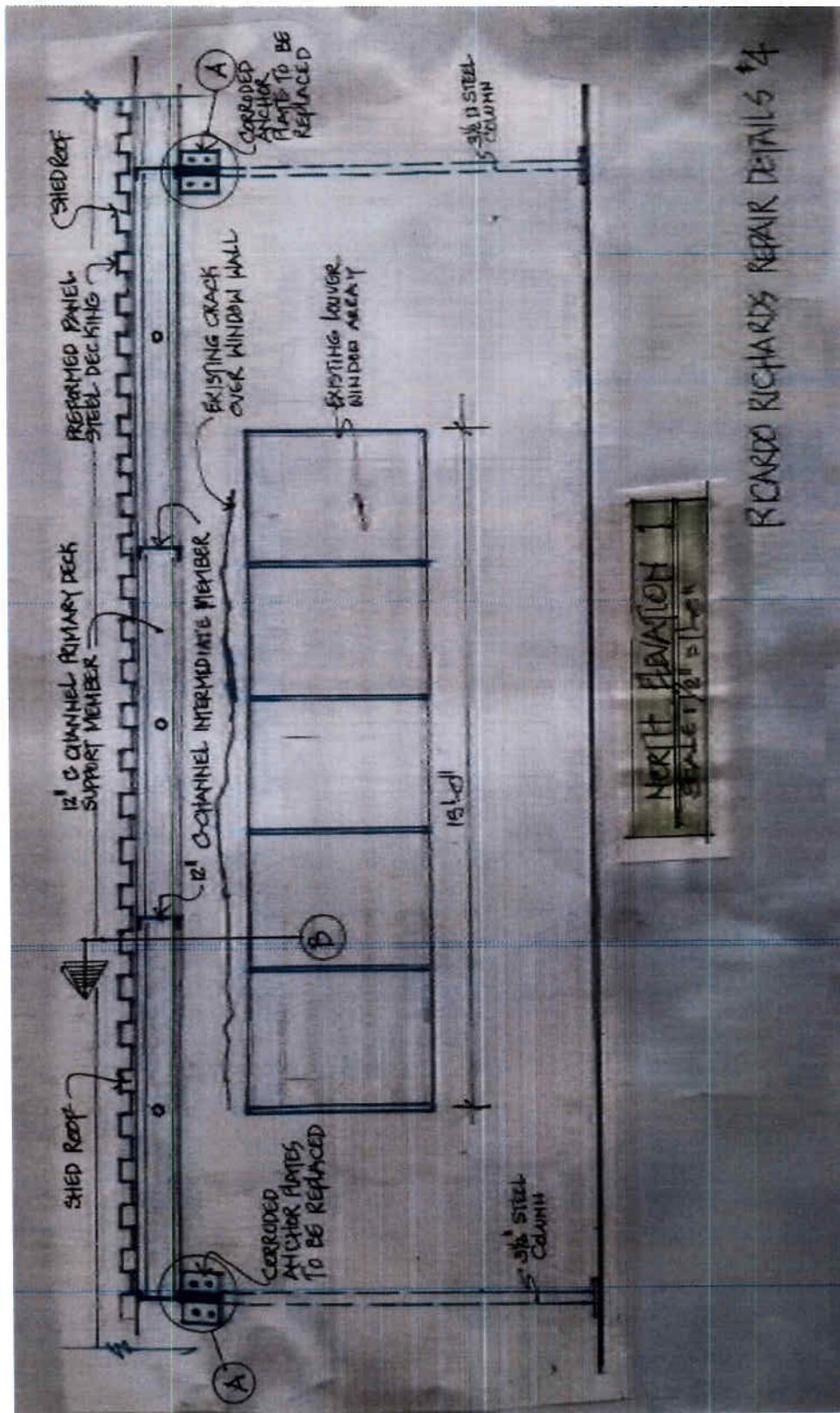
Photo Detail 15



Photo Detail 16

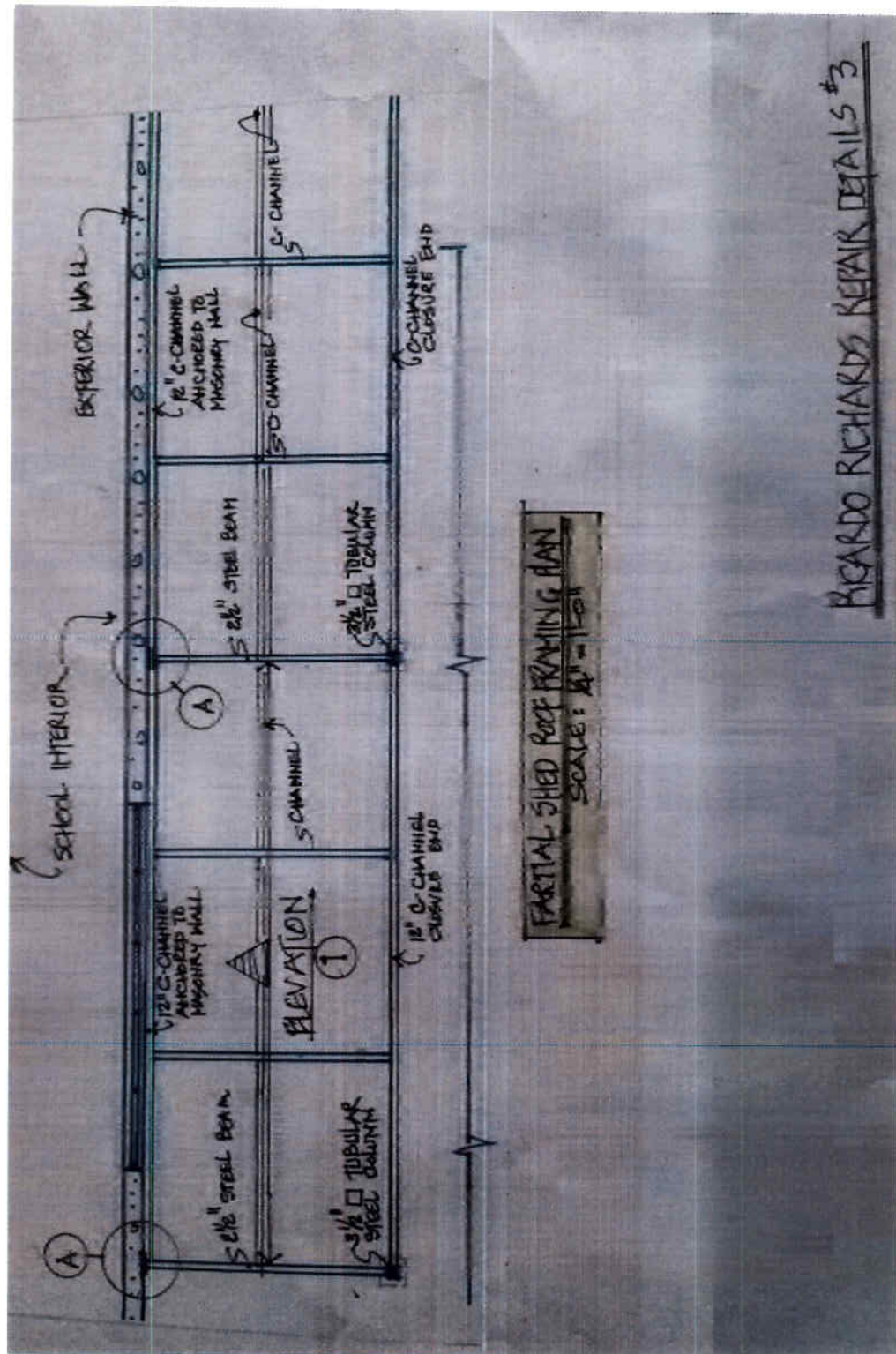
Attachment 4 - Architectural Details, Partial Framing Plan

Ricardo Richards Elementary School

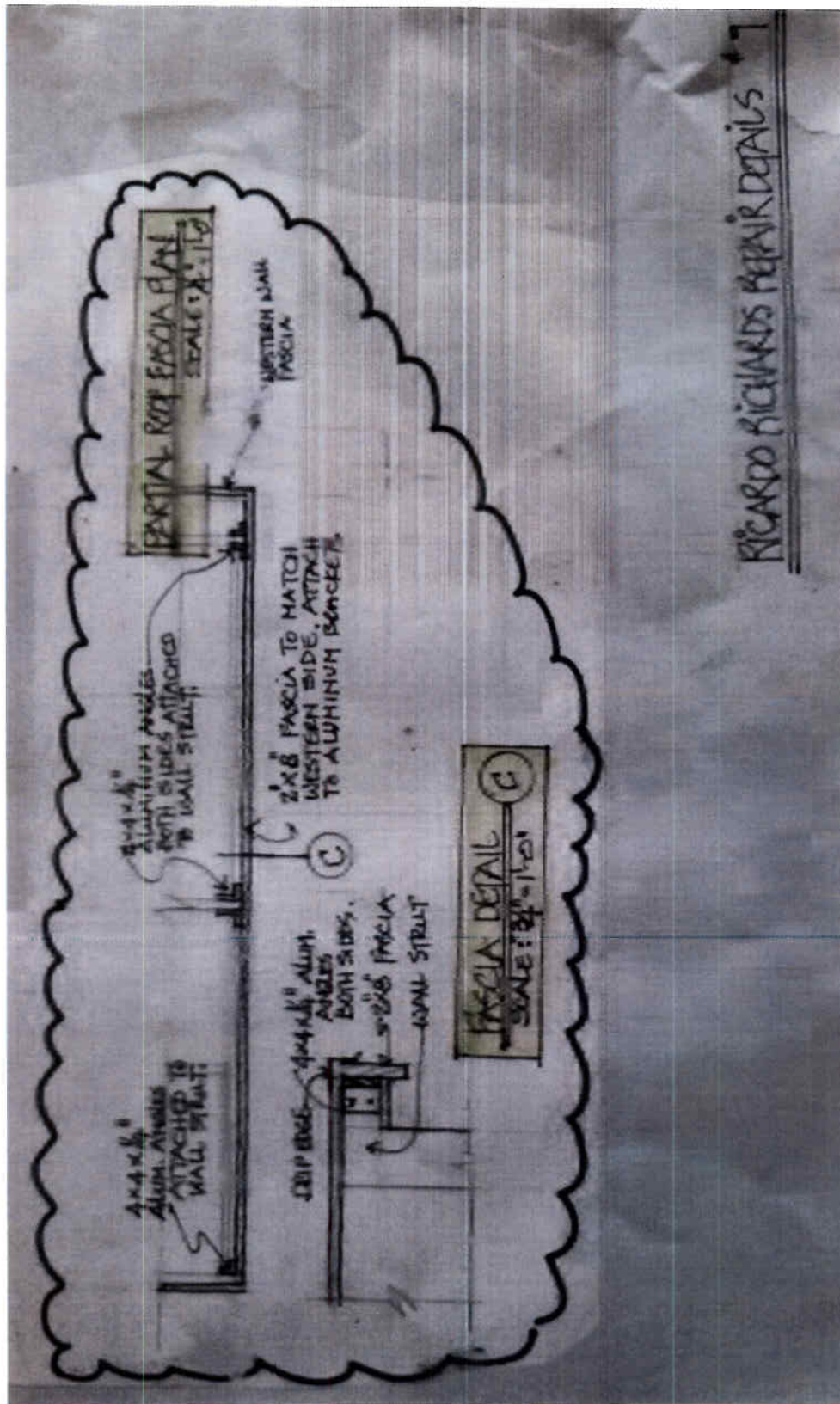


Elevation of Beam Condition.





Partial Shed framing plan showing C-Channels.



Fascia /Soffit repair details.

Attachment 5 - Outline Specifications

INVITATION FOR BID – Attachment 5 Outline Specifications

Ricardo Richards Elementary School Roofing & Cistern Overflow Repairs

Outline Specifications

01 Division: Summary of the Work

The Scope of Work shall include all work on the accompanying Bid Sheet and the following Specifications. The Contractor shall provide all labor, materials, tools, accessories, equipment, and incidentals required to complete all of the work specified or reasonably implied therein, as falling within the Scope of Work of this project.

02 Division: Existing Conditions

Part I General

Section Includes: Removal of corroded metal columns and metal sections, spalling concrete, aluminum guttering, fascia and soffit and acoustical ceiling tiles and frame.

Protection of adjacent areas: protect all areas adjacent to areas to be demolished, disconnect, cap or seal applicable utilities. Provide adequate protection against accidental trespassing and secure work after work hours.

Part 3 Execution

Structural Demolition:

- Remove elements to be demolished and do not damage building elements and improvements to remain.
- Locate, identify disconnect and seal or cap off applicable utilities.
- Provide required bracing and shoring to ensure safety at all times.
- Do not interrupt utilities serving occupied or served facilities without the written permission of the owner and authorities having jurisdiction.

03 Division: Concrete

Part 1 General

- **This Section Includes:** Repair to exterior structural wall beam.
- **Quality Assurance:** Concrete application process must be acceptable to Owner and installer must be acceptable to or licensed by the product manufacturer of the primary material.
- **Submittals:** Submit product data, installation instructions and general recommendations from the manufacturer.
- **Job Conditions:** Do not begin installation until substrate has been inspected.
- **Warranty:** Provide the normal trade and manufacturer's Warranty. Contractor shall provide two years (2) warranty covering work, including repair or replacement of damages to the building and its finishes.

Part 2 Product

- TX. Dot Type V111 (ASTM C 881, Type 1 or V (Epoxy products).

Attachment 5 - Outline Specifications

INVITATION FOR BID – Attachment 5 Outline Specifications

Ricardo Richards Elementary School Roofing & Cistern Overflow Repairs

Part 3 Execution

- Cut and remove deteriorated sections as necessary and restore masonry integrity.

04 Division: Masonry

Part 1 General

- **This Section Includes:** Finishes to exterior masonry wall.
- **Quality Assurance:** Finishes must be acceptable to Owner and installer must be acceptable to or licensed by the produce manufacturer of the applicable product.
- **Submittals:** Submit product data, installation instructions and general recommendations from the manufacturer.
- **Job Conditions:** Do not begin installation until substrate has been inspected.
- **Warranty:** Provide five (5) year manufacturer's Warranty. Contractor shall provide two years (2) warranty covering work, including repair or replacement of damages to the building and its finishes.

Part 2 Product

- TX. Dot Type V111 (ASTM C 881, Type 1 or V (epoxy products).

Part 3 Execution

- Cut and remove deteriorated sections as necessary and restore masonry integrity.

Minor Concrete Spall Repairs

Description

Most minor concrete spalls are repaired using neat Type VIII epoxy (no sand) to help protect against deterioration caused by exposure to the water, chlorides, and other contaminants.

Minor spalls can be built up using Type VIII epoxy mortar. Generally building up minor spalls with mortar provides no additional corrosion protection or capacity vs. neat epoxy only. Filling the voids removes the appearance of spalling and is typically done based on aesthetic concerns.

Submittals

Prior to the start of work, the Contractor must provide construction details reviewed and approved/ stamped by a licensed structural engineer (hereafter referred to as "the Engineer"), for all areas of work. Details must include a determination of 1) whether the damage is surface or structural, 2) select an appropriate method of repair, 3) select suitable materials, and 4) specify quantities of work to be performed.

Attachment 5 - Outline Specifications

INVITATION FOR BID – Attachment 5 Outline Specifications

Ricardo Richards Elementary School Roofing & Cistern Overflow Repairs

Material

Tx.DOT Type VIII neat epoxy compound (ASTM C 881 Type I or IV) is produced by mixing two proprietary liquid components in the ratio required by the manufacturer.

- Refer to OMS 6100, OMS 6110, and the MPL for Epoxies and Adhesives for additional information.
- Use materials from Tx.DOT's preapproved list for Type VIII epoxy. Contractor may use other materials only if specifically authorized by the Engineer in writing.

Tx.DOT Type VIII epoxy mortar is produced by combining the neat epoxy compound and an aggregate (usually silica sand) approved by the epoxy producer and Tx.DOT.

- Ratio by Volume:
 - Adhere to the requirements from the manufacturers' technical data sheets when proportioning the sand to add to the neat epoxy.
 - If using Industrial Coatings as the supplier for Type VIII epoxy, proportion the mortar at 1-part neat epoxy to 5 parts sand. The epoxy-to-sand ratios are typically lower for the other approved suppliers, in the range of 1-part epoxy to 1.5 to 2 parts sand.
- Silica Sand:
 - Most manufacturers recommend that 20/40 mesh sand be used to produce epoxy mortar. It is acceptable to use sand that passes a No. 16 sieve but is retained by a No. 50 sieve (16/50 mesh).
 - Use sand other than 16/50 mesh or 20/40 mesh only if authorized by the epoxy manufacturer and the Engineer.
 - If the patch will remain visible after a member has been erected, the Engineer may require use of a combination of gray and white sand to make the epoxy mortar material closely resemble the surrounding concrete.

Do not exceed 130°F if heating any of the epoxy liquid components to ease mixing or application.

If using sand from a stockpile, ensure that it has been properly dried and graded before mixing. Sand should not stay clumped together after being bunched up in a fist.

NOTE: It is a good idea to keep a separate container that is protected from rain and other water for storing sand used to mix Type VIII epoxy mortar. Sand from

Attachment 5 - Outline Specifications

INVITATION FOR BID – Attachment 5 Outline Specifications

Ricardo Richards Elementary School Roofing & Cistern Overflow Repairs

a stockpile is typically far too wet to be used for mixing epoxy mortar.

Do not exceed 230°F when heating sand to dry it. Allow sand to cool to a maximum temperature of 130°F before mixing with the neat epoxy.

Repair Procedure

Surface preparation is important. Refer to Attachment 4: **Minor Patch Repair Details 1D and 1E** for a graphical description of preparation and repair procedures.

- Surface preparation.
 - Remove any damaged or loose concrete.
 - Avoid damage to sound concrete that is to remain in place by saw cutting the perimeter of the patch area or taking other appropriate measures acceptable to the Engineer.
 - Unless otherwise approved by the Engineer, use only hand tools or power-driven chipping hammers (15-lb. class maximum) to remove concrete.
 - If the damage occurs at the end of a member and pre-stressing strand is exposed, recess the strands a minimum 3/8-inch using a torch or other approved method. Do not overheat or damage the surrounding concrete.

NOTE: In the past some Contractors and Fabricators opted not to recess pre-stressing strands in spalled areas so the protruding sections could serve as dowels for the patch material. While the strands would serve well as dowels in those circumstances, they could be exposed to moisture and chlorides if the patch fails over the life of the structure. For that reason, it is more important that the strand be completely recessed.

- Ensure substrates are clean and sound. Remove any contaminants, including laitance, oil, dust, debris, or other foreign particles.
- Just prior to coating or patching, blast the repair area using a high-pressure air compressor equipped with filters to remove all oil from the compressed air.
- For minor spalls in which a short longitudinal section (less than 4") of mild reinforcement or pre-stressing strand is exposed, the steel should NOT be removed. Nor should sound material behind the steel be excavated unless more than half the bar circumference is exposed, in which case the spall should be classified as Intermediate.
- It is not necessary to install dowels or provide other mechanical anchorage in applications less than 1 ½" thick. The Engineer may require dowels, typically stainless steel expansion anchors, in thicker applications to help tie the patch to the parent material in case of a delamination.

Attachment 5 - Outline Specifications

INVITATION FOR BID – Attachment 5 Outline Specifications

Ricardo Richards Elementary School Roofing & Cistern Overflow Repairs

- **Mixing.**

Measure the proper quantity of each component per the manufacturer's requirements, then dispense into a clean container. Do not estimate the proper amounts while adding the different components.

Mix the liquid components thoroughly using a low-speed electric drill (400 - 600 rpm) and a clean "Jiffy" type mixing paddle. Do not mix Type VIII neat epoxy or epoxy mortar by hand.

- If utilizing whole batches, mix the liquid components for a minimum of 3 minutes or in accordance with the manufacturer's instructions.
- If using partial batches, mix for at least 1 minute or until the material is well-blended and uniform, whichever is longer.

Slowly add the sand or other approved aggregate to the epoxy compound while mixing with an electric drill and paddle. Mix the material until the epoxy mortar is well-blended and all sand particles are coated (1-minute minimum after the sand is added).

Mix an adequate amount of additional neat epoxy compound for use as a waterproofing and bonding layer.

Set times vary significantly depending on type of epoxy and ambient conditions (temperature, wind, humidity). In hot weather (greater than 90°F) place a partial batch in a cup to determine set-up time, and adjust production volumes accordingly.

- **Neat Epoxy Application.**

- Surface must be dry and clean prior to application of the repair material.
- Brush, roll, or scrub the material into the prepared substrate to ensure that all small voids are filled.
- Cover the entire damaged area, including exposed steel reinforcement and dowels when applicable, with at least 10 MILLS of the neat epoxy compound.

NOTE: Members of the repair crew should have a wet-film thickness gauge to periodically check that neat epoxy is being installed in adequate application depth. Inspectors should also carry wet-film thickness gauges so they can verify adequate minimum thickness.

- **Epoxy Mortar Application.**

- Apply a layer of neat epoxy compound to the substrate as outlined above to serve as a bond coat layer for the repair mortar.

Attachment 5 - Outline Specifications

INVITATION FOR BID – Attachment 5 Outline Specifications

Ricardo Richards Elementary School Roofing & Cistern Overflow Repairs

- Trowel-apply the epoxy mortar into the repair area while the bonding layer is still tacky. If the bonding layer loses its tackiness prior to patching, clean the epoxy surface and apply additional neat epoxy before proceeding.
- Limit repair depth to 1 inch when using epoxy mortar unless otherwise approved by the Engineer. In multiple lift applications wait until previous lift has cured sufficiently to prevent sagging prior to applying the next lift. Apply a bonding layer of neat epoxy between each lift.

- Finishing.

The Contractor should consult the Engineer before patching minor spalls in which an aesthetic treatment will later be applied.

As noted above, the Engineer may require that white or gray sand be used to produce epoxy mortar if a patch will remain visible in its final configuration. Such patches should not be easily discernible if viewed from more than 25 feet away. The Engineer will review other methods proposed for blending patches.

- Curing.

The required time for the material to cure properly can increase significantly when the ambient temperature is below approximately 50°F. If artificial means are used to heat the in-situ neat epoxy or epoxy mortar, ensure that the air around the repair material does not exceed 130°F.

Moist curing is not required.

Commentary

The high bond strength of properly mixed and applied Type VIII epoxy mortar makes it a good option for use in thin applications where inclusion of dowels is not practical and excavation behind partially exposed steel would unnecessarily necessitate removal of sound material.

Do not use Type VIII epoxy mortar for structural patches or in other areas where significant movement from loading or temperature variations are anticipated. Stress caused by differential movement at the bond line can develop because the coefficient of thermal expansion of Type VIII epoxy mortar varies significantly from the concrete substrate. This can apply even in thin applications if the damage covers a large area.

Attachment 5 - Outline Specifications

INVITATION FOR BID – Attachment 5 Outline Specifications

Ricardo Richards Elementary School Roofing & Cistern Overflow Repairs

05 Division: Metals

SECTION 51200: Structural Cast Steel Components

Part 1 General

- Replace portions of metal framing, where a flange web or other component has lost more than 10% of its original cross section. This Section relates to corroded steel sections that have lost less than this threshold.
- **This Section Includes:** Repairs to Structural Steel columns.
- **Related Sections:** Preformed metal panels, C-Channels, Zee purlins and reinforced concrete walls and base.

Part 2 Product

- Repairs to existing corroded steel columns.

Part 3 Execution

- Cut and remove corroded sections as necessary and restore structural system to its original state.
- Sandblast all adjacent corroded areas not removed, apply corrosion resistant primer and apply two coats of paint to match existing.

SECTION 05400: Cold Formed Framing Structural Steel

Part 1 General

- **This section includes:** Exterior Roof ceiling, including ceiling joist, headers and fascia end enclosure.
- **Related Sections:** Metal Roof and Wall Panels
- **Performance Requirements:** Provide metal channel sections to match existing
- **Submittals:** Provide owner with description of product type and specifications.
Quality Assurance: All materials used for metal framing should comply with all applicable trade standards and the design of Cold Formed Steel Structural Members and its standards for Cold Formed Steel Framing.

Part 2 Products

- **Materials:** Should be C-Shaped Metal Channels, ASTM Grade Type #ST33H, Coating G60 (Z180); connecting devices should be corrosion resistant, self-drilling and comply with ASTM A 653/A.653M, SS Grade 50.
- **Anchoring Devices:** Anchor bolts should comply with ASTM F 1554 threaded carbon structural hex head bolts—10 Time design load.

Part 3 Execution

Installation: Install framing members in accordance with AISI Applicable Standards; members should be in one length, provide reinforcement plate where excessive.

06 Division: (not used)

Attachment 5 - Outline Specifications

INVITATION FOR BID – Attachment 5 Outline Specifications

Ricardo Richards Elementary School Roofing & Cistern Overflow Repairs

07 Division Thermal and Moisture Protection

SECTION 0714: Fluid Applied Waterproofing

Part 1 General

- **This Section Includes:** Application of Silicone membrane roof coating system to existing metal substrate
- **Quality Assurance:** Roof coating must be acceptable to Owner and installer must be acceptable to or licensed by the produce manufacturer of the primary roofing material.
- **Submittals:** Submit product data, installation instructions and general recommendations from the manufacturer.
- **Job Conditions:** Do not begin installation until substrate has been inspected.
- **Warranty:** Provide five (5) year manufacturer's Warranty. Contractor shall provide two years (2) warranty covering related maintenance work, including repair or replacement of damages to the building and its finishes due to leaks.

Part 2 Products.

- **Silicone Roof Membrane Coating Products:** Water based Epoxy Primer, high performance moisture cured silicone Base and Top coats; accessory materials are to be manufacturer's recommended products.

Part 3 Execution

- **Preparation of Substrate:** Clean roof surface to be coated as recommended by manufacturer; check mechanical installation of fasteners, re-tighten or replace stripped out fasteners as necessary, check all seems to ensure that they are tight and flush.
- **Installation of membrane:** Spray each coat of contrasting color at an application rate designed to achieve the required 22 TDM for the product at a minimum rate of 1 gall/100 square feet per coat. Base coat and primers shall be allowed to cure before proceeding with subsequent applications. No traffic shall be permitted on the coated roof for a minimum of 3 days.

08 Division: (not used)

09 Division: Finishes

SECTION 09900 Paint and Coating

Part 1 General

- **This Section Includes:** Surface preparation and application of exterior coating system.
- **Quality Assurance:** Paint products must be acceptable to Owner and installer must be acceptable to or licensed by the produce manufacturer of the paint products.
- **Submittals:** Submit product data, installation instructions and general recommendations from the manufacturer.
- **Job Conditions:** Do not begin installation until substrate has been inspected.
- **Warranty:** Provide five (5) year manufacturer's Warranty. Contractor shall provide two years (2) warranty covering work, including repair or replacement of damages to the building and its finishes.

Attachment 5 - Outline Specifications

INVITATION FOR BID – Attachment 5 Outline Specifications

Ricardo Richards Elementary School Roofing & Cistern Overflow Repairs

Part 2 Product

- **Material:** Exterior semi-gloss acrylic latex (Contractor to obtain specifications for paint from the School's Maintenance Department.

Part 3 Execution

- **Substrate Preparation:** Pressure wash surfaces and caulk crack and fill around wall penetrations.
- **Installation:** Use roller and apply two coats of exterior semi-gloss acrylic latex paint. Paint type and grade to match existing.
- **Clean-up:** Adjacent areas are to be protected during application. After completion all spattered surfaces are to be cleaned.

10 Division through 21 Division (not used)

22 Division: Plumbing

SECTION 2240 Plumbing Fixtures

Part 1 General

- **This Section Includes:** Plumbing supply lines.

Part 2 Execution

Pressure test the Complex entire water supply system and determine if there are leaks and where they are located. Produce a detailed plan of how to correct same.

NOTE: THESE NOTES AND DETAILS ARE A GENERAL RECOMMENDATION ONLY. A LICENSED STRUCTURAL ENGINEER SHALL VERIFY ALL EXISTING CONDITIONS TO DETERMINE THEIR APPLICABILITY.

CONCRETE REPAIR NOTES:

1. EXCAVATE ALL LOOSE FRACTURED CONCRETE AROUND SPALL. IN GENERAL, EXTEND LIMITS OF EXCAVATION UNTIL SOUND CONCRETE IS ENCOUNTERED OR AS SHOWN ON THE DRAWINGS. LIMIT CHIPPING CLAY TO 15 LB.
2. CLEAN ALL EXISTING REBAR OF ALL LOOSE RUST BY SANDBLAST OR NEEDLE GUN.
3. ROUGHEN SURFACE TO 1/4" AMPLITUDE AT ALL INTERFACE CONTACT WITH EXISTING CONCRETE SUBSTRATE. PROVIDE UNDERCUT AT PERIMETER OF CONCRETE PATCH AS SHOWN ON DETAILS.
4. CLEAN ALL EXCAVATED CONCRETE SURFACES OF DEBRIS, DUST, GREASE, OIL, ETC.
5. IN GENERAL, THE FOLLOWING APPLIES TO REPLACEMENT/SUPPLEMENT OF CORRODED REBAR:
 - A. IF CROSS-SECTIONAL LOSS OF BAR IS LESS THAN 20% AFTER REMOVING ALL CORROSION PRODUCT, THE BAR DOES NOT REQUIRE REPLACEMENT/SUPPLEMENT.
 - B. IF CROSS-SECTIONAL LOSS OF BAR IS GREATER THAN 20% AFTER REMOVING ALL CORROSION PRODUCT, REPLACE OR SUPPLEMENT WITH SPLICED BARS PER DETAIL 1 THIS SHEET.
6. ALL REPLACEMENT REINFORCING STEEL SHALL CONFORM TO ASTM A606 GRADE 60 UNLESS OTHERWISE NOTED.
7. WHERE REINFORCING STEEL IS TO BE ADDED, IT SHALL BE LAP SPLICED FOR A LENGTH OF 48 BAR DIAMETERS. IN LIEU OF LAPPED REBAR, NEW REINFORCING MAY BE WELDED TO EXISTING REINFORCING FOR DETAIL 1F THIS SHEET.
8. PRIOR TO PLACEMENT OF PATCH MATERIAL, THE EXPOSED CONCRETE SHALL BE SATURATED SURFACE DRY WITH NO WATER ACCUMULATION.
9. REPAIR MATERIALS SHALL BE APPLIED TO FILL VOIDS. FOR PATCH DEPTHS IN EXCESS OF ONE INCH, CONCRETE PATCH SHALL CONTAIN #4 PEEL GRAVEL AGGREGATE.
10. FOR DEEP OVERHEAD AND VERTICAL PATCHES, CEMENTITIOUS MATERIAL (PER ITEM "B" IN THE TABLE OF ACCEPTABLE CONCRETE REPAIR PRODUCTS) MAY BE USED IF APPLIED IN LIFTS. THICKNESS OF LIFTS AND TOTAL THICKNESS OF PATCH SHALL NOT EXCEED THE MAXIMUM THICKNESS RECOMMENDED BY THE MANUFACTURER. A CLEAN, ROUGHEN SURFACE SHALL BE MAINTAINED WITH AN APPROPRIATE SETTING TIME PER MANUFACTURER'S INSTRUCTIONS. FOR ITEMS "C" AND "D" ON THE TABLE OF ACCEPTABLE CONCRETE REPAIR PRODUCTS SHALL BE USED. WHEN FORMED, THE CONCRETE SHALL BE EXTERNALLY AND/OR INTERNALLY VIBRATED CORNERS OF THE FORMS, ALLOWING SUFFICIENT SPACE AT THE TOP OF THE FORMED AREA TO PROPERLY PLACE AND CONSOLIDATE THE CONCRETE.
11. FOLLOWING THE INITIAL SET OF THE CONCRETE AT FORMED AREAS, THE SPACE AT THE TOP OF THE PATCH AREA SHALL BE FILLED WITH PATCHING MORTAR.
12. THE SURFACE FINISH SHALL MATCH ADJACENT CONDITIONS.
13. FORMS SHALL BE REMOVED AFTER FIVE DAYS OF CURING. PATCHES SHALL BE INSPECTED FOR WARPING, CONSOLIDATION OR CRACKING AROUND THE PERIMETER OR IN THE PATCH. IF THESE CONDITIONS EXIST, NOTIFY THE CONTRACTING OFFICE FOR POSSIBLE REMEDIAL ACTION.
14. MINIMUM CONCRETE COVER TO REINFORCING STEEL FOR "PATCHES," REPAIRS, ETC., SHALL BE AT LEAST 2" FOR CONCRETE EXPOSED TO WEATHER AND 1 1/2" FOR CONCRETE NOT EXPOSED TO WEATHER.
15. CONCRETE REPAIR AREAS SHALL BE ALLOWED TO CURE A MINIMUM OF 14 DAYS PRIOR TO SURFACE PRIME AND PAINTING.

ACCEPTABLE CONCRETE REPAIR PRODUCTS

PRODUCT DESCRIPTION	ACCEPTABLE ALTERNATIVE PRODUCTS
A. MATERIAL FOR MINOR PATCH REPAIRS	• SEE PROJECT SPECIFICATIONS
B. MATERIAL FOR INTERMEDIATE PATCH REPAIRS	• SEE PROJECT SPECIFICATIONS
C. STEEL ANCHORS	• 3/8" ZINC PLATED HALF HENK-COM A HEX HEAD SCREWS IN 1/2" DEEP HOLE DRILLED WITH MATCHING DRILL BIT • 3/8" CLASSICAL ANCHOR (TAPCON IN 1/2" DEEP HOLE DRILLED WITH MATCHING DRILL BIT) • 3/8" ANCHOR TIE IN 1/2" DEEP HOLE DRILLED WITH MATCHING DRILL BIT
D. BONDING AGENT (REFER TO PATCH MATERIAL PRODUCT SPECS FOR COMPATIBILITY)	• SIKU ANIMATE 110 • THORO ADHY 80 • QUAKRETE BONDING ADHESIVE
E. EPOXY TO SET REPAIR JOINTS	• HELIX HT-30 500-50 EPOXY ADHESIVE (INTERIOR APPLICATIONS ONLY) • HELIX HT-30 150 EPOXY ADHESIVE • RED HEAD EPOXY 150 EPOXY ADHESIVE (INTERIOR APPLICATIONS ONLY) • RED HEAD EPOXY 150 EPOXY ADHESIVE (INTERIOR APPLICATIONS ONLY) • SAMPSON SET-UP EPOXY-TE ADHESIVE (INTERIOR APPLICATIONS ONLY) • SAMPSON AT-KRYL-TE ADHESIVE

INVITATION FOR BID- Attachment #6

MARTIN & CHOCK
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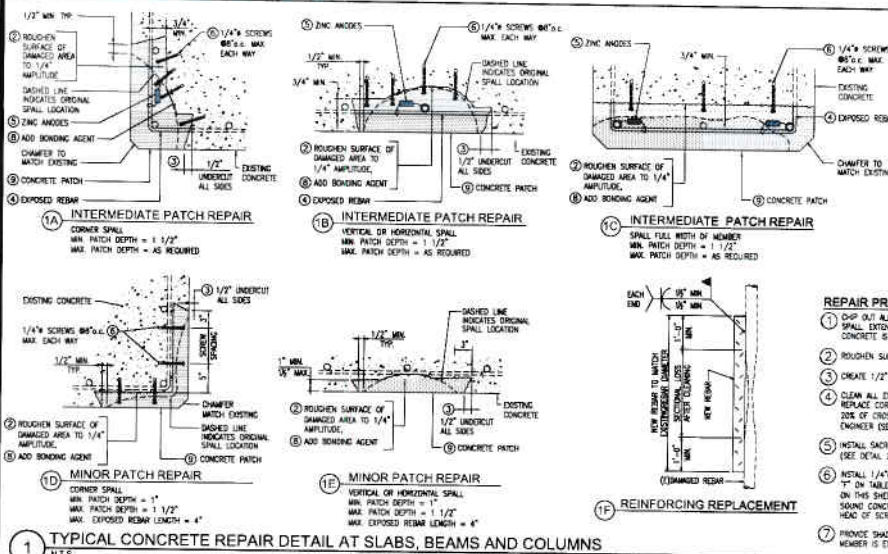
U.S. DEPARTMENT OF THE INTERIOR
OFFICE OF INSULAR AFFAIRS

**INSULAR ABCS PHASE III
UNITED STATES VIRGIN ISLANDS**

DRAWING TITLE
**TYPICAL
CONCRETE AND
MASONRY REPAIRS**

NO. DATE REVISION
DATE FEB 3, 2017
SHEET

S-1



REPAIR PROCEDURE

1. CHOP OUT ALL LOOSE AND FRACTURED CONCRETE AROUND SPALL. EXTEND LIMITS OF EXCAVATION UNTIL SOUND CONCRETE IS ENCOUNTERED.
2. ROUGHEN SURFACE TO 1/4" MINIMUM AMPLITUDE.
3. CREATE 1/2" UNDERCUTS CUT AT PERIMETER.
4. CLEAN ALL EXPOSED REBAR TO BRIGHT STEEL CONDITION. REPLACE CORRODED BARS WHICH HAVE LOST MORE THAN 20% OF CROSS-SECTION AND/OR AS DIRECTED BY THE CONTRACTOR (SEE DETAIL 1F THIS SHEET).
5. INSTALL CHEMICAL ZINC ANCHORS WHERE REQUIRED (SEE DETAIL 2 THIS SHEET FOR INSTALLATION).
6. INSTALL 1/4" SCREWS @ 6" O.C. MAX. EACH WAY. SEE ITEM "B" ON TABLE OF ACCEPTABLE CONCRETE REPAIR PRODUCTS ON THIS SHEET. PROVIDE 1 1/4" MIN. EMBEDMENT INTO SOUND CONCRETE. PROVIDE 1/4" MIN. CLEAR COVER TO HEAD OF SCREW AFTER PATCH INSTALLATION.
7. PROVIDE SHADE ABOVE WORK AREA OF PATCHES IF CONCRETE REPAIR IS EXPOSED TO DIRECT SUNLIGHT DURING CURING.
8. APPLY BONDING AGENT TO CONCRETE SURFACE. SEE ITEM "D" ON THE TABLE OF ACCEPTABLE CONCRETE REPAIR PRODUCTS ON THIS SHEET.
9. INSTALL PATCH MATERIAL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. SEE ITEMS "A" THROUGH "D" ON THE TABLE OF ACCEPTABLE CONCRETE REPAIR PRODUCTS ON THIS SHEET.
10. FINISH AND CURE AS REQUIRED.

REINFORCING REPLACEMENT NOTES:

1. SEE CONCRETE REPAIR NOTES 1, 2, 3, 4, 5, 6, 7 FOR GENERAL REPLACEMENT/SUPPLEMENT OF REINFORCING.
2. WELDING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH STRUCTURAL WELDING CODE-REINFORCING STEEL (AWS D1.4).
3. REBAR FOR SPICE SHALL BE ASTM A606, GRADE 60.
4. PRELAP BARS ACCORDING TO AWS D1.4 STANDARDS.