Caldwell County Schools

1914 Hickory Blvd SW
Lenoir, NC 28645
Telephone 828-728-8407
Fax 828-728-0012

Andy Puhl, Assistant Superintendent

Invitation to Bid
Window Replacement
March 19, 2025

Sealed bids will be received by Caldwell County Schools until 12:00 pm, Friday, April 11, 2025 in the office of Andy Puhl, Assistant Superintendent of Caldwell County Schools located at 1914 Hickory Boulevard, Lenoir, NC 28645, for window replacements at the Freedman Center/Horizons Elementary School located at 332 Greenhaven Drive, Lenoir, NC 28645. Bids should be addressed to the attention of Andy Puhl, Assistant Superintendent.

Accepted method of bid submission:

Bids delivered or mailed to: Attn: Andy Puhl
1914 Hickory Blvd., Lenoir, NC 2864

For questions, and to schedule a school visit, please contact Andy Puhl, Assistant Superintendent, or David Seagle, Maintenance Director.

Andy Puhl: 828 728-8407 office or 828 403-1119 mobile

David Seagle: 828 758-7342 office or 828 750-1408 mobile

General Liability insurance in the amount of $1,000,000 naming Caldwell County Board of Education as additional insured that includes bodily injury and property damage is required. It is the bidder's responsibility to field verify the size and total number of windows. Windows shall be equal to or better than TRACO TR-6800 HS-HC60 Heavy Commercial Windows. Contractor to coordinate approval of alternate window through David Seagle, Maintenance Director and Andy Puhl, Assistant Superintendent. The Board of Education reserves the right to accept and/or reject any or all bids and to waive formalities.

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Lenoir, NC 28645
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Andy Puhl, Assistant Superintendent

WINDOW REPLACEMENT
March 19, 2025

Operable Windows: White

Freedman Center/
Horizons Elementary
332 Greenhaven Drive
Lenoir, NC 28645

Area	Room	Windows	Area	Room	Windows	Area	Room	Windows
Horizons			**COA**	1B	2	**PreK**		
	Office	6		1A	10		28	3
	3	3		1F	2		29	3
	4	4		1G	2		30	3
	5	2		1H	2		31	3
	7	2		1I	5		32	3
	10	3		Restroom	2 opaque		33	3
	12	3		26	7		34	3
	14	3		27	7			
	16	3					Area total	**21**
	17	2		Area total	**39**			
	18	3						
	19	2	**Freedman**					
	20	2		2	10			
	21	2		4	4			
	22	2						
	23	2		Area total	**14**			
	24	3						
	25	6						
	Restroom	1 opaque						
	Restroom	1 opaque					**Total**	**131**
	Workroom	2						
	Area total	**57**						

- SECTION 08520 - ALUMINUM WINDOWS (Heavy Commercial)

PART I - GENERAL

1.1 SECTION INCLUDES

A. Material: aluminum windows as on the drawings and specified in this section.

B. Installation: labor, tools, and material needed to install aluminum windows.

C. Glass and glazing.

1.6 SYSTEM DESCRIPTION

A. AAMA Designation: HS-HC60.

B. Windows: 3-1/4" frame depth; extruded aluminum with integral structural polyurethane thermal break in the frame and sash members; equal-leg frame; finish factory-applied; frames and sash factory-assembled.

C. Configuration: horizontal sliding; single slide (XO) or (OX)/ three section flanker slide XOX /three section center slide OXO.

D. Glazing: exterior tape; I" insulating glass; interior EPDM gasket; aluminum glazing bead; glass description in paragraph 2.04; factory-glazed.

1.7 PERFORMANCE REQUIREMENTS

A. Conformance to HS-HC60 specifications in AAMA/NWWDA 101/1.S.2-97 when tests are performed on the prescribed 8'0" x 6'6" minimum test size with the following test results:

I. Air Infiltration: maximum .15 cfm/square foot when tested per ASTM E 283-04 at a static air pressure difference of 1.57 psf.

2. Water Penetration: no uncontrolled water leakage when tested per ASTM E 547-00 and ASTM E 331-00 at a static air pressure difference of 10 psf.

3. Uniform Structural: window to be operable, and maximum .4% permanent deformation per member when tested per ASTM E 330-02 at a static air pressure difference of 90 psf.

B. Thermal testing per AAMA 1503.1-98, at the prescribed 6'0" x 4'0" test size glazed with l" insulating glass made with 1/8" clear, Heat Mirror™ SC75, argon gas, and 1/8" clear lites, with the following test results:

1. Condensation Resistance Factor: minimum 52 frame and 69 glass CRF.

2. Thermal Transmittance: maximum .37 BTU/HR/SQ.FT/F U value.

C. Thermal computer simulation testing per NFRC I 00-04, at the prescribed 72" x 48" Non-Residential Size, glazed with I" insulating glass made with 1/8" clear and 1/8" soft coat low E lites and argon gas: Thermal Transmittance to be maximum .42 BTU/HR/SQ.FT/F U value.

1.8 SUBMITTALS

A. Shop drawings: window location chart; typical window elevations; details of assemblies, hardware, and glazing details for factory-1slazed units.

B. Product data: manufacturer's specifications and test reports from an AAMA-accredited laboratory.

C. Samples: each specified finish for aluminum; other samples as requested.

1.9 QUALITY ASSURANCE

A. Acceptance will be by addendum only as no verbal approvals will be allowed.

B. Submit bid on prequalified products in prebid written addendum. Bidder must identify manufacturer and model of product on which the bid is based.

C. Furnish a valid AAMA "Notice of Product Certification" indicating that the windows for the project conform to AAMA/NWWDA 10I/I.S.2-97.

D. Furnish visible, permanent IGCC certification labels indicating conformance to ASTM E 2190-02 on double insulating glass units.

E. Manufacturer's warranties:

I. Windows: warrant for one year against defects in material or workmanship under normal use.

2. Insulating glass units: warrant seal for ten years against visual obstruction from film formation or moisture collection between internal glass surfaces, excluding that caused by glass breakage or abuse.

3. Paint finish: PPG Duranar™ organic finish conforming to AAMA 2605-02: warrant for fifteen years against chipping, peeling, cracking, chalking, or fading.

I.IO DELIVERY, STORAGE, AND HANDLING - Handle and protect windows and accessories in accordance with AAMA CW-10-04 until project completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. TRACO TR-6800 Horizontal Sliding Thermal Aluminum Window

B. Other acceptable manufacturers who have demonstrated a successful history of manufacturing for ten years equivalent products:

I. EFCO 3500

2. Wausau410

2.2 MATERIALS

A. Aluminum extrusions: produced from commercial quality 6063-TS alloy; free from defects impairing strength and durability.

B. Hardware: two stainless steel wheel housings per sash with one ball bearing stainless adjustable steel wheel per housing; one black zinc automatic handle/Jock mounted with stainless steel screws and one black zinc keeper on meeting stiles

C. Weatherstrip: secured in extruded ports; double rows on sash perimeters: rigid PVC weatherseal in one side of the horizontal sash rails, and pile conforming to AAMA 701-04 with polypropylene center fin in remaining locations.

D. Insect Screens: half; held in exterior integral tracks with two stainless steel leaf springs; 5/16" x 1-1/2" x .050" extruded tubular aluminum frame with finish to match window in color and performance; corners mitered, gusset reinforced, and crimped; 18 x 16 dark fiberglass mesh secured with PVC spline.)

2.3 FABRICATION

A. Frame: head and sill coped and fastened to jambs with two stainless steel screws per frame head/jamb comer, four per frame sill/jamb comer; corners factory-sealed with sealant conforming to AAMA 800-92.

B. Water control: tubular frame sill with separate and offset weep slots for each track; concealed exterior weep covers with flaps to allow water to drain by gravity and resist wind-driven water.

C. Sash: tubular vertical sash stiles coped and fastened to horizontal sash rails with a telescope-design joint secured with one stainless steel screw per sash comer.

D. Sash design: mechanical meeting stile interlock; sash removed by removing take-out stop in frame head, lifting sash, and swinging sash bottom to interior; weep holes for drainage.

2.4 DOUBLE INSULATING GLASS UNITS

A. Performance

I. Dual-seal durability: conformance to ASTM E 2190-02; visible, permanent !GCC certification label.

B. Exterior glass lite

I. Thickness: 3/16"

2. Tint: Grey

3. Type: annealed *I* tempered where required by code

C. Interior glass lite

l. Thickness: 3/16"

2. Tint: clear / pattern #62 obscure in bathrooms

3. Type: annealed/ tempered where required by code

2.5 FINISH ON ALUMINUM EXTRUSIONS

A. Application: on clean extrusions free from serious surface blemishes; on exposed surfaces visible when installed product's operating sash are closed.

B. Coating: PPG Duranar™ with resin containing 70% fluoropolymer; thermosetting; alternative finishes will not be acceptable.

C. Quality standard: conforming to AAMA 2605-02, including IO years Florida exposure and 4000 hours humidity tests.

D. Pretreatment: five-stage; zinc chromate conversion coating.

E. Application: electrostatic spray and oven bake by approved applicator.

F. Coating quantity: minimum one primer coat and one color coat.

G. Dry film thickness: minimum 1.2 mils on exposed surfaces, except inside corners and channels.

H. Color: chosen from manufacturer's standard 18 colors.

2.6 INSTALLATION ACCESSORIES

A. Material: extruded aluminum; nominal .062" wall; with exposed surfaces finished to match window color and finish performance; concealed fasteners; required weatherseals; designed for unrestricted expansion and contraction.

B. Exterior: Wrap around panning to cover existing conditions.

C. Interior: two-piece snap trim

D. Mullions: with thermal break; three-piece assembly or two piece extruded covers as required.

PART 3 - **EXECUTION**

3.0I PREPARATION - Prepare openings to be in tolerance, plumb, level, provide for secure anchoring, and in accordance with approved shop drawings.

3.2 INSTALLATION

A. Install windows in accordance with manufacturer's recommendations and approved shop drawings with skilled craftspeople who have demonstrated a successful history of installing windows for ten years.

B. Provide required support and securely fasten and set windows plumb, square, and level without twist or bow.

C. Apply sealant per sealant manufacturer's recommendations at joints, wipe off excess, and leave exposed sealant surfaces clean and smooth.

END OF SECTION

SECTION 08520 ALUMINUM WINDOWS (Heavy Commercial)

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Material: aluminum windows as on the drawings and specified in this section.

B. Installation: labor, tools, and material needed to install aluminum windows.

C. Glass and glazing

1.6 SYSTEM DESCRIPTION

A. AAMA Designation: H-HC40.

B. Windows: 3-1/4" frame depth; extruded aluminum with integral structural polyurethane thermal break shrouded at frame exterior for maximum thermal efficiency; flange leg frame; finish factory-applied; frames and sash factory-assembled.

C. Configuration: single hung; bottom sash side loads for removal, after extending the concealed jamb take-out clips.

D. Glazing: exterior tape; I" insulating glass; interior EPDM wedge gasket; interior aluminum glazing bead; glass description in paragraph 2.04; factory-glazed.

1.7 PERFORMANCE REQUIREMENTS

A Conformance to H-HC40 specifications in AAMA/NWWDA 101/l.S.2-97 when tests are performed on the prescribed 5'0" x *8'0"* minimum test size with the following test results:

I. Air Infiltration: maximum .09 cfm/square foot when tested per ASTM E 283-04 at a static air pressure difference of 1.57 psf.

2. Water Penetration: no uncontrolled water leakage when tested per ASTM E 547-00 and ASTM E 331-00 at a static air pressure difference of 12 psf.

3. Uniform Structural: window to be operable, and maximum .4% permanent deformation per member when tested per ASTM E 330-02 at a static air pressure difference of 60 psf.

B. Thermal testing per AAMA 1503-98, at the prescribed 4'0" x 6'0" test size glazed with l" insulating glass made with 1/8" clear and 1/8" hard coat low Elites and argon gas, with the following test results:

1. Condensation Resistance Factor: minimum 56 frame and 62 glass CRF.

2. Thermal Transmittance: maximum .48 BTU/HR/SQ.FT/F U value.

C. Thermal computer simulation testing per NFRC 100-04, at the prescribed 48" x 72" Non-Residential Size, glazed with l" insulating glass made with 1/8" clear and 1/8" soft coat low E lites and argon gas: Thermal Transmittance to be maximum .47 BTU/HR/SQ.FT/FU value.

1.8 SUBMITTALS

A. Shop drawings: window location chart; typical window elevations; details of assemblies, hardware, and glazing details for factory-glazed units.

B. Product data: manufacturer's specifications and test reports from an AAMA-accredited laboratory.

C. Samples: each specified finish for aluminum; other samples as requested.

1.9 QUALITY ASSURANCE

A. Acceptance will be by addendum only as no verbal approvals will be allowed.

B. Submit bid on prequalified products in prebid written addendum. Bidder must identify manufacturer and model of product on which the bid is based.

C. Furnish a valid AAMA "Notice of Product Certification" indicating that the windows for the project conform to AAMA/NWWDA 101/LS.2-97.

D. Furnish visible, permanent IGCC certification labels indicating conformance to ASTM E 2190-02 on double insulating glass units.

E. Manufacturer's warranties:

I. Windows: warrant for one year against defects in material or workmanship under normal use.

2. Insulating glass units: warrant seal for ten years against visual obstruction from film formation or moisture collection between internal glass surfaces, excluding that caused by glass breakage or abuse.

3. Paint finish: PPG Duranar™ organic finish conforming to AAMA 2605-02: warrant for ten years against chipping, peeling, cracking, chalking, or fading.

1.10 DELIVERY, STORAGE, AND HANDLING - Handle and protect windows and accessories in accordance with AAMA CW-10-04 until project completion.

PART 2- PRODUCTS

2.1 MANUFACTURERS

A. TRACO TR-9100 Single Hung Side Load Thermal Aluminum Window

B. Other acceptable manufacturers who have demonstrated a successful history of manufacturing for ten years equivalent products:

1: EFCO 660

2: Wausau 310

2.2 MATERIALS

A. Aluminum extrusions: produced from commercial quality 6063-T5 alloy; free from defects impairing strength and durability.

B. Hardware: aluminum automatic sill locks, two per window

C. Weatherstrip: secured in extruded ports; on sash perimeter:rigid PVC weatherseal in one side of the vertical stiles, and pile conforming to AAMA 701-04 with polypropylene center fin in remaining locations.

D. Balances: block and tackle for HC40. Class 5 heavy duty spring with larger frame jamb extrusions for AW40 rating. Conforming to AAMA 902-99 and of appropriate capacity to hold sash stationary and permit smooth operation.

E:. Insect screens: half; held in exterior applied rigid PVC tracks with two stainless steel leaf springs; 7/16" x 1-1/4" x .045" extruded tubular aluminum frame with window finish; corners mitered, gusset reinforced, and crimped; 18 x 16 dark fiberglass mesh secured to frame with PVC spline.)

2.3 FABRICATION

A. Frame: members fastened with two stainless steel screws per joint; factory-sealed with sealant conforming to AAMA 800-92.

B. Sash: tubular horizontal sash rails coped and fastened to vertical sash stiles with a telescope-design joint secured with two stainless steel screws per sash comer; corners factory-sealed with sealant conforming to AAMA 800-92.

C. Sash design: continuous extruded lift rail on the bottom sash interior; mechanical interlock; weep holes for drainage.

2.4 DOUBLE INSULATING GLASS UNITS

A. Performance

I. Dual-seal durability: conformance to ASTM E 2190-02; visible, permanent IGCC certification label.

B. Exterior glass lite

1. Thickness: 3/16"

2. Tint: Grey

3. Type: annealed/ tempered where required by code.

C. Interior glass lite

I. Thickness: 3/16"

2. Tint: clear/ pattern #62 obscure in bathrooms.

3. Type: annealed / tempered where required by code

2.5 FINISH ON ALUMINUM EXTRUSIONS

A. Application: on clean extrusions free from serious surface blemishes; on exposed surfaces visible when installed product's operating sash are closed.

B. Coating: PPG Duranar™ with resin containing 70% fluoropolymer; thermosetting; alternative finishes will not be acceptable.

C. Quality standard: conforming to AAMA 2605-02, including IO years Florida exposure and 4000 hours humidity tests.

D. Pretreatment: five-stage; zinc chromate conversion coating.

E. Application: electrostatic spray and oven bake by approved applicator.

F. Coating quantity: minimum one primer coat and one color coat.

G. Dry film thickness: minimum 1.2 mils on exposed surfaces, except inside corners and channels.

H. Color: chosen from manufacturer's standard 18 colors.

2.6 INSTALLATION ACCESSORIES

A. Material: extruded aluminum; nominal .062" wall; with exposed surfaces finished to match window color and finish performance; concealed fasteners; required weatherseals; designed for unrestricted expansion and contraction.

B. Interior: two-piece snap trim

C. Mullions: with thermal break; three-piece assembly or two piece extruded covers as required.

PART 3- EXECUTION

3.1 PREPARATION - Prepare openings to be in tolerance, plumb, level, provide for secure anchoring, and in accordance with approved shop drawings.

3.2 INSTALLATION

A. Install windows in accordance with manufacturer's recommendations and approved shop drawings with skilled craftspeople who have demonstrated a successful history of installing windows for ten years.

B. Provide required support and securely fasten and set windows plumb, square, and level without twist or bow.

C. Apply sealant per sealant manufacturer's recommendations at joints, wipe off excess, and leave exposed sealant surfaces clean and smooth.

3.04 ADJUSTING AND CLEANING - Adjust windows as necessary for smooth and weathertight operation, and leave windows clean and free of construction debris.

END OF SECTION