

Addendum Date: Monday January 8, 2019
Bid Due Date: Friday January 11, 2019

Addendum No. 03

to the Plans and Specifications for

Cuyahoga Community College East Campus Digital Sign Replacement and Refurbishment C20181502

To the Bidders of Record:

This Addendum modifies and forms a part of the BIDDING DOCUMENTS dated December 3, 2018 and Addendum No. 01, dated December 13, 2018 and Addendum No. 02 dated January 7, 2019. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

1. Revised SECTION 270100 – EXTERIOR VIDEO DISPLAY SYSTEM dated January 8, 2019.

SECTION 270100 – EXTERIOR VIDEO DISPLAY SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including information in the Request for Proposal, apply to this Section.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Power and low voltage are existing to remain to each monument sign location.
- B. Coordination with General Trades required related to refinishing of existing metal and masonry work.
- C. Requirements and materials that apply to the work of others related to the exterior video display systems are listed to define and establish exterior video display system requirements. Coordinate work of this Section with work of other Sections as required to properly execute the work as necessary to maintain satisfactory progress of the work of other Sections.

1.3 WORK OF THIS SECTION

- A. This section covers all exterior video display systems and control as described below for Cuyahoga Community College East Campus. The objective is to provide professional systems, installed, acceptance tested, and ready to use.
- B. The written specification and large format TA series drawings shall be collectively referred to herein as the Contract Documents. System features which are mentioned in one part may not be shown in others. In the case of conflict between written specification and drawings, Contractor must seek written clarification from the Architect. In the event that the Contractor fails to obtain such written clarification, the interpretation of the Architect will prevail. Where conflict exists with other specifications concerning such work or materials, this specification takes precedence unless otherwise approved in writing by the Owner.
- C. Structural Steel framing provided and installed by Video Display Contractor
 - 1. The Sign Contractor shall be responsible for furnishing and installing the exterior video display to the existing monument structure in direct replacement of existing exterior video signage systems and are to provide any secondary framing, clips, attachment devices, support pieces, etc that may be required to assemble and attach the video display board.
- D. Steel Sign Cabinet
 - 1. The Sign contractor shall be responsible for any and all alterations to accommodate the new digital video display within the existing sign cabinet. The sign contractor shall be responsible for cleaning, repairing, and repainting to like new condition the steel sign cabinet including screen painted logos, cut outs, and Plexiglas inserts in-kind to provide a like-new appearance.
- E. ADD ALTERNATE #1
 - 1. The Sign Contractor shall replace the existing internal sign lighting with solid state lighting that has the same lumen output, color temperature (6000-6500K – Bright White), and distribution in the existing internal lighting system. Contractor shall furnish and install adequate and accessible power supply and all required accessories, mounting clips, and hardware for a functioning system. Acceptable manufacturers include General Electric and Sylvania.

F. ADD ALTERNATE #2

1. The Sign Contractor shall furnish and install equipment necessary for wireless broadband cellular service **for the life of the sign (Add #3)** so the uploading, maintenance, and communication to the digital signage system per the manufacturer's recommended solution.

G. ADD ALTERNATE #3

1. The Sign Contractor shall furnish and install new steel sign cabinets to match existing overall form and dimensions that allow for ease of maintenance and installations. Color (Pantone Matching Systems #321c – Teal), lettering, cutouts, attachment to monument base, and layout is to remain consistent with existing signs.

H. All associated fees, permits, and other documentation required to perform the installation of the Exterior Video Display System.

1.4 CONTRACTOR RESPONSIBILITY

- A. It shall be the responsibility of the Sign Contractor to furnish equipment complete in all respects and to provide any additional equipment required to fulfill the intent of these drawings and specifications regardless of whether or not such items are herein specified or indicated without claim for additional payment or costs.
- B. The work specified herein shall be accomplished by a single Sign Contractor who has complete responsibility for the systems described.
- C. The Sign Contractor shall be responsible for subcontracting other trades to provide a complete and suitable installation of equipment to meet the intent of this specification.
- D. The Sign Contractor shall report all discrepancies between this requirement and the Contract Documents to the Architect and College prior to procurement of installation of such equipment.

1.5 DESIGN INTENT

- A. Sign Contractor to provide infrastructure for exterior video display system including but not limited to wire, cable, mounting brackets, bracing, control software, and all accessories to make a complete, working system.

1.6 SUBMITTALS

- B. Product Data: For each type of product indicated.
- C. Shop Drawings: Show fabrication and installation details for signs.
 1. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
 2. Provide structural mounting details and diagram of sign mounting frame to existing monument pedestals for review by Architect. Coordinate with all necessary general trades. Installation shall not proceed without approval of structural mounting details.
 3. Wiring Diagrams: Power, signal, and control wiring.
- D. Samples for Initial Selection: Manufacturer's color charts consisting of actual units or sections of units showing the full range of colors available for the following:
 1. Aluminum.

- E. Samples for Verification: For each of the following products and for the full range of color, texture, and sign material indicated, of sizes indicated:
 - 1. Aluminum: For each form, finish, and color, on 6-inch- long sections of extrusions and squares of sheet at least 4 by 4 inches
 - 2. Frame: 6-inch- long sections of each profile.
 - 3. Accessories: Manufacturer's full-size unit.

1.7 QUALITY ASSURANCE

- A. Parts listed shall be complete and equipment furnished shall conform to manufacturer's specifications.
- B. All materials shall be new and shall conform to the applicable provisions of Underwriters Laboratories and the American Standards Association.
- C. Procure and pay for all permits, licenses and inspections and observe any requirements stipulated therein. Conform in all trades with all local regulations and codes
- D. Comply with federal, state, and local labor regulations and applicable union regulations.
- E. Installation shall conform to the latest federal, state, and local electrical safety codes or those of other authorities having jurisdiction. Where conflict exists, the most stringent code or regulation shall apply.

1.8 GUARANTEE AND SERVICE

- A. All new systems and components shall be guaranteed free of defects in materials and workmanship for a period of one (1) year from the date of acceptance and shall be repaired or replaced within forty-eights (48) hours following report of such defects by the owner.
- B. Installation of relocated existing equipment shall be guaranteed free of defects in materials and workmanship for a period of one (1) year from the date of acceptance and shall be repaired or replaced within forty-eights (48) hours following report of such defects by the owner.
- C. The Contractor shall be available on call and on eight (8) hour notice during the first month following acceptance of the system, to assist the Owner's representatives in any problems which may arise during the initial period of operation.
- D. If during the guarantee period any component is out of service for more than seven (7) consecutive days due to unavailability of parts or service, the Contractor shall supply and install an identical new component. If an identical component is not available, the Contractor will substitute equivalent equipment with the approval of the Owner.
- F. During the course of the Guarantee period, the Contractor shall provide a minimum of three (3) service visits to the site for inspection and adjustment of equipment and programming. Contractor shall submit proposed schedule for these visits and shall notify Owner and Architect in writing at least one month in advance of each visit.

1.9 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when [existing and forecasted] weather conditions permit installation of signs in exterior locations to be performed according to manufacturers' written instructions and warranty requirements.
- B. Field Measurements: Verify recess openings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.11 INSURANCE

1. All equipment and materials shall be fully insured against loss or damage up until acceptance of the system by the Owner or until the Owner relieves the Contractor in writing of this responsibility, whichever is earlier.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 6063-T5.
- B. Steel:
 1. Galvanized Steel Sheet: ASTM A 653/A 653M, G90 coating, either commercial or forming steel.
 2. Steel Sheet: Uncoated, cold-rolled, ASTM A 1008/A 1008M, commercial steel, Type B, exposed
 3. Steel Members Fabricated from Plate or Bar Stock: ASTM A 529/A 529M or ASTM A 572/A 572M, 42,000-psi minimum yield strength.
 4. For steel exposed to view on completion, provide materials having flat, smooth surfaces without blemishes. Do not use materials whose surfaces exhibit pitting, seam marks, roller marks, rolled trade names, or roughness.

2.2 EQUIPMENT

- A. Manufacturer: No Substitutions permitted.
 1. Watchfire Time-O-Matic
1015 Maple Street
Danville, IL 61832
Phone: 614-560-3388
Fax: 217-442-1020
Contact: Tim Fausel/
Email: tim.fausel@watchfiredesigns.com
- B. Product:
 1. Watchfire W16MM Color Exterior LED Sign (Watchfire Master Quote ~~1620630.0~~ 1231613 W16-S)(Add #2)
 - a. Approximate Active Area Dimension: ~~9'-0" W x 3'-0" H~~ 7'-0" x 3'-0" W (Add #2)
 - b. Approximate Cabinet Dimensions: ~~9'-3" W x 3'-5" H x 5" D~~ 7'-0" W x 3'-4" W x 5" D (ADD #2)
 - c. Approximate Weight: ~~719 lbs~~ 560 lbs (Add #2)
 - d. Viewing Angle: 140 Degrees horizontal, 70 degrees vertical
 - e. Power requirements: 120 or 240 volt single phase 60 Hz
 2. All bidders shall provide pricing for above listed product and manufacturer as specified for bid. No alternate manufacturers will be accepted.
- C. General Display Specifications:

1. The Contractor shall furnish the complete LED-based Display System as described in the architectural details. It shall be manufactured by Watchfire Time-O-Matic.
2. The LED system shall be capable of at least 14-bit control of red, green and blue LEDs to produce 18 quadrillion colors or more.
3. The LED fixture shall be operated at constant and carefully regulated current levels. LEDs shall not be overdriven beyond their specified nominal voltage and current.
4. The LED system shall use integral and differential nonlinear control.
5. The LED system shall use 19-bit or greater nonlinear scaling techniques for high-resolution output.
6. Constant data transmission rates shall be employed, resulting in the output being independent of distance of cable between power supply and light source within the specified length.
7. High power LED fixture shall be thermally protected using one or more of the following thermal management techniques: metal core board, gap pad, and/or internal monitoring firmware.
8. For wet and damp use, LED-based fixture itself shall be sealed, rated, and tested for appropriate environmental conditions, not accomplished by using an additional housing or enclosure.
9. LED fixture housing shall be designed to transfer heat from the LED board to the outside environment.
10. All hardwired connections to LED fixtures shall be reverse polarity protected and provide high voltage protection in the event connections are reversed or shorted during the installation process.
11. All LED fixtures and power/data supplies shall be provided by a single manufacturer to ensure compatibility.
12. All products associated with installation and control of the LED system, including peripheral devices and software are to be provided by a single manufacturer.
13. Power/data supply outputs shall have current limiting protection.
14. Power/data supply shall provide mis-wiring protection.
15. Power/data supply shall have power factor correction
16. Power/data supply shall provide connections that are conduit-ready or clamp-style connections for the low-voltage wiring.
17. LED system shall have a selectable means of external control via a data network.
18. The LED system shall be scalable, with every LED fixture/address in the system capable of being controlled by a single, centralized controller.
19. The LED system shall support frame rates greater than 30 frames per second.
20. All LEDs used in the LED fixture shall be high brightness and proven quality from established and reputable LED manufacturers.
21. Manufacturer of LED systems shall utilize an advanced production LED binning process to maintain color consistency.
22. LED fixture shall be UL listed, UL classified, or ETL listed.
23. LED fixture shall be CE certified.
24. LED fixtures shall be PSE marked
25. Power/data supply shall be UL listed for Class 1 or Class 2 wiring
26. Manufacturer shall be able to provide supporting documentation of the product meeting third party regulatory compliance.
27. Manufacturer shall ensure that products undergo and successfully meet appropriate design and manufacturability testing including Design FMEA, Process FMEA, Environmental Engineering Considerations and Laboratory Tests, IEC standards and UL/CE testing.
28. All LED fixtures (100% of each lot) shall undergo a minimum eight-hour burn-in test during manufacturing.
29. Manufacturer shall provide optical performance, polar diagrams, and relevant luminance and illuminance photometric data based on verifiable test results.
30. Manufacturer shall provide photometric data in IES file format in accordance with IES LM-63-2002, based on verifiable test results.
31. Manufacturer shall provide mechanical, electrical, network communication and environmental specifications.
32. Manufacturer shall provide installation guides.
33. Manufacturer shall provide system wiring diagrams.
34. Manufacturer shall provide applications engineering services.

35. Manufacturer shall provide a minimum of two (8) eight hour days of a factory-trained applications engineer for onsite supervision of startup and/or programming.
36. Manufacturer shall provided a minimum of two consecutive (8) hour training periods for training in use and maintenance of equipment, software, and accessories. Training sessions must be videotaped and provided to Owner for a record document and future training purposes.

2.3 ACCESSORIES

- A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.4 CONTROL

- ~~A. Provide and install a rack mount Control Processing Unit (CPU) by Dell Computers or equal with the following characteristics:(Add #3)~~

- ~~1. Microsoft Windows 7 (32 or 64 Bit), Windows XP SP3 (32 Bit), or Mac OS 10.5.6 or newer running Parallels Desktop 3.0 Build 5608 or newer running one of the previous Microsoft OS's~~
- ~~2. Minimum of 1GB of RAM~~
- ~~3. Minimum of 5 GB of available hard-disk space~~
- ~~4. A fiber optic PCI video card capable of displaying a minimum of 64,000 colors (1024x768) and has a minimum of 100 Mbps 32 Bit resolution for Multi-Mode Fiber and ST style connector.~~
- ~~5. Internet Explorer 6.0 or higher~~
- ~~6. A minimum of two (2) available USB 2.0 ports~~
- ~~7. A DVD-ROM~~
- ~~8. A standard phone modem~~
- ~~9. A Network Interface Card~~
- ~~10. Live video on-demand capability~~
- ~~11. A Video Capture Card~~
 - ~~a. Acceptable Models are ATI Wonder Elite, Wonder 550, Wonder 650, Wonder HD 750~~
- ~~12. A rack mount keyboard/mouse~~
- ~~13. A rack mount pull-out flat panel display with a minimum resolution of (1024x768)~~

- ~~B. CPU to be installed per direction from Cuyahoga Community College's Office of Information Technology Standards and is to be located per direction by the Owner and connected to the College's IT network via a standard CAT 6 cable. (Add #3)~~

- C. Provide a graphics software design/player interface as part of the complete Exterior Video Display System as indicated in the Watchfire Time-O-Matic Master Quotes. Any software license required shall be provided to the Owner.

- D. Content between CPU and Display shall be via ~~fiber optic multi-mode cable~~ 5-Year Wireless Service Plan (Add #3). (Or via ADD ALTERNATE #2)

- E. Provide Temperature sensing.

2.5 FABRICATION

- A. General: Provide manufacturer's standard signs of configurations indicated.

1. Welded Connections: Comply with AWS standards for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of exposed side. Clean exposed welded surfaces of welding flux and dress exposed and contact surfaces.
2. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
3. Preassemble signs in the shop to greatest extent possible. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in location not exposed to view after final assembly.
4. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.
5. Provide neoprene separators where disparate metals may come in contact.

2.6 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.7 ALUMINUM FINISHES

- A. Clear Anodic Finish: Manufacturer's standard Class 1 clear anodic coating, 0.018 mm or thicker, over a nonspecular as fabricated mechanical finish, complying with AAMA 611.
- B. Baked-Enamel Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Apply baked enamel complying with paint manufacturer's written instructions for cleaning, conversion coating, and painting.
 1. Organic Coating: Thermosetting, modified-acrylic enamel primer/topcoat system complying with AAMA 2603 except with a minimum dry film thickness of 1.5 mils, medium gloss.

2.8 STEEL FINISHES

- A. Surface Preparation: Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
- B. Factory Priming for Painted Finish: Apply shop primer specified below immediately after surface preparation and pretreatment.
 1. Shop Primer: Manufacturer's or fabricator's standard, fast-curing, lead- and chromate-free, universal primer, selected for resistance to normal atmospheric corrosion, for compatibility with substrate and field-applied finish paint system indicated, and for capability to provide a sound foundation for field-applied topcoats despite prolonged exposure.
- C. Baked-Enamel Finish: Immediately after cleaning and pre-treating, apply manufacturer's standard two-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat. Comply with paint

manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 2 mils.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. The Sign Contractor shall examine substrates, areas, and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Verify that items including anchor inserts and electrical power are sized and located to accommodate signs.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.
 - 1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
- B. Bracket-Mounted Signs: Provide manufacturer's standard brackets, fittings, and hardware for mounting signs that project at right angles from exterior walls. Attach brackets and fittings securely to walls with concealed fasteners and anchoring devices to comply with manufacturer's written instructions.

3.3 CLEANING AND PROTECTION

- A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

3.4 Programming, Commissioning, and System Start-up

- A. The Sign Contractor shall work with the Owner and Architect to provide the System Start-up and program the sign to work with the College's existing Video Display Watchfire system.
 - 1. A minimum of one (1) 4-hour time period is required.
- B. The Sign Contractor shall provide a technician on-site for commissioning of the display by the Architect. The Sign Contractor shall have on hand video test equipment including video test patterns and sample content, both still and motion images.

END OF SECTION