

EXHIBIT B – Scope of Work

Intent:

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Document Inclusions:

- Sample subcontract agreement with special provisions and exhibits
- Owner contract
- Exhibit B - this scope of work
- Schedule
- Logistics plan
- Soils Report
- March 29, 2019 75% CD drawings and specifications

Scope of Work Summary:

Furnish all **Glass and Glazing** submittals and shop drawings, fabrication, materials, safety, quality control, labor, equipment and tools, competent supervision, hoisting, manlifts, scaffolding, campus traffic control measures, and transportation required for a complete installation of all **Glass and Glazing** as outlined in the contract documents.

- ✓ **Curtainwall at Stair Towers**
- ✓ **Alternate #2 – aluminum window (non glazed)**

Trade Specific Scope of Work Items:

The following is a general outline of items specifically included, but not limited to, under this agreement:

1. Provide cleaning of all exposed **interior and exterior** surfaces furnished under this package prior to final turnover.
2. Subcontractor shall obtain and pay for any required re-inspection fees / costs are responsibility of Subcontractor. It is the responsibility of this Subcontractor to anticipate inspection delays in the installation durations and sequence such work ahead of others as not to impose delays in the schedule.
3. Subcontractor understands that multiple areas will be occurring simultaneously and said Subcontractor shall provide required supervision and manpower to maintain multiple work areas.
4. All testing, certification tests, etc. under direction of Owner, Engineer, Inspectors, and governmental authority(s) having jurisdiction. This includes but is not limited to all seismic qualification certifications and/or calculations as required in various elevator specification

sections. Certifications/calculations shall be signed and sealed by a qualified professional engineer.

5. This Subcontractor shall make deliveries by trailer truck. Storage space at the jobsite is extremely limited and will only be available as allowed by the CM. Include all necessary equipment, etc. to unload all deliveries.
6. All welding machines shall be gas/diesel type and no electrical power will be made available for this operation on site.
7. Subcontractor shall include 2% of the total contract value for participation in composite clean-up crew. Balfour Beatty will be responsible for managing this crew.
8. Cleaning of streets if soiled by this subcontractor is included immediately upon occurrence before Owner contracts BBC.
9. Flaggers at site entrance are included for your scope of work entering and existing site
10. Subcontractor shall furnish and install all Aluminum Curtainwalls in strict accordance with the Contract Documents and Manufacturer's Recommendations, which includes but is not limited to all anchors, fasteners, shims, wood blocking, support brackets, head and sill flashings, trim, caulking, backer rod, gaskets, setting blocks, glass, sealants, glazing, internal steel reinforcement, extruded aluminum members, filler plates, hardware, weeps and all miscellaneous metals required for a complete watertight installation to the building envelopes including perimeter locations.
11. Engineering to meet wind loads per code
12. Finish and color for aluminum, glass, and caulking to match architect's samples, **drawing elevations**, and specifications. Assume ~~Standard manufacturers colors.~~ **aluminum color will be white per UNCW East parking deck and P3 Housing project**
13. All backer rod, self-expanding foam fill caulking & sealants associated with this scope of work are included. All joints between the structure and this scope of work are the responsibility of this package.
 - a. Includes both interior and exterior sides caulking of the units.
14. Each stair shall be done independently including field measuring, ordering of glass, **fabrication of window frames**, and installation since the precast deck erection will start from one end, and schedule does not allow for delay in drying in the first set of stairs to install power, lighting, and elevator. **If Alternate #2 is accepted, this too shall be done in 2 separate phases as deck erection is split in half.**
15. All miscellaneous metals required for the installation of this scope of work but not shown in the contract documents shall be furnished and installed by this subcontractor. The **support**, bracing and anchorage of this work to the building structure is included in this scope of work. Internal structural reinforcement of any metal shapes required by the Contract Documents shall be the responsibility of this subcontractor. All engineering required of framing members is included in

this scope of work. Subcontractor shall be responsible for any additional supports not shown on the Contract Documents to meet requirements.

It is assumed all attachments will be field anchored into precast openings without spawling precast. However, if embeds are required for anchoring steel supports, this subcontractors shall include money in this agreement for precast subcontractor to purchase and install galvanized embeds in locations determined by this subcontractor within 30 days of the date of subcontract agreement as not to delay precast fabrication.

16. It shall be the responsibility of this subcontractor to isolate aluminum from other dissimilar materials to eliminate any potential for corrosion or electrolytic/electrolysis action in accordance with the Contract Documents.
17. It is the responsibility of this Subcontractor to field verify all openings and associated field dimensions prior to fabrication.
18. Subcontractor acknowledges that the Contract Documents do not completely detail all the miscellaneous framing and connection details that are required as part of the work. Subcontractor shall include this work and detailing in this agreement at no cost.
19. All field engineering and layout required for this work shall be the responsibility of this subcontractor.
20. Subcontractor shall clean all systems included in this scope of work per the manufacturer's recommendations including removal of all labels, washing aluminum, and cleaning glass. This includes both inside and exterior sides at time of this scope of work is 100% completed for each stair. If alternate #2 is accepted, cleaning is included as well.
21. It is this Subcontractor's responsibility for proper storage and protection of all materials prior to, during, and after installation of the materials. This includes protection from the work and materials of subsequent trades.
22. All hoisting for material and labor associated with this scope of work is included in this Subcontract Agreement.
23. All fasteners and attachments shall be installed so they are concealed from view.
24. All tempered glazing shall be in locations where governing building codes require.
- ~~25. All metal panels and fillers within the system are included~~
- ~~26. Subcontractor shall provide all butt glazing joints with clear silicone and installed without any bubbles, overlaps or gaps evident.~~
27. Subcontractor is responsible for temporary glass and/or weather protection for building dry-in if permanent work has not progressed to comply with the progress schedule dry-in milestone date in order to allow elevator installations to begin as they are on critical path
28. Subcontractor is to anticipate minor touch up of aluminum sills due to damage and include an allowance of 40 Crew hours to repair such items. This includes all material and labor cost.
29. Subcontractor shall allow for a 5% broken glass based on total quantity of window lights on the project for unidentifiable damages not caused by this Subcontractor. Beyond this allowance, damage by others must be reported to the Construction Manager, who will determine on a case by case basis to whom the financial responsibility will be assigned.

30. Provide a head flashing (drip), and sill flashing (weeping) even if not shown on drawings.

31. Project award includes erection times **(fill in durations)**:

Shop Drawing Time: _____ weeks

Fabrication Time: _____ weeks

Erection start date: _____

Estimated duration of erection: _____ weeks

EXCLUSIONS:

1. Aluminum **non glazed** window framing in precast openings (see alternate bid #2)

ALTERNATES:

1. Alternate #2 – provide aluminum **non glazed** window framing in precast openings **including field measurements for window frames #5, 8, 9, 12, and 13**
2. CM Alternate – add G1 glazing to window frames G6 and G11