

DATE: 9 May 2012

FROM: WALLER, TODD & SADLER ARCHITECTS, INC.
1909 CYPRESS AVENUE
VIRGINIA BEACH, VA 23451

TO: ALL PROSPECTIVE BIDDERS

RE: **ADDENDUM NO. 3**
TO THE REQUEST FOR PROPOSAL DOCUMENTS FOR:
MUNICIPAL / E911 BUILDING
SUFFOLK, VIRGINIA

This Addendum forms a part of the Contract Documents and modifies the original Request for Proposal Documents dated March 14, 2012 as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

PERTAINING TO PROPOSAL PREPARATION

The Date of Acceptance of Proposals shall remain at **5:00p.m., Monday, May 14, 2012.**

PERTAINING TO ADDENDUM NO. 2

PART 2: BUILDING PERFORMANCE REQUIREMENTS

Page 1 Para. 1.b. Building Code Analysis
DELETE references to "FM 220 SYSTEM" and **REPLACE** with "FM 200 SYSTEM".

PERTAINING TO RFP

PART 2: BUILDING PERFORMANCE REQUIREMENTS

Page 7 Para. 3 Exterior Windows
DELETE the last sentence "COMPLY WITH IBC REQUIREMENTS (ARTICLE 1609.1.2) REGARDING WIND-BORN DEBRIS FOR WINDOWS ELSEWHERE." and **REPLACE** with "Windows in the rest of the building shall have impact glazing, at a minimum."

Page 7 Para. 3.d Exterior Glazing
In the last sentence after the last sentence **INSERT** the following:

"TWO PANES OF GLASS SEPARATED BY A DEHYDRATED AIRSPACE AND HERMETICALLY SEALED. DIMENSIONAL TOLERANCES SHALL BE AS SPECIFIED IN IGMA TR-1200. SPACER SHALL BE ROLL-FORMED, WITH BENT OR TIGHTLY WELDED OR KEYED AND SEALED JOINTS TO COMPLETELY SEAL THE SPACER PERIPHERY AND ELIMINATE MOISTURE AND HYDROCARBON VAPOR TRANSMISSION INTO AIRSPACE THROUGH THE CORNERS. PRIMARY SEAL SHALL BE COMPRESSED POLYISOBUTYLENE AND THE SECONDARY SEAL SHALL BE A SPECIALLY FORMULATED SILICONE.

(1) BUILDINGS

TWO PANES OF GLASS SEPARATED BY A DEHYDRATED AIRSPACE, FILLED WITH ARGON GAS AND HERMETICALLY SEALED. INSULATED GLASS UNITS SHALL HAVE A SOLAR HEAT GAIN COEFFICIENT (SHGC) MAXIMUM OF .45 AND A U-FACTOR MAXIMUM OF .28 BTU PER SQUARE FOOT BY HR BY DEGREE F. DIMENSIONAL

TOLERANCES SHALL BE AS SPECIFIED IN IGMA TR-1200. SPACER SHALL BE BLACK, ROLL-FORMED, THERMALLY BROKEN ALUMINUM, WITH BENT OR TIGHTLY WELDED OR KEYED AND SEALED JOINTS TO COMPLETELY SEAL THE SPACER PERIPHERY AND ELIMINATE MOISTURE AND HYDROCARBON VAPOR TRANSMISSION INTO AIRSPACE THROUGH THE CORNERS. PRIMARY SEAL SHALL BE COMPRESSED POLYISOUTYLENE AND THE SECONDARY SEAL SHALL BE A SPECIALLY FORMULATED SILICONE. THE INNER LITES SHALL BE LAMINATED WITH .060 INCH THICK CLEAR POLYVINYL BUTYRAL INTERLAYER, LOW E GLASS TINTED BRONZE HEAT STRENGTHENED GLASS, TYPE I, CLASS I, QUALITY Q3, TWO LAYERS, 1/8 INCH THICK EACH. THE OUTER LAYER SHALL BE ¼ INCH THICK, HEAT STRENGTHENED GLASS, TYPE I, CLASS I, QUALITY Q3.

(2) LOW EMISSIVITY INSULATING GLASS

INTERIOR AND EXTERIOR GLASS PANES FOR LOW-E INSULATING UNITS SHALL BE TYPE I ANNEALED FLAT GLASS, CLASS 2-TINED WITH ANTI-REFLECTIVE LOW-EMISSIVITY COATING ON NO. 2 SURFACE (INSIDE SURFACE OF EXTERIOR PANEL), QUALITY Q3 – GLAZING SELECT, CONFORMING TO ASTM C1036. GLASS PERFORMANCE SHALL BE U VALUE MAXIMUM OF .28 BTU/HR-FT²-F SOLAR HEAT GAIN COEFFICIENT (SHGC) MAXIMUM OF .45. COLOR SHALL BE BRONZE.”

Page 7

Para. 4 Exterior Doors

In the second sentence **DELETE** “NON-CORRODING FINISHED” and **REPLACE** with “HOT DIPPED GALVANIZED HOLLOW METAL”

PART 4: TECHNICAL SPECIFICATIONS

08 51 13 BLAST RESISTANT ALUMINUM WINDOWS

ADD specification section 085113 in its entirety. See attachment.

RFI QUESTIONS AND RESPONSES

1. The RFP technical specifications and Building Performance Requirements indicate 2 center opening elevators are required and make no reference having front and rear openings. The RFP drawings indicate (1) front and rear opening elevator and (1) center opening elevator. Is a front and rear opening elevator required?

RESPONSE: Provide one of the two elevators required with front and rear openings as shown on the RFP drawings.

2. Part 2 of the RFP under Building Performance Requirements indicates that windows shall be blast resistant at the E911 Center. We are unable to locate any technical requirements for the threat level or hazard rating for the blast resistant windows. There are significant cost differences between the varying levels of blast resistance. Please provide a technical specification(s) that provides the performance criteria for the blast resistant glazing and frames required.

RESPONSE: See specification 085113 Blast Resistant Aluminum Windows, attached to this addendum.

3. Part 2 of the RFP under Building Performance Requirements indicates that glazing in parts of the building other than at E911 shall comply with the IBC requirements (Article 1609.1.2) regarding wind born debris. The project site is not located within a wind born debris region as defined by the IBC and therefore special glazing is not required by Article 1609.1.2 of the building code for this building. Are the windows required to resist wind born debris even though this is not

required by the building code? If so, please provide technical requirements for the windows as it relates to wind born debris.

RESPONSE: All windows in the building shall be required to resist wind born debris. See attached changes to this addendum.

4. The RFP documents section 2 Building Performance Requirements indicate that the generators will be provided by the Owner's vendor. It further states that the both generator sets shall be installed outdoors in sound attenuated weatherproof enclosures. Will the weatherproof enclosure be provided by the Owner's vendor as an accessory to the gen set?

RESPONSE: Yes, the City's vendor, Tidewater Energy Services will provide the sound attenuated enclosure for the generator

5. Section 2 Building Performance Requirements indicate that interior hollow metal door frames are to be galvanized, however exterior door frames (other than public entry lobbies) are only required to have a non-corroding finish. Please confirm that these two requirements are accurate.

RESPONSE: All interior and exterior hollow metal frames shall be hot dipped galvanized.

6. Addendum 2 references an FM220 system as being required in certain areas of the building, does the Owner actually want a FM200 system?

RESPONSE: Yes, all references for the fire suppression system as FM-220 should be changed to FM-200 System.

7. Please confirm that the "Major HVAC Equipment provided by TRANE" is to be included in the General Contractors construction cost proposal, and that this equipment will not be provided under a separate contract between the Owner and TRANE.

RESPONSE: Yes, the HVAC equipment is to be included in the Design/Builder's construction cost proposal and listed as a separate line item on the bid form as issued in Addendum No. 1.

ATTACHMENTS

- a. Specification 085113 Blast Resistant Aluminum Windows

END OF ADDENDUM NO. 3

08 51 13 BLAST RESISTANT ALUMINUM WINDOWS

A. CERTIFICATION

1. Each prime window unit must bear the AAMA Label warranting that the product complies with AAMA/WDMA/CSA 101/I.S.2/A440. Certified test reports attesting that the prime window units meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440, including test size, will be acceptable in lieu of product labeling.

B. TEST REPORTS

1. For Minimum Antiterrorism windows, in lieu of a Design Analysis, results of airblast testing, whether by arena test or shocktube, shall be included in a test report, providing information in accordance with ASTM F 1642, as prepared by the independent testing agency performing the test. The test results shall demonstrate the ability of each window proposed for use to withstand the airblast loading parameters and achieve the hazard level rating specified in paragraph "Standard Airblast Test Method".

C. DESIGN DATA REQUIREMENTS

1. Submit calculations to substantiate compliance with deflection requirements and Minimum Antiterrorism Performance criteria. A registered Professional Engineer must provide calculations.
2. Submit design analysis with calculations showing that the design of each different size and type of aluminum window unit and its anchorage to the structure meets the requirements of paragraph "Minimum Antiterrorism Performance Criteria". Calculations verifying the structural performance of each window proposed for use, under the given loads, must be prepared and signed by a registered professional engineer. Reflect the window components and anchorage devices to the structure, as determined by the design analysis, in the shop drawings.

D. TEST REPORT REQUIREMENTS

1. Submit test reports for each type of window attesting that identical windows have been tested and meet the requirements specified herein for conformance to AAMA/WDMA/CSA 101/I.S.2/A440 including test size, and minimum condensation resistance factor (CRF), and resistance to forced entry, and, for Minimum Antiterrorism windows, in lieu of a Design Analysis, results of a Standard Airblast Test.

E. PERFORMANCE REQUIREMENTS

1. Wind Loading Design Pressure: Design window components, including mullions, hardware, and anchors, to withstand a wind-loading design pressure of at least 70 pounds per square foot (psf).
2. Tests:
 - a. Test windows proposed for use in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 for the particular type and quality window specified.
 - b. Perform tests by a nationally recognized independent testing laboratory equipped and capable of performing the required tests. Submit the results of the tests as certified laboratory reports required herein.
 - c. Minimum design load for a uniform-load structural test must be 50 psf.
 - d. Test projected windows in accordance with the applicable portions of the AAMA WSG.1 for air infiltration, water resistance, uniform-load deflection, and uniform-load structural test.

F. WINDOW PERFORMANCE

1. Aluminum windows must meet the following performance requirements. Perform testing requirements by an independent testing laboratory or agency.
2. Structural Performance: Structural test pressures on window units must be for positive load (inward) and negative load (outward). After testing, there will be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanisms or any other damage which could cause window to be inoperable. There must be no permanent deformation of any main frame, sash or ventilator member in excess of the requirements established by AAMA/WDMA/CSA 101/I.S.2/A440 for the window types and classification specified in this section.
3. Minimum Antiterrorism Performance: Windows shall meet the minimum antiterrorism performance as specified in the paragraphs below. Conformance to the performance requirements shall be validated by one of the following methods.
 - a. Computational Design Analysis Method:
 - 1) Window frames, mullions, and sashes shall be designed to the criteria listed herein. Computational design analysis shall include calculations verifying the structural performance of each window proposed for use, under the given static equivalent loads.
 - 2) Aluminum window framing members shall restrict deflections of the edges of glazing they support to $L/60$ under two times (2X) the glazing resistance per the requirements of ASTM F 2248 and ASTM E 1300. Glazing resistance shall be greater than equivalent 3-second duration loading of 50 pounds per square foot (psf) for type window s. L denotes the length of the glazing supported edge. (L is to be based on edge length of glazing in frame and not on the distance between anchors that fasten frame to the structure.)
 - 3) The glazing frame bite for the window frames shall be in accordance with ASTM F 2248.
 - 4) Window frames shall be anchored to the supporting structure with anchors designed to resist two times (2X) the glazing resistance in accordance with ASTM F 2248 and ASTM E 1300.
 - b. Alternate Dynamic Design Analysis Method: As an alternative to the static equivalent load design approach described above, window framing members, anchors, and glazing may be designed using a dynamic analysis to prove the window system will provide performance equivalent to or better than a very low hazard rating in accordance with ASTM F 1642 associated with the applicable low level of protection for the project.
 - c. Standard Airblast Test Method: As an alternative to either of the Computational Design Analysis Methods, each Minimum Antiterrorism window type shall be tested for evaluation of hazards generated from airblast loading in accordance with ASTM F 1642 by an independent testing agency regularly engaged in blast testing. For proposed window systems that are of the same type as the tested system but of different size, the test results may be accepted provided the proposed window size is within the range from 25 percent smaller to 10 percent larger in area, than the tested window. Proposed windows of a size outside this range shall require testing to evaluate their hazard rating. Testing may be by shocktube or arena test. The test shall be performed on the entire proposed window system, which shall include, but not be limited to, the glazing, its framing system, operating devices, and all anchorage devices. Anchorage of the window frame or subframe shall replicate the method of installation to be used for the project. The minimum airblast loading parameters for the test shall be as follows: Peak positive pressure of 40 kPa and positive phase impulse of 285 kPa-msec. The hazard rating for the proposed window systems, as determined by the rating criteria of ASTM F 1642, shall not exceed the "Very Low Hazard" rating (i.e. the "No Break", "No Hazard", "Minimal Hazard" and "Very Low Hazard" ratings are acceptable. "Low Hazard" and "High Hazard" ratings are unacceptable). Results of window systems previously tested by test

protocols other than ASTM F 1642 may be accepted provided the required loading, hazard level rating, and size limitations stated herein are met.

4. Air Infiltration: Air infiltration must not exceed the amount established by AAMA/WDMA/CSA 101/I.S.2/A440 for each window type.
5. Water Penetration: Water penetration must not exceed the amount established by AAMA/WDMA/CSA 101/I.S.2/A440 for each window type.
6. Thermal Performance: Non-residential aluminum windows (including frames and glass) shall be certified by the National Fenestration Rating Council with a whole-window Solar Heat Gain Coefficient (SHGC) maximum of .30 determined according to NFRC 200 procedures and a U-factor maximum of .45 Btu/hr-ft²-F in accordance with NFRC 100.

G. WARRANTY

1. Provide Manufacturer's standard performance guarantees or warranties that extend beyond a 1 year period.

H. WINDOWS

1. Provide prime windows that comply with AAMA/WDMA/CSA 101/I.S.2/A440 and the requirements specified herein. In addition to compliance with AAMA/WDMA/CSA 101/I.S.2/A440, window framing members for each individual light of glass must not deflect to the extent that deflection perpendicular to the glass light exceeds L/175 of the glass edge length when subjected to uniform loads at specified design pressures. Provide Structural calculations for deflection to substantiate compliance with deflection requirements. Provide windows of types, performance classes, performance grades, combinations, and sizes indicated or specified. Window materials may contain post-consumer or post-industrial recycled content. Design windows to accommodate hardware, glass, weatherstripping, screens, and accessories to be furnished. Each window must be a complete factory assembled unit with or without glass installed. Dimensions shown are minimum. Provide windows with insulating glass and thermal break necessary to achieve a minimum Condensation Resistance Factor (CRF) of 60 when tested in accordance with AAMA 1503.
2. Window Materials:
 - a. Window frames and sash members, mullions, mullion covers, screen frames, and glazing beads shall be fabricated in accordance with AAMA/WDMA/CSA 101/I.S.2/A440.
 - b. Weatherstripping will be woven wool pile weatherstripping 0.210 inch thick, conforming to AAMA 701/702, or polypropylene multifilament fiber weatherstripping installed in an integral weatherstripping groove in the sash or frame, and flexible polyvinylchloride weatherstripping installed in the sill member.
3. Fixed Windows (F): Type F-AW-65.
4. Forced Entry Resistant Windows: In addition to meeting the requirements of AAMA/WDMA/CSA 101/I.S.2/A440, windows designated for resistance to forced entry must conform to the requirements of AAMA 1302.5.
5. Glass and Glazing: Materials are specified in Section 08 81 00 GLAZING.
6. Calking and Sealing: Are specified in Section 07 92 00 JOINT SEALANTS.
7. Weatherstripping: AAMA/WDMA/CSA 101/I.S.2/A440.

I. FABRICATION

1. Fabrication of window units must comply with AAMA/WDMA/CSA 101/I.S.2/A440.
2. Hardware: AAMA/WDMA/CSA 101/I.S.2/A440. The item, type, and functional characteristics must be the manufacturer's standard for the particular window type. Provide hardware of suitable design and of sufficient strength to perform the function for which it is used. Equip all operating ventilators with a lock or latching device which can be secured from the inside.

- a. Fasteners: Provide concealed anchors of the type recommended by the window manufacturer for the specific type of construction. Anchors and fasteners must be compatible with the window and the adjoining construction. Provide a minimum of three anchors for each jamb located approximately 6 inches from each end and at midpoint.
 - b. Window Anchors: Anchoring devices for installing windows must be made of aluminum, cadmium-plated steel, stainless steel, or zinc-plated steel conforming to AAMA/WDMA/CSA 101/I.S.2/A440.
3. Finishes: Finish: High-performance organic finish (2-coat fluoropolymer) – AA-C12C40R1x (Chemical Finish: Cleaned with inhibited chemicals; Chemical Finish: Conversion coating; Organic Coating: Manufacturer's standard 2-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions.
- J. THERMAL-BARRIER WINDOWS
1. Provide thermal-barrier windows, complete with accessories and fittings, where indicated.

END OF SECTION 08 51 13