

SECTION C
DESCRIPTION/SPECIFICATIONS/AND WORK STATEMENT

1. **BACKGROUND**

As one of the nation's principal conservation agencies, the National Park Service (NPS) has the responsibility to protect some of our most treasured natural and cultural resources. In order to preserve these treasures it is important that they be interpreted in ways that help NPS visitors experience them, understand them, and appreciate their value. It is also important that those who visit National Park sites be assured that their visits are safe and enjoyable.

Since its earliest days, the NPS has relied on a variety of interpretive media to assist in the effort to protect its resources and to assure the pleasure and safety of its visitors. Among the various media used by the NPS, wayside exhibits provide the most direct interpretation of park sites and features. Because they are located in a park's outdoor environment, "waysides" offer immediate -- and readily available -- sources of information tailored to a specific place and time. No other interpretive medium can match the power of direct association of information and resource, or the convenience of on-site location.

These contracts are designed to respond to a need to establish nationwide support services for different types of National Park Service outdoor panels. Projects range in scope of small to major.

2. **PURPOSE**

The purpose of this contract is to provide fabrication of exhibit quality, fiberglass embedment, high pressure laminate, and fused polycarbonate panels for outdoor use.

3. **SCOPE OF WORK**

Independently, and not as an agent of the government, the contractor shall provide all labor, materials, equipment and facilities (except as otherwise specified), necessary to fabricate interpretive wayside exhibit fiberglass embedment, high pressure laminate, and fused polycarbonate panels for outdoor use.

Specifically, the following services are required:

A. **FIBERGLASS EMBEDDED PANELS**

Production of fiberglass embedded panels from government-furnished digital files or production-ready materials.

Each panel shall consist of a solid one-piece panel with 600 dpi ink jet graphic embedded in fiberglass.

Four-color CMYK images shall be printed on an ink jet printer using ultraviolet resistant pigmented inks. Images shall be printed on a specially formulated substrate capable of resin saturation to ensure a true fiberglass embedment. The print shall be full-size all the way to the edges of the panel.

Full-size proofs shall be right-reading images on embedment substrate (printed in the actual color to be used in production) and shall be submitted to the Contracting Officer's Representative (COR) for review and approval prior to embedment.

The minimum requirements for the inkjet printer shall be 600 dpi image resolution with an output width capable of printing a 36" x 48" image in a single section. Inks shall be ultra violet resistant pigmented ink jet inks. The substrate shall be a specially formulated substrate capable of resin saturation to ensure a true fiberglass embedment. Encapsulation is not acceptable. All completed panels shall be trimmed 1/8" under nominal dimensions indicated in the Scope of Work with a tolerance of +/- of 1/32". The total thickness *of all assembled panel components shall not exceed 0.060"* for all panels 42"x 24" and 24"x 24" and 0.090" for panels 36" x 48" and 5- 9/16" x 11 7/16" Trailside panels.

The imaged substrate shall be embedded in fiberglass according to the following specifications: Resin shall be non-yellowing R-70 clear resin or UV stabilized, acrylic modified polyester resin, reinforced with high solubility, chopped strand fiberglass mat so that the index of refraction ensures total clarity of all color, copy and graphics. Glass fibers shall not be readily discernable on the panel face. The panel shall have a glass content of no less than 28% of the total panel weight. The panel shall be able to withstand temperatures from -65° f. to 350°f. The panel shall have a minimum Barcol harness factor of 50, tensile strength of 12,000 psi, compressive strength of 20,000 psi, flexural strength of 18,000 psi, and minimum impact strength shall be 6 gt lbs/in notch with a fire resistance of 500°f.

The face shall not be permanently defaced by seam, acid aromatics, scratching, inks, or paints and shall be readily wiped clean with paint remover and solvents without affecting the appearance or legibility of finish or graphics.

Face shall retain legibility and finished appearance when sprayed with a 10% solution of hydrochloric, nitric, or sulfuric acid for one half-hour or when scrubbed by a brush or medium hardness using common commercial cleaning compounds such as ammonia, laundry soaps, detergents, carbon tetrachloride, or petroleum based solvents. The panel shall be opaque with a matte finish with a minimum embedment of all graphic elements of .030. The panel shall be router cut, edges shall not be crazed or cracked, and the finish shall be smooth, clean, and neat. Thickness shall be 0.060" or 0.090" as specified in each task order.

B. HIGH PRESSURE LAMINATE PANELS

Production of high pressure laminate (HPL) panels from government-furnished digital files or production-ready materials

Outdoor Grade: High pressure laminate graphic sign material shall be composed of several layers of phenolic (opaque) resin impregnated kraft filler paper and, surfaced by a layer of coated inkjet graphic image substrate, digitally imaged with ultra-violet (UV) resistant, pigment based process color inks, two UV resistant melamine (clear) overlay sheets, with a modified acrylock overlay for further UV resistance and hardness, which has been pre-consolidated with an industrial optical coating. The optical top coating assures UV resistance of over 97% of all harmful UV rays and further tempers the surface to resist vandalism and provides a surface that accommodates easy cleaning of graffiti without degrading the graphic surface. Layers of material shall be assembled and heat/pressure consolidated in laminate presses at approximately 1300 PSF at temperatures exceeding 295 degrees Fahrenheit. Once cooled, the paper shall completely absorb the melamine to assure a solid thermoset plastic.

Four-color CMYK images shall be printed on an ink jet printer using ultraviolet resistant pigmented inks. Images shall be printed on a specially formulated substrate capable of HPL embedment. The print shall be full size all the way to the edges of the panel.

Full-size paper proofs and 8" x 10" pressed sections printed in the actual color to be used in production shall be submitted to the COR for review and approval prior to embedment.

The minimum requirements for the inkjet printer shall be 600 dpi image resolution with an output width capable of printing a 36" x 48" image in a single section.

All completed panels shall be trimmed 1/8" under nominal dimensions indicated in the scope of work with a tolerance of +/- of 1/32". The total thickness *of all assembled panel components shall not exceed 0.100"* for all panels.

Panels shall be able to withstand temperatures from –65° f. to 350°f. The panels shall have a minimum Barcol harness factor of 50, tensile strength of 12,000 psi, compressive strength of 20,000 psi, and flexural strength of 18,000 psi, minimum impact strength shall be 6 gt lbs/in notch with a fire resistance of 500°f. The face shall not be permanently defaced by seam, acid aromatics, scratching, inks, or paints and shall be readily wiped clean with paint remover and solvents without affecting the appearance or legibility of finish or graphics. Face shall retain legibility and finished appearance when sprayed with a 10% solution of hydrochloric, nitric, or sulfuric acid for one half-hour or when scrubbed by a brush or medium hardness using common commercial cleaning compounds such as ammonia, laundry soaps, detergents, carbon tetrachloride, or petroleum based solvents.

C. **FUSED POLYCARBONATE PANELS**

Production of fused polycarbonate panels from government-furnished digital files or production-ready materials

Each panel shall consist of a solid one-piece panel with 1200 dpi ink jet graphics fused to a polycarbonate panel.

Four-color CMYK images shall be printed on an ink jet printer using ultraviolet resistant pigmented inks. The print shall be full-size all the way to the edges of the panel.

Full-size proofs printed in the actual color to be used in production shall be submitted to the COR for review and approval prior to embedment.

The minimum requirements for the inkjet printer shall be 600 dpi image resolution with an output width capable of printing a 36” x 48” image in a single section.

The panel shall be fused together so that delamination shall not occur. Simple cold lamination is unacceptable.

All completed panels shall be trimmed 1/8” under nominal dimensions indicated in the scope of work with a tolerance of +/- of 1/32”. The total thickness *of all assembled panel components shall not exceed 0.100”* for all panels.

Panel shall be able to withstand temperatures from –65° f. to 350°f. The panel shall have a minimum Barcol harness factor of 50, tensile strength of 12,000 psi, compressive strength of 20,000 psi, and flexural strength of 18,000 psi, minimum impact strength shall be 6 gt lbs/in notch with a fire resistance of 500°f. The face shall not be permanently defaced by seam, acid aromatics, scratching, inks, or paints and shall be readily wiped clean with paint remover and solvents without affecting the appearance or legibility of finish or graphics.

Face shall retain legibility and finished appearance when sprayed with a 10% solution of hydrochloric, nitric, or sulfuric acid for one half-hour or when scrubbed by a brush or medium hardness using common commercial cleaning compounds such as ammonia, laundry soaps, detergents, carbon tetrachloride, or petroleum based solvents.

D. **Image assessment, image manipulation and editing, and high resolution scanning**

The contractor shall be responsible for the following:

Image assessment that shall include accuracy of color compared to original proofs, text sharpness, gray scale reproduction, and quality of mass tones. Images shall be free of multiplexing patterns, printed on a single section without tiling, spurious writing, pixel drop-out, and other undesirable artifacts.

Image manipulation and editing shall include creation of digital files from government-furnished text, photographs, PMIS colors, and graphics, conversion of low resolution files to high resolution files, high resolution image editing to include, but not limited to, joining photographs to create panoramic images, image clean-up and restoration, lightening and darkening of image areas for legibility, and other image editing as specified in each individual task order. Image editing for the purpose of eliminating or altering photographic historical content is prohibited. Completed files shall be delivered as high-resolution (no less than 200 dpi at actual output size) RGB layered files

High-Resolution Scanning shall include high-resolution scanning services suitable for large format graphics which is no less than 200 dpi at actual output size and ability to handle a wide variety of original media including: transparencies/negatives (35mm, all sizes of 2.25, 4x5, 8x10) and prints of all sizes, including original art that may exceed 3 x 2 feet.

E. **LABELS**

The contractor shall produce weatherproof labels that shall be placed on the back side of the wayside graphic panels indicating the following specific information or every panel:

Panel Identification Number (ex: GUIIS-332),
Size (ex: 36x48),
Material (ex: HPL),
Date of Manufacture,
Harpers Ferry Center, 304-535-5050

The label shall also include a box with the words “Installation Date” above it so that the park staff can indicate the date of installation on the panel sticker. One sticker shall be secured to each panel prior to delivery of the panels to the COR.

F. **CLOSEOUT**

At the conclusion of all work, the contractor shall return the government-furnished property and all other outstanding materials as specified in the individual task order to the COR. All material generated by the contractor in the process of completing a task order is the property of the government.

4. **TASK ORDER ASSIGNMENTS**

All work performed under this contract shall be directed by the government through the issuance of individual task orders in accordance with the procedures outlined in Section G. In no event will the government be responsible for any work performed by the contractor that is not undertaken pursuant to a duly executed task order signed by the Contracting Officer. The government will furnish, as appropriate, required data, materials, and access to project information necessary to perform the planning and production of work as required.