Division 00  Procurement and Contracting Requirements
  00 01  Purchasing Bid Limits
  00 02  Notice to Proceed Form
Division 01  General Requirements
  01 01  Security and Access Control
  01 02  Podium Design
  01 03  Roof Building Identification Number
  01 04  Building Dedication Plaque
  01 05  Not Used
  01 06  Preconstruction Meeting Agenda
  01 07  Not Used
  01 08  Not Used
  01 09  Audio Visual Standards
  01 10  Digital Submittal Procedures
Division 02  Existing Conditions
Division 03  Concrete
Division 04  Masonry
Division 05  Metals
Division 06  Wood, Plastics, Composite
Division 07  Thermal and Moisture Protection
Division 08  Openings
Division 09  Finishes
  09 01  Acoustical Ceiling Standard
  09 02  Restroom Standards
Division 10  Specialties
  10 05  Wall Protection
  10 15  Paper and Soap Dispenser
<table>
<thead>
<tr>
<th>Division</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Equipment</td>
</tr>
<tr>
<td>12</td>
<td>Furnishings</td>
</tr>
<tr>
<td>12 01</td>
<td>Roller Shades</td>
</tr>
<tr>
<td>13</td>
<td>NOT USED</td>
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<tr>
<td>14</td>
<td>Conveying Equipment</td>
</tr>
<tr>
<td>15 – 20</td>
<td>NOT USED</td>
</tr>
<tr>
<td>21</td>
<td>Fire Suppression</td>
</tr>
<tr>
<td>22</td>
<td>Plumbing</td>
</tr>
<tr>
<td>22 01</td>
<td>Water Fountain Installation Guide</td>
</tr>
<tr>
<td>22 02</td>
<td>Water Bottle Filler Combination Order Guide</td>
</tr>
<tr>
<td>23</td>
<td>Heating, Ventilating, and Air Conditioning (HVAC)</td>
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<td>24 – 25</td>
<td>NOT USED</td>
</tr>
<tr>
<td>26</td>
<td>Electrical</td>
</tr>
<tr>
<td>27</td>
<td>Communications</td>
</tr>
<tr>
<td>28</td>
<td>Electronic Safety and Security</td>
</tr>
<tr>
<td>29 – 31</td>
<td>NOT USED</td>
</tr>
<tr>
<td>32</td>
<td>Exterior Improvements</td>
</tr>
<tr>
<td>32 01</td>
<td>Composite Fence Requirements</td>
</tr>
</tbody>
</table>
Purchasing Bid Limits

The Purchasing Department shall convert the purchase requisition to a Purchase Order by following the competitive pricing procedures approved by the District Board of Trustees:

- Broward College Procurement Policy/Procedure Requirements, A6Hx2-6.34
- Florida Department of Education, Rules of Community Colleges, Rule 6A-14.0734 and Florida Statutes 287.017

State Approved Purchasing Dollar Thresholds

<table>
<thead>
<tr>
<th>Purchases Up to $10,000.00</th>
<th>$0.00 to $10,000: There are no formal or informal competitive requirements for goods and services acquired by the College at this dollar threshold. The requesting department shall obtain one quote identifying the best value for the required commodity or service. A statement of work (SOW) must be provided if services are requested. Small Disadvantage Business (SDB) vendors listed on the College's vendor database should be contacted, if practicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10,000.01 to $35,000.00</td>
<td>$10,000.01 up to Category Two (currently $35,000) as defined in section 287.017(2), Florida Statutes. The requesting department shall obtain three (3) quotes providing the best value for the required commodity or service. However, a statement of work (SOW) must be provided if services are requested. At least three (3) available vendors should be contacted, of which at least two (2) should be SDB vendors listed on the College's vendor database, if practicable. The award shall go to the lowest priced responsive/responsible vendor who meets the requirements. In those rare instances when the required number of vendors is not available and/or it is in the best interests of the College, the requestor, or a procurement representative must document the situation on the Three Quote Form.</td>
</tr>
<tr>
<td>$35,000.01 to $65,000.00</td>
<td>Category Two (currently $35,000) up to Category Three (currently $65,000) as defined in section 287.017(2)(3), Florida Statutes. The Procurement Department shall process a Request to Quote (RTQ) with detailed specifications of what is required (provided by the requesting department). SDB vendors, if practicable, as listed on the College's vendor database, shall be contacted. The award shall go to the lowest priced responsible/responsive vendor who meets the requirements of the specifications. If two or fewer responses are received, the Procurement Services manager, or his/her designee, may contact one or more non-responding vendors to obtain a backup quote. In those rare instances when the required number of vendors is not available, and/or it is in the best interests of the College, the requestor, or a procurement representative, must document the situation in the RTQ file.</td>
</tr>
</tbody>
</table>
**APPENDIX 00 01 PURCHASING BID LIMITS**

**PROCUREMENT SERVICES**

Cypress Creek Center
Phone 954-201-7455
Fax 954-201-7330

www.broward.edu/community/vendor/

| $65,000.00 or Greater | Exceeding Category Three (currently $65,000) as defined in section 287.017(3), Florida Statutes. The College must release a formal competitive solicitation for goods or services. The College must advertise that it is seeking goods or services, and allow the public at large to compete for award of a contract. Formal solicitations also afford the public with “bid protest rights” as provided by chapter 120, Florida Statutes. The following are different methods of formal competition:

a. Invitation To Bid (ITB) is a competitive solicitation requesting pricing on commodities or services based on clearly definable specifications established in the solicitation. An ITB is strictly price driven. It is an advertised formal solicitation for sealed competitive bids, with a specific place, date, and time for public opening of the bids. The award goes to the lowest, responsive and responsible bidder. Pursuant to College Procedure A6Hx2-6.36, the College may establish price preferences on ITBs where most recent annually calculated College utilization data shows underutilization of SDBs in a particular industry category. A price preference of ten percent (10%) of the lowest bid will be utilized for evaluation purposes only.

b. Request for Proposals (RFP) is an advertised solicitation for competitive sealed proposals, with a designated place, date and time for opening. An RFP is used when it is not feasible to specifically define the scope of work for contractual services. Instead the College seeks a responsible vendor to present an approach, methodology, price and qualifications for accomplishing the work. All of the qualifications are evaluated by a selection committee. Evaluation criteria and points will be allotted for each factor based on the information in the solicitation. Final terms and price are subject to negotiation by authorized College representatives. An RFP is generally known as “best value procurement” because the award decision is based on a combination of price and non-price factors.

c. Request for Qualifications (RFQ) is a process which may be used to determine the qualifications from proposers when the College cannot or has not completely established the scope of services. An RFQ may be used, for example, when creating a pool of qualified vendors to be used on a rotational basis, or in a two-step competitive basis where the scope of services is incomplete and only those firms selected in the qualification phase compete when a project is identified. An RFQ can also be used to establish minimum qualification standards by type of work for consultants, the consultant competitive selection process, and the work performance evaluation system for professional consultants who seek provide professional services to the College pursuant to section 287.055, Florida Statutes, including, but not limited to: acquisition of professional architectural, engineering, landscape architectural, or surveying and mapping services, when a project is identified. |
d. Invitation to Negotiate (ITN) as defined by section 287.057(1)(c), Florida Statutes, is a solicitation used by the College which is intended to determine the best method for achieving a specific goal or solving a particular problem and identifies one or more responsive vendors with which the agency may negotiate in order to receive the best value. The ITN must describe the questions being explored, the facts being sought, and the specific goals or problems that are the subject of the solicitation. The criteria that will be used for determining the acceptability of the reply and guiding the selection of the vendors with which the College will negotiate must be specified. The college shall evaluate replies against all evaluation criteria set forth in the invitation to negotiate in order to establish a competitive range with which to commence negotiations. After negotiations are conducted, the College shall award the contract to the responsible and responsive vendor that the College determines will provide the best value to the College, based on the selection criteria.

e. Request for Information (RFI) is used to find out if there are companies that can provide certain goods or services, or to assist the College in better understanding what competitive or non-competitive solicitation process to use for a particular need, or to research general, special, and/or technical specifications for a solicitation. RFI’s are therefore seldom the final stage, but instead are often used as the first step of a two-step solicitation process, if the College chooses. The College reserves the right to do the following after issuance of an RFI: 1) issue a formal solicitation, 2) procure goods or services without competitive solicitation based upon the exception available to the College in Florida Administrative Code Rule 6A-14.0734(2), or, 3) not to proceed to the second step of procuring goods and services.

f. Request of a Letter of Interest (RLI) is a method of selecting a vendor whereby vendors are invited to submit a summary of their qualifications and state their interest in performing a specific job or service. A RLI identifies, in general terms, the work required. Responses are evaluated by an authorized panel selected by the College, mostly based on experience and qualifications.
NOTICE TO PROCEED TO CONTRACTOR

Date:
Project:
Project Number:

To: (Name of Construction Manager)

Contract For: (Description of project)

You are hereby notified that the Contract Times stated for the above project will commence on (Date). On that date, start performing the obligations required by the Contract Documents. Duration of the project is _____ business days with a required Substantial Completion date of (Date).

Before commencing Work at the Project Site, deliver the certificates of insurance and payment and performance bond as applicable and as required by the Contract Documents to the Owner.

OWNER
Broward College Authorized Owner’s Representative

_________________________________ Date________________
Authorized Signature
Name, Senior Project Manager

CONTRACTOR
Contractor’s Authorized Representative

_________________________________ Date________________
Authorized Signature
Company: ____________________________
Name: _________________________________
Title: _________________________________

Enclosures: Approved GMP and Approved PO

cc: Contract Administrator, Project Manager, Construction Manager, Construction Files
MISSION:
Our Mission is to support and stimulate the educational goals of the College by constructing and maintaining safe, sustainable and inspirational environments while balancing our financial resources, leveraging the talent of local engineering, design, and construction professionals and maintaining relationships with the communities that support us.

ACCESS CONTROL MANAGER:
Our goal is to involve the Access Control Manager in our projects early on to avoid changes later in the project. The following steps will be taken:
1. The Access Control Manager will be invited to the Facilities Design and Construction monthly meetings to review status of projects.
2. The Access Control Manager will review the Construction Document’s at 30% completion to place the location of the devices required.
3. The Access Control Manager will confirm location of the devices and complete scope on the 90% complete Construction Documents.
4. For all new construction and renovation projects the Access Control vendor will submit their proposal to the Construction Manager.
5. The Access Control Manager will assist as the BCSPM during the construction for Access Control scope.
6. The Access Control Manager will be responsible to request proposal and request purchase order for specific access control projects not related to new construction or renovation projects.

<table>
<thead>
<tr>
<th>Title</th>
<th>Responsibilities/ Roles</th>
<th>Name</th>
<th>Phone Number</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget and Planning Division</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AVP Facilities Planning &amp; Capital Budgets</td>
<td>Master Plan/ Workday/ Budget/Planning</td>
<td>Ana Ovalles</td>
<td>(954) 201-6512</td>
<td><a href="mailto:aovalles@broward.edu">aovalles@broward.edu</a></td>
</tr>
<tr>
<td>Design and Construction Division</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AVP Facilities Design + Construction</td>
<td>Budget/ Plan/ Overseer Construction. &amp; Renovation Process</td>
<td>Deborah Czubkowski</td>
<td>954−201−6900</td>
<td><a href="mailto:dczubkow@broward.edu">dczubkow@broward.edu</a></td>
</tr>
<tr>
<td>Senior Construction PM North Campus</td>
<td>Main contact for North Campus, Cypress Creek &amp; YMCA</td>
<td>Nelson Goris</td>
<td>954−201−2550</td>
<td><a href="mailto:ngoris@broward.edu">ngoris@broward.edu</a></td>
</tr>
<tr>
<td>Senior Construction PM Central Campus</td>
<td>Main contact for Central Campus, Tigertail &amp; DTC</td>
<td>Priscila Fort</td>
<td>954−201−6975</td>
<td><a href="mailto:pfort1@broward.edu">pfort1@broward.edu</a></td>
</tr>
<tr>
<td>Senior Construction PM South Campus</td>
<td>Main contact for South Campus, Miramar, Pembroke Pines &amp; Miramar</td>
<td>Robert Bellot</td>
<td>954−201−8706</td>
<td><a href="mailto:rbellot@broward.edu">rbellot@broward.edu</a></td>
</tr>
<tr>
<td>Captain, Campus Safety</td>
<td>College Wide Access Control Project Manager</td>
<td>Lynda Nation</td>
<td>954−201−5324</td>
<td><a href="mailto:lnation@broward.edu">lnation@broward.edu</a></td>
</tr>
<tr>
<td>Manager, Physical Security Technology</td>
<td>College Wide Access Control Project Manager</td>
<td>Timothy Andrasek</td>
<td>954−201−5326</td>
<td><a href="mailto:tandrase@broward.edu">tandrase@broward.edu</a></td>
</tr>
</tbody>
</table>
Building Identification Number Specifications:

The contractor at the completion of the roof membrane shall adhere a manufacturer's cut number to the completed roof, using roofing adhesive. The font shall be Aerial Bold.

The numbers and underline shall be the same material as the roofing membrane or as approved by the roofing manufacturer. Color shall be contrasting (typically black). The underline shall begin at the edge of the first number, and finish at the edge of the last number.

The contractor shall orient the number so top of the number is to the north.

Confirm location of the number with the Broward College Project Manager.
Pre-Construction Meeting (Building) Agenda

**MEETING DATE:** //  
**MEETING TIME:**

**OVERVIEW:**
The purpose of this meeting is to introduce everyone involved with the project and discuss the pre-construction agenda and project scope.

**ATTACHMENTS:**

**ATTENDEES:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Phone Number</th>
<th>Email</th>
</tr>
</thead>
</table>

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### Introductions & Attendance Sign-In

<table>
<thead>
<tr>
<th>No</th>
<th>Meeting Origin</th>
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<th>Assignment</th>
<th>Due Date</th>
<th>Priority</th>
<th>Status</th>
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### Communication

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### Superintendent

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<tbody>
<tr>
<td>3.1</td>
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<td>Contact on Site</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**Description:**  
Contractor will have a competent Superintendent on site at all times when work is taking place.

### Use of the Site

<table>
<thead>
<tr>
<th>No</th>
<th>Meeting Origin</th>
<th>Title</th>
<th>Assignment</th>
<th>Due Date</th>
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<th>Status</th>
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<tbody>
<tr>
<td>4.1</td>
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<td>Project Limits</td>
<td></td>
<td></td>
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</tbody>
</table>

**Description:**  
Contractor will be in charge of the site inside the project limits.

### Project Scope and Intent

<table>
<thead>
<tr>
<th>No</th>
<th>Meeting Origin</th>
<th>Title</th>
<th>Assignment</th>
<th>Due Date</th>
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<tr>
<td>5.1</td>
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<td>Demolition</td>
<td></td>
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</table>
### Construction Schedule / Coordination

<table>
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<th>Meeting Origin</th>
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<th>Assignment</th>
<th>Due Date</th>
<th>Priority</th>
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<td>6.2</td>
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<td>Contract Dates</td>
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<td>6.3</td>
<td>1</td>
<td>Hours of Operation</td>
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<tr>
<td>6.4</td>
<td>1</td>
<td>Moving Occupants, Materials, Equipment, etc.</td>
<td></td>
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<td>High</td>
<td>Open</td>
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</table>

### Staging Area and Job Site Use

<table>
<thead>
<tr>
<th>No</th>
<th>Meeting Origin</th>
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<th>Assignment</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>7.1</td>
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<td>Requirements</td>
<td></td>
<td></td>
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<td>Open</td>
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</tbody>
</table>

**Description:**

1. Plans & specs requirements
2. Site access - keys/badges/etc.
3. Job signs - coordinate with BC
4. Job trailer and parking (personal & company vehicles)
5. Security and temporary fencing
6. Material and/or debris storage & disposal
7. Deliveries & daily access
8. Disposal in accordance with documents
9. Salvage materials
10. Owner furnished items - delivery & coordination
11. Hazardous materials
12. Existing conditions of site
   a. document and review with owner & architect/engineer before construction
   b. correct and /or restore any damage to original conditions
13. Use of owner's property, power, water, telephone & other facilities
   a. notify owner of any changes

### Jobsite Noise & Dust Control

<table>
<thead>
<tr>
<th>No</th>
<th>Meeting Origin</th>
<th>Title</th>
<th>Assignment</th>
<th>Due Date</th>
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<tr>
<td>8.1</td>
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<td>Important Aspects</td>
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<td>Open</td>
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</tbody>
</table>

**Description:**

Respect users. This to include but not limited to students, clients, faculty and staff. No loud music or foul language.

### Utility Locates

<table>
<thead>
<tr>
<th>No</th>
<th>Meeting Origin</th>
<th>Title</th>
<th>Assignment</th>
<th>Due Date</th>
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<td>9.1</td>
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<td>Requirement</td>
<td></td>
<td></td>
<td>High</td>
<td>Open</td>
</tr>
</tbody>
</table>

**Description:**

Sunshine 811:

1. Every excavation requires public locates.
2. Mark work area appropriately.
3. Request 48 hours prior to starting work.

Private Utility Location Services:
In addition to public utility locates, GPR (Ground Penetrating Radar) underground utility locates required by BC prior to any excavation.

Underground Utility Plans:
Contact BC Project Manager for underground utility plans.

### Meetings & Inspections

<table>
<thead>
<tr>
<th>No</th>
<th>Meeting Origin</th>
<th>Title</th>
<th>Assignment</th>
<th>Due Date</th>
<th>Priority</th>
<th>Status</th>
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<tbody>
<tr>
<td>10.1</td>
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<td>Site Inspections</td>
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<tr>
<td>10.2</td>
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<td>Progress / Coordination Meetings</td>
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<td>Open</td>
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<tr>
<td>10.3</td>
<td>1</td>
<td>Architect &amp; Sub-consultants Project Visits</td>
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<td>Open</td>
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<tr>
<td>10.4</td>
<td>1</td>
<td>Pre-installation &amp; Start-Up Meetings</td>
<td></td>
<td></td>
<td>High</td>
<td>Open</td>
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</tbody>
</table>

### Quality Control

<table>
<thead>
<tr>
<th>No</th>
<th>Meeting Origin</th>
<th>Title</th>
<th>Assignment</th>
<th>Due Date</th>
<th>Priority</th>
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<tbody>
<tr>
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<td>Contractor's Responsibility</td>
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<td>Owners Expects Good Quality</td>
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<td>11.3</td>
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<td>Unacceptable Work</td>
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### Job Site Record Keeping

<table>
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<th>Meeting Origin</th>
<th>Title</th>
<th>Assignment</th>
<th>Due Date</th>
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<tbody>
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<td>12.2</td>
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<td>Maintaining As-Built Conditions</td>
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<td>Open</td>
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<td>12.3</td>
<td>1</td>
<td>Documents</td>
<td></td>
<td></td>
<td>High</td>
<td>Open</td>
</tr>
</tbody>
</table>

**Description:**
RFIs, CCDs, Change Orders, Daily Logs, Submittals, Shop Drawings, etc.

<table>
<thead>
<tr>
<th>No</th>
<th>Meeting Origin</th>
<th>Title</th>
<th>Assignment</th>
<th>Due Date</th>
<th>Priority</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>12.4</td>
<td>1</td>
<td>Photo Documentation</td>
<td></td>
<td></td>
<td>Medium</td>
<td>Open</td>
</tr>
</tbody>
</table>

**Description:**
1. Provide existing and progress photos
2. Upload photos in Procore - Photo Album - GC Progress Photos

### State Forms

<table>
<thead>
<tr>
<th>No</th>
<th>Meeting Origin</th>
<th>Title</th>
<th>Assignment</th>
<th>Due Date</th>
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</thead>
<tbody>
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<td>13.1</td>
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**Description:**
1. Contractor must use.
# Meeting #1


## Submittals

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**Description:**
1. Schedule - milestone, critical dates and two/three week look ahead
2. Schedule of values - breakdown by division - labor & materials at minimum
3. List of subcontractors & suppliers

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</table>

**Description:**
1. Submittal schedule
2. long lead / special items
3. Number of copies & who gets
4. Response time
5. Substitutions
6. Format

## Request for Payment

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</table>

**Description:**
1. Procore
2. Pencil copy submitted before original copy
3. Accompanied by updated schedule if changes
4. Lien releases

## Questions & Clarifications

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## Modifications and/or Changes

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**Description:**
Approval from architect/engineer before proceeding with the changes

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**Description:**
1. RFIs
2. Contractor or architect/engineer cost proposal
3. Construction contingency adjustment (CCA)
4. Construction change directive - change order
5. Meeting to discuss change orders & proposals
### Claims & Delays

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**Description:**
1. Process explained in contract documents
2. Liquidated damages

### Construction Methods and Safety Procedures (Comply with OSHA)

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**Description:**
1. Means & methods - contractor's sole prerogative
2. Safety - responsibility of the contractor
3. Safety & construction signs - contractor's responsibility

### Testing & Inspections

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</table>

**Description:**
1. Type of test
2. Testing consultant
3. Who gets copies of reports?
4. Contractor responsible for retest
5. Quality assurance by owner is not substitute for quality control by contractor

### Commissioning

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### Training

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**Description:**
1. Follow outline in specs
2. Submit agenda and list of attendance
3. Coordinate with BC

### Substantial Completion

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**Description:**
1. Contractual obligations fulfilled
2. Formerly notify architect or engineer for substantial inspection
3. O & M manuals - submit as package, not bits & pieces
4. As-built Drawings

<table>
<thead>
<tr>
<th>Warranty</th>
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**Description:**
Starts at substantial completion and ends one (1) year from certificate of completion or certificate of occupancy.

<table>
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<tr>
<th>Final Acceptance / Closeout</th>
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</table>

**Description:**
1. Contractual obligations fulfilled including Consent of Surety and Contractor's Affidavit
2. Date architect/engineer signs final payment application
3. Formally notify architect/engineer for final inspection
4. Punch list completed

<table>
<thead>
<tr>
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</table>
Audiovisual Standards

April 23, 2018

Ver 3.0

THIS DOCUMENT IS A WORK IN PROGRESS AND SUBJECT TO CHANGE.
THE DETAILS SHOWN IN THIS DOCUMENT ARE TO BE USED AS REFERENCE AND WILL NEED TO BE MODIFIED TO EACH INDIVIDUAL PROJECT.
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<td>Infrastructure Requirements</td>
<td>37-41</td>
</tr>
<tr>
<td>Standard Classroom Equipment</td>
<td>42-48</td>
</tr>
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</table>
CLASSROOM STANDARDS

Standard Classroom

Purpose: The standard classroom will typically seat between 20 and 40 students. The largest projection screen possible will be installed based on the ceiling height. In some cases two projectors and screens may need to be installed in wide format rooms.

Furniture:

- Podium and Chair – College standard for most classrooms. Science installations require a different podium with a chemical resistant top. The BC facilities interior designer can obtain these specifications.

Display:

Standard:

- Epson Projector or college approved replacement model
- Draper Recessed 16:10 8' Projection Screen equivalent - 50" H X 80" W Viewing Area

Computer:

- College standard podium computer
- LCD Monitor with side-mounted USB ports

Audio and Controls:

- Ceiling mounted speakers
- Compact audio amp installed in podium
- Crestron Video and Audio switching/amplification
- Crestron LCD Touch Panel Control
- Remote Management via Crestron Fusion
- Crestron Occupancy Sensor
NOTE:
IN LIMITED CASES POWER, VIDEO, AND DATA TO THE PODIUM WILL TERMINATE FROM A FLOOR BOX. THE CONTRACTOR WILL PROVIDE A FLOOR BOX UNDER TEACHING STATION AND (2) 1-1/2” CONDUITS TERMINATED IN THE CEILING CLOSEST TO THE PODIUM. POWER WILL BE LOCATED UNDER THE TEACHING STATION.
SEE PODIUM LAYOUT
CLASSROOM STANDARDS

Unless otherwise noted during site inspection the following installation standards shall apply:

Standard Classroom Layouts:

1) Projection Screen will be centered on front wall of classroom if possible. Projector and screen location may change based on ceiling obstructions or other structural features. If a door opening exists, screen will be centered between door and adjacent wall.

2) When the front of the class is also the wall with the entry door, the teaching station will be located to the side of the projection screen away from the door (See Fig 1).

3) FSR or multimedia box will be in the adjacent wall to the Podium (See Fig. 1 & 2). In the event the FSR box cannot be located at the podium side, the FSR box will be located behind the podium as close to the wall corner as possible to avoid a trip hazard caused by podium umbilical cord.

4) Projector screen switch and emergency phone shall be located above the FSR box mounted and proper height to meet Code Compliance. (See Fig. 1).

5) When the front of the class is opposite the wall with the entry door, the teaching station will be located to the side of the projection screen diagonal from the door (Fig 1 & 2).

6) Projector installed at the midpoint of the throw distance for the projector.

7) Speakers will be ceiling mounted to provide consistent sound volume over the seating area. Location and quantity will be identified during site inspection.

8) Audiovisual components may vary based on application. BC AV Solutions Leadership and Facilities Management must approve any variation from standard configurations.

9) BC AV Solutions Leadership will select computer used in podium.

10) Approved specs for Teaching Station/Stool (See Table 1)

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Description</th>
<th>Part Number</th>
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<tbody>
<tr>
<td>AV VENDOR</td>
<td>ROLLING RACK</td>
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<tr>
<td></td>
<td>PODIUM</td>
<td>vendor</td>
</tr>
<tr>
<td>KI</td>
<td>LEFT PODIUM</td>
<td></td>
</tr>
<tr>
<td>KI</td>
<td>RIGHT PODIUM</td>
<td></td>
</tr>
<tr>
<td>KI</td>
<td>STOOL</td>
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</tbody>
</table>
CONFERENCE ROOM "A"

6 Seats or Less
CONFERENCE ROOM STANDARDS

CONFERENCE ROOM “A” (6 seats or less)

Purpose: The configuration “A” or Small Conference Room typically seats less than six. The purpose of the conference room is for small team or department meetings and video conferencing using Microsoft Lync. This conference room is not intended for academic instruction.

Furniture:
- Table Dimensions: (Provided by BC Interior Design Specialist)
- Chairs: (Provided by BC Interior Design Specialist)

Display:
Standard:
- Epson Projector or college approved replacement model
- Draper Recessed 16:10 8’ Projection Screen equivalent - 50” H X 80” W Viewing Area

Optional:
- 70” Professional Grade LCD/LED Display, wall-mounted
- If necessary, vendor will supply an OTA digital antenna and HD tuner for LCD Displays and projectors in conference room configurations.

Computer:
- College standard podium computer – Installed in credenza or under table
- RF Wireless keyboard and mouse

Audio and Controls:
- Crestron Mercury

Video Conferencing Camera:
Standard:
- Logitech HD Pro Webcam C920, 1080p Video, Auto Focus

Conference Phone
- Crestron Mercury will provide audio from Skype/MS Teams.
CONFERENCE ROOM "B"
(6 - 10 SEATS)
Purpose: The configuration “B” or Medium Conference Room typically seats between six and ten users. The purpose of the conference room is for team or department meetings and video conferencing using Microsoft Lync. This conference room is not intended for academic instruction.

Furniture:
- Table Dimensions: (Provided by BC Interior Design Specialist)
- Chairs: (Provided by BC Interior Design Specialist)

Display:
Standard:
- Epson Projector or college approved replacement model
- Draper Recessed 16:10 8' Projection Screen equivalent - 50" H X 80" W Viewing Area

Optional:
- 80" Professional Grade LCD/LED Display, wall-mounted
- If necessary, vendor will supply an OTA digital antenna and HD tuner for LCD Displays and projectors in conference room configurations.

Computer:
- College standard podium computer – Installed in credenza or under table
- RF Wireless keyboard and mouse

Audio and Controls:
- Ceiling mounted speakers
- Ceiling mounted microphones for video conferencing
- Compact audio amp installed in credenza
- Crestron Video and Audio switching/amplification
- Crestron LCD Touch Panel Control
- Remote Management via Crestron Fusion
- Crestron Occupancy Sensor

Video Conferencing Camera and Audio
Standard:
- Vaddio Zoom Shot Camera and Audio Module utilizing ceiling microphones (see photo #4)
CONFERENCE ROOM STANDARDS

CONFERENCE ROOM “B”

Conference Phone

- Polycom SoundStation Duo

Conference Table Pop Ups (video, data, and power access):

(1) Large Altinex Pop-Up boxes to be located at the center of the Conference Table – Delete composite – add USB

See photo

Conference Table Pop-Ups:

(2) Small Altinex Pop-Up boxes to be located at each end of the Conference Table – See Photo

** Connections in these boxes will change with regard to connectivity requirements of the conference room and technology advances **
CONFERENCE ROOM STANDARDS

Credenza:
Furniture provided by BC to house the AV equipment

BC Credenza

Typical Rack

Typical rack installed in an approved credenza. The Credenza designed for multimedia components have necessary vents, power, space for equipment racks, and IR extenders (built in the furniture).
Conference Room “B” (6 – 12 Seats)
CONFERENCE ROOM "C"
(11 - 20 SEATS)
CONFERENCE ROOM STANDARDS

CONFERENCE ROOM “C” (11-20 seats)

Purpose: The configuration “C” or Large Conference Room typically seats between eleven and twenty users. The purpose of the conference room is for division or department meetings and video conferencing using Lync video conferencing. The primary difference between the medium and large conference room is additional ceiling microphones, A DSP, and speakers. This conference room is not intended for academic instruction.

Furniture:
• Table Dimensions: (Provided by BC Interior Design Specialist)
• Chairs: (Provided by BC Interior Design Specialist)

Display:
Standard:
• Epson Projector or college approved replacement model
• Draper Recessed 16:10 10’ Projection Screen equivalent - 65” x 104” W Viewing Area

Optional:
• 90” Professional Grade LCD/LED Display, wall-mounted
• If necessary, vendor will supply an OTA digital antenna and HD tuner for LCD Displays and projectors in conference room configurations.

Computer:
• College standard podium computer – Installed in credenza or under table
• RF Wireless keyboard and mouse

Audio and Controls:
• Ceiling mounted speakers
• Ceiling mounted microphones for video conferencing
• Compact audio amp installed in credenza
• Crestron Video and Audio switching/amplification
• Crestron LCD Touch Panel Control
• Remote Management via Crestron Fusion
• Crestron Occupancy Sensor
CONFERENCE ROOM STANDARDS

CONFERENCE ROOM “C”

Video Conferencing Camera

Standard:

- Vaddio ZoomShot Camera and sound module

Conference Phone

Standard:

- Polycom SoundStation Duo

Conference Room Pop-Ups and Floor Cable Management

These are the same products as used in the Config “B” Medium conference room.
1) **CUSTOM / MULT-PURPOSE CONFERENCE / TRAINING ROOM “D”**

- Any room accommodating more than 20 people will be specified and quoted custom design per room.
PROJECT
INSTALLATION STANDARDS

Instructions for Audio Video Contractor:

1) BC may provide a storage room at location for staging equipment and Vendor will be responsible for all equipment up until the Installation is complete and final walk-thru (signed-off) by BC.

2) All cable installation must meet State Requirement for Educational Facilities (SREF) and Local Code Compliance and BC Specifications as noted below but not limited to:

3) The project GC or electrician, will patch and paint all wall penetrations to match existing finishes. In addition, replace baseboard, carpet, chair rail, and ceiling tiles, if disturbed by the installation process.

4) All cables shall be routed above ceiling following the building lines. Place the cable where frequent changes in elevation can be avoided.

5) Install cable as high as practicable while maintaining a minimum distance of 24” above the finished ceiling.

6) Route cables away from equipment or building service areas and access panels ensuring proper working clearance.

7) Support cables independently from the building structure at maximum intervals of 48” with J-hooks.

8) Do not place cable on or use as a method of support other building systems such as HVAC ductwork, electrical conduits, fire sprinkler systems, water, sewer, drainage piping, etc. Do not attach cable supports to ceiling grid hanger wire.

9) When hanging hooks on drywall attach with sheet metal of sufficient length to be secured directly to the framing member.

10) When hanging hooks on concrete walls systems attach a plain hook with a plastic anchor and sheet metal screws or Tapcons. The fasteners shall be a minimum of 1” in length.

11) When hanging hooks on the building steel use the type with an integral or independent spring steel or set screw style beam clamp. Do not drill or cut structural steel members.

12) Support cable in other areas with ¼” all-thread attached to a steel structural member with a beam clamp or concrete anchor directly in the deck above. Attach the lower end of the rod to the ceiling grid using an Erico 3114Z34 drop rod securing clip or approved equal. Trim excess rod to within 1” of the spring steel “batwing”. Install cable hooks with spring steel clips that are designed to attach directly to the rod such as Erico CAT214Z34.

13) Install all hangers plumb. The cable route selected shall allow for the drop rod clips to be placed at ceiling grid element joints. Clips & hangers maybe installed mid-span only to provide support around an obstacle or meet the minimum support requirements at the grid.
PROJECT INSTALLATION STANDARDS

14) Secure cables to the hooks with cable ties. Provide plenum rated cable ties where required.

15) All cables that routed in the same direction shall be grouped (no fanning) together with maximum sag of 3" between supports.

16) Install a cable support within 24" of projector mast. Dress a 12" diameter service loop in the AV cabling and hang at this interval. Route the cable from the top of the service loop to the projector mast and secure with a cable tie and at maximum intervals of 12" to the finished ceiling. Secure the cable to the mast 6" above the ceiling tile. Secure loop with a minimum of 3 cable ties spaced equally around the loop.

17) Install a cable support within 6" of AV outlet conduit stub. Dress a 12" diameter service loop in the AV cabling and hang at this interval. Route the cable from the top of the service loop into the conduit stub. Secure the service loop with a minimum of 3 cables spaced equally around the loop.

18) Each room will have teaching station provided by BC. Vendor will install the media touch panel to the left of the monitor on the teaching station.

19) For a standard teaching station installation: FSR multimedia box will be installed by the Electrician. The AV Vendor will install the appropriate finish plate (inside the FSR unit) populated (1) RJ45 Data Connections, Speakon connector (for ceiling speaker output), (1) RJ-45 connection for HDMI over Cat5e, or Cat6. All FSR boxes should have a wire tie restraints for cables inside of box so flap will close.

20) Other, non-standard, AV installations may have variations regarding the number of connections and plate/jack termination.

21) Cables from workstation to FSR box should be pulled through a cutout on side of workstation and housed in a 12' black snake-skin umbilical. Cradle tie wraps should be used to fasten cables on inside of teacher’s desk.

22) Altinex popup (Model TNP512C or equivalent) on teacher desk will be populated with (1) HDMI, (1) VGA, (1) audio 3.5 mm. (1) RJ-45, (2) power outlets.

23) Flat Panel Display installations, Vendor will mount equipment using 3/4" fire treated plywood black backer and the designated wall mount bracket. Wall plate for LCD Display will be populated with (2) RJ45 connectors (1) for HDMI over CAT5e, or CAT6, and (1) Network for the display. A simple antenna to provide access to broadcast television will be installed above the ceiling.

24) Structure to ceiling tile varies by room. Ceiling tiles size varies. Floor to ceiling height varies in every room. Walls are drywall.

25) Remove and discard old AV cabling from previous installations.
26) BC will indicate final location of screen and projector.

27) Vendor will provide all tools and accessories needed. Vendor will not borrow ladders or any other equipment from the college or other vendors.

28) Vendor will not stand on desk or chair to reach ceiling. Equipment is not allowed to be placed on furniture.

29) Vendor will be responsible for any ceiling tile breakage resulting from the AV installation.

30) Vendor will clean up all construction debris by the end of the work period for that day if the installation is taking place in an active classroom.

31) All AV cables will be free run and tie wrapped in podium rack to all components and wall plate.

32) Quotes must be submitted by line item according to resulting contract and must be valid for at least 90 days.

33) AV Vendor shall be responsible for verifying all equipment is installed and operational before scheduling a final inspection with the college and permitting agency. The College must approve any sign-off forms and payment will be made only when an authorized individual signs the form. Once the sign-off forms are signed, a copy of the PO, original proposal, MEP inspection report, and invoice need to be submitted as a package to the job project manager.
PODIUM
FSR BOX DETAIL

Figure 2

TEACHER PODIUM

Figure 3

ENLARGE FLOOR PLAN
INTERIOR WALL ELEVATION – LCD DISPLAY

A. For applications (such as conference rooms) that require the installation of a LCD Display

LCD Display the following installation specs will apply:

- Stub These Conduits into Drop Tile Ceiling Area (or Provide Continuous Conduit to Equipment Location if Ceiling is Not Accessible)
- 3/4" Conduits Stubbed Into Drop Tile Ceiling as Shown
- 30" H x 36" W Area of Reinforced Wood Backing

Figure 5
INTERIOR WALL ELEVATION
LCD DISPLAY ABOVE CREDENZA

Stub These Conduits into Drop Tile Ceiling Area (or Provide Continuous Conduit to Equipment Location if Ceiling is Not Accessible)

1" Conduits Stubbed Into Drop Tile Ceiling as Shown

Plasma Footprint

CHIEF PLP Wall Mount Footprint

30" H x 36" W Area of Reinforced Wood Backing

1" Conduits Connecting Upper J-Box to Lower J-Box

Standard Data Drop

J1 = Double Gang Empty J-Box with 110V Duplex Outlet Beside at Heights as Shown

Figure 6
LCD DISPLAY
MOUNTING DETAIL

Photo #7 – LCD Wall Brackets

Large FUSION Micro-Adjustable Tilt Wall Mount
Overall Dimensions (H x W x D) 16.5" x 34.4" x 2.0"
INTERACTIVE BRIGHTLINK

A. The projector bracket location must be on an existing wall stud within the 12" width of the bracket to support the projector or backing that is installed in the wall at bracket location. For the best results without adding backing, find the wall stud closest to the center of the board location and install the power on one side. Provide a single gang AV box at 100" AFF to the center of the boxes with a (1-1/4" min.) conduit stubbed into the accessible ceiling for AV cabling.

BrightLink (Option)

Owner Responsibilities - Broward College will:

- Provide infrastructure for BrightLink (see attached)
- Remove existing chalk board

AV Vendor Responsibilities:

- Install BrightLink – top of board 81.5" AFF. Center of BrightLink will be different for each installation.
- Install new custom decora plate in FSR box
- Install custom DALITE/DRAPER whiteboard depending on size

Notes:
A new processor may be required for this installation.
BrightLink power will be controlled by the existing Crestron touch panel. Only the desktop computer output will be seen on the BrightLink Projector.

- When pulling cables – follow building lines. Cables above ceiling should be run vertically 48" max run between fasteners (sleeve anchors & tapcons). Hiltys can be used when installing hangers. Fender washers should not be used. Threaded rod will be installed where appropriate in every room. Whenever possible, put hooks on wall instead of ceiling.
CLASSROOM
INTERACTIVE DISPLAYS

Epson BrightLink
PODIUM MOUNTED AV CONTROLS

AV PODIUM EQUIPMENT

Photo #1 – Crestron Control

Photo #2 – Touch Panel on Teacher’s Podium
PODIUM MOUNTED AV CONTROLS

Photo #3 – Podium AV Equipment Rack
PODIUM MOUNTED
AV CONTROLS

Photo #4 – Altinex Popup – Composite & Audio - No Longer Supported
PODIUM MOUNTED
AV CONTROLS

AV Conference Table Pop-ups:
(Small Pop-ups Shown)
VIDEO CONFERENCING EQUIPMENT

Photo #1 (ZoomShot - Wall Mounted)

![ZoomShot - Wall Mounted](image1)

Photo #2 (RoboShot - Ceiling or Wall Mounted)

![RoboShot - Ceiling or Wall Mounted](image2)
VIDEO CONFERENCING

VIDEO CONFERENCING EQUIPMENT

Photo #3 – Video Conference Phone

Photo #4 – Ceiling Microphone
INFRASTRUCTURE
DETAIL - FSR BOX

FSR MULTI-MEDIA BOX
(COVER MUST BE FLUSH MOUNTED)
Note: If the walls are painted black, select WB-X2-CVR-BLK
TYPICAL PODIUM VOICE/DATA DETAIL

Notes:
- PROVIDE NYLON BUSHINGS AT BOTH ENDS OF CONDUIT
- COORDINATE LOCATION OF PROJECTION UNITY WITH ARCHITECTURAL DRAWINGS

SYMBOL INDICATES RACEWAY/OUTLET BOX PROVISION FOR FUTURE.

SYMBOL INDICATES CABLES. (VERIFY WITH BC ELECTRICAL DEPARTMENT)
NOTES:
1) CEILING MOUNTED SPEAKERS DO NOT SECURE RACEWAY
2) SPEAKERS ARE PROVIDE & INSTALLED BY BROWARD COLLEGE A CONTRACTOR TYPICAL CEILING SPEAKER ROUGH-IN INSTALLATION
AV OUTLET INSTALLATION

NOTES:

1. INSTALL 1 1/2" AV CONDUIT ON THE TOP LEFT, BOTTOM LEFT OR LEFT SIDE ONLY.
2. 1" DATA CONDUIT MIDDLE TOP.
3. POWER TOP RIGHT OR TOP RIGHT SIDE.
4. 4 11/16" x 2 1/8" WITH DECORA SG RAISED COVER (DATA OUTLET)
5. FLUSH CEILING MOUNTED POWER OUTLET FOR PROJECTOR DUPLEX RECEPTACLE W/WHITE TRIM.

NOTE: CONTRACTOR SHALL CONFIRM WHETHER OVERHEAD PROJECTOR OR SMARTBOARD IS TO BE INSTALLED WITH OWNER’S REPRESENTATIVE PRIOR TO ROUGH-IN.
CEILING MOUNTED RECEPTACLE/DATA OUTLET FOR SCREEN PROJECTOR

TYPICAL AV INFRASTRUCTURE REQUIREMENTS

NOTE: At locations where the FSR box is being installed at the same location as the existing mystery box, the contractor shall pull back the existing cabling above ceiling, pull back ceiling tile and allow cabling to hang down for continued use by facility until FSR box construction is complete.
Approved Classroom Podium – designed by BC and KI
INSTRUCTOR SIDE

STUDENT SIDE – FRONT VIEW
ADD ALTERNATE OPTION:
Broward College custom logo applied to unit. This will typically will be used in a large multi-purpose Conference Room. Artwork supplied by Owner. Color and final location to be determined by Owner.
STANDARD
CLASSROOM EQUIPMENT

TEACHING STATION (PODIUM)

FLOOR PLAN AND ELEVATION VIEWS
STANDARD
CLASSROOM EQUIPMENT

ROLLING RACK (OPTION “A”)
MIDDLE ATLANTIC: PTRK-MDK14
14-SPACE (24-1/2”), W/PLEX-FRONT DOOR & MARBLE
GRAPHITE LAMINATE TOP, CASTERS & SHELF
MIDDLE ATLANTIC: PTRK-MDK14

**PTRK basic dimensions**

All dimensions in inches unless otherwise noted. (All dimensions in brackets are in millimeters)

**TOP VIEW**
- PTRK-XXMDK
  - 24.91 (630)
  - 23.00 (584)

**SIDE VIEW**
- PTRK-XX
  - 19.59 (496)
  - 22.59 (574)

**FRONT VIEW**
- 22.50 (574)

**BOTTOM VIEW**
- 12.00 (300)

Middle Atlantic Products UCP Series Universal Connector Panel

Single panel knockout

1/4 - 20 x 1" Grounding Chut (place only)

LKO Knockouts for 21 and 27 space only

Ko-AWFP2, Ko-VT3, Ko-VF1 and Ko-VF3

<table>
<thead>
<tr>
<th>PART #</th>
<th>BASIC WEIGHT WITHOUT CASTERS</th>
<th>A</th>
<th>VISUAL HEIGHT</th>
<th>B</th>
<th>OVERALL HEIGHT</th>
<th>C</th>
<th>VISUAL WIDTH</th>
<th>D</th>
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<th>E</th>
<th>VISUAL DEPTH</th>
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<td>vertical</td>
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</table>

**FRONT FEATURES**
- Fully adjustable threaded 10-32 rack rail front door clearance with raceway in tandem most position = 1.05 (27)
- Vent in rear door allows access to 6-1/2" fans.

**REAR VIEW**
- (without wood top, 14 space)

**REAR VIEW**
- (without wood top, 21 and 27 space only)

**CASTER OPTIONS**
- Single
- Dual

**DIMENSIONS**
- Ø 4.00 (100) diameter casters
- Ø 1.00 (25) x 2.00 (40)
ROLLING PODIUM W/ FLIP-UP SHELF (OPTION “B”)
VFI - PD3009

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<th>MODEL</th>
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<th>DEPTH</th>
<th>HEIGHT</th>
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<td>27&quot;</td>
<td>44.5&quot;</td>
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Options:
- MAPLE
- MEDIUM CHERRY
- DARK CHERRY
- BLACK
APPENDIX 01 10 DIGITAL SUBMITTAL PROCEDURES

Broward College utilizes Procore Project Management Software to track Construction Submittals, Construction Contingency Allowance (CCA), and Payment Applications.

I. Construction Submittals (i.e., materials data, product data, product samples, shop drawings, and more).

Subcontractor Documentation Preparation & Submittal:

1. CM prepares a list of each submittal that is required for the project, with assigned CSI code, description, vendor who is responsible, and material expediting dates to distributes to BCSPM and subcontractors for reference.
2. Subcontractor obtains/prepares and reviews product data/submittal information and confirms compliance with the specifications/drawings for acceptable materials and attributes.
3. Subcontractor prepares PDF cover sheet by populating information for:
   a. Specification reference # (i.e. 03300-001 Cast-in-Place Concrete)
   b. Lead time for material
   c. Material supplier and contact name and phone number
   d. Check box that product is in compliance with specifications
   e. Add comments as needed.
4. Subcontractor binds PDF cover sheet to PDF product data. Product data should be the original digital file from supplier if possible, otherwise a clear/legible scan document.
5. Subcontractor saves the file with the following filename format and sends it to the GC: “03300-001 Concrete Form Release – For Approval 2019-06-06”

CM Submittal Review & Submittal:

1. CM populates received date, verifies compliance with the contract documents, verifies lead time is compliant with the schedule, and adds comments as needed, including comments relating to coordination with other vendors. Review duration should not exceed 7 days, or as identified in contract.
2. CM will save a copy and revise the date (in the file) to match when it is submitted digitally through Procore.

CM Uploads Submittal to Procore:

1. CM will be responsible to upload all construction submittals to Procore.
2. CM shall assign the Architect of Record (or Engineer if Prime) as approver and copy BCSPM.
3. For a step by step guide on how to upload a submittal to Procore please visit: https://support.procore.com/products/online/user-guide/project-level/submittals/tutorials/create-a-submittal-revision
APPENDIX 01 10 DIGITAL SUBMITTAL PROCEDURES

Architect Submittal Review:

1. The Architect will be assigned by the CM to approve each submittal first.
2. The Architect or the person in turn to approve shall mark “No Exception Taken” “Implement Exceptions Taken” “Rejected” or “Revised and resubmit” in Procore. This will automatically notify the CM of the change.

Revised Submittal Process:

1. If the Architect or the person in turn to approve has selected “Rejected” or “Revised and resubmit” in Procore. This will automatically notify the CM of the change.
2. The CM shall create a different submittal and rename it in the following format: “03300-001-R1 Concrete Form Release – For Approval 2019-07-06”

II. Construction Contingency Allowance (CCA)

CM Uploads Submittal to Procore:

1. CM will be responsible to upload all CCA’s as a submittal through Procore.
2. CM shall assign the Architect as first approver and BCSPM as second approver.

III. Payment Applications

CM Uploads Submittal to Procore:

1. CM shall send a pencil copy of each Payment Application to the BCSPM through email first including:
   a. G702 – Payment Application
   b. G703 – Continuation Sheet
   c. Backup documentation
   d. Release of Liens
   e. Purchase Order copy
2. CM will be responsible to upload all Payment Applications as a submittal through Procore.
3. CM shall assign the Architect as first approver and BCSPM as second approver.
4. CM must copy Juan Rosa (jrosa@broward.edu) & Patsy Lenox (plenox@broward.edu) in the distribution list for Payment Applications only.
**Key Selection Attributes**

- Upgrade look at a modest price
- Ceiling-2-Ceiling™ Post-consumer Recycled Content options: Items 1773HRC, 1774HRC, 1775HRC, 1776HRC, 1777HRC (check armstrong.com/greengenie)
- Durable
  - Scratch-resistant
- Non-directional visual reduces installation time and scrap
- 30-Year Limited System Warranty against visible sag (excludes items 1736 and 1798), mold/mildew, and bacterial growth

**Typical Applications**

- Offices
- Corridors
- Retail
- Hospitality
- Classrooms

**Detail** (Other Suspension Systems compatible. Refer to listing on page 156.)

**Color**

- White (WH)

TechLine™ 877 ARMSTRONG  
armstrong.com/ceilings (search: dune)
### Visual Selection

<table>
<thead>
<tr>
<th>Edge Profile</th>
<th>Grid Drawings</th>
<th>Item No.</th>
<th>Dimensions</th>
<th>Acoustics NRC</th>
<th>Acoustics CAC</th>
<th>Fire Rating</th>
<th>Light Reflect</th>
<th>Sag Resist</th>
<th>Anti-Microbial</th>
<th>Scratch</th>
<th>Durable</th>
<th>Recycle Program</th>
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<td><strong>DUNE Square Lay-in</strong></td>
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<td>30</td>
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<td>BioBlock+</td>
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<tr>
<td><strong>DUNE Tegular</strong></td>
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<td>Fire Guard</td>
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<td>15/16&quot; Angled Tegular</td>
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### Performance Selection

Dots represent highest level of performance.

### Physical Data

**Material**
- Wet-formed mineral fiber

**Surface Finish**
- Factory-applied latex paint

**Fire Performance**
- ASTM E84 and CAN/ULC S102 surface burning characteristics. Flame Spread Index 25 or less. Smoke Developed Index 50 or less. (UL labeled) Fire Guard™: A fire resistant ceiling when used in applicable UL assemblies.

**ASTM E1284 Classification**
- Type III, Form 2, Pattern C E
- Fire Class A

**Sag Resistance**
- HumiGuard® Plus – superior resistance to sagging in high humidity conditions up to, but not including, standing water and outdoor applications.

**VOC/Formaldehyde Emissions**
- Meets CA Dept. of Health Services Standard Practice for the testing of VOC Emissions and is listed on CHPS High Performance Products Database for Low-Emitting Materials.

**Anti Mold/Mildew & Bacteria**
- BioBlock® Plus contains an anti-microbial treatment and provides guaranteed resistance against growth of mold/mildew and gram-positive and gram-negative odor/stain-causing bacteria for 30 years.

**Insulation Value**
- R Factor – 1.6 (BTU units)
- R Factor – 0.28 (Watts units)

**30-Year Performance Guarantee & Warranty Information**
- Details in back of catalog or at armstrong.com/warranty

**Weight; Square Feet/Carton**
- 1772 – 0.94 lbs/SF; 64 SF/ctn
- 1773 – 0.88 lbs/SF; 80 SF/ctn
- 1796 – 1.33 lbs/SF; 67 SF/ctn
- 1798 – 1.14 lbs/SF; 50 SF/ctn
- 1850 – 1.19 lbs/SF; 48 SF/ctn
- 1851 – 1.22 lbs/SF; 64 SF/ctn
- 1774, 1775, 1776 – 0.75 lbs/SF; 64 SF/ctn
- 1776, 1777 – 0.75 lbs/SF; 80 SF/ctn
- 1852, 1853 – 1.20 lbs/SF; 48 SF/ctn
# Dune Square Lay-In and Tegular - Item #1774

## VISUAL SELECTION

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<td>Grid Face:</td>
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<td>Available Colors:</td>
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## GRID SYSTEMS
- Formations Axiom
- Prelude ML 15/16” Exposed Tee
- Prelude XL 15/16” Exposed Tee

## WARRANTY
- 30 Year Guarantee Against Visible Sag
## PERFORMANCE SELECTION

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## ENVIRONMENTAL

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<td>Post-consumer Recycled Content:</td>
<td>1% - 13%</td>
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<tr>
<td>Pre-consumer Recycled Content:</td>
<td>28% - 42%</td>
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Calculate Recycled Content Value

## LEED Credit Area Contribution

- **EA Credit 1 Optimize Energy Performance**
- **MR Credit 2.1, 2.2 Construction Waste Management**
- **MR Credit 4.1, 4.2 Recycled Content**
- **MR Credit 5.1, 5.2 Regional Materials**
- **MR Credit 6.0 Rapidly Renewable Materials**
- **MR Pilot Credit 61 Material Disclosure and Assessment**
- **EQ Credit 4.1 to 4.6 Low-Emitting Materials**
- **EQ Credit 8.1, 8.2 Daylight and Views**

This item contributes to the following:

Qualifies as a USDA BioPreferred Product
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<td>Pattern:</td>
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<td>i-Ceilings Compatible:</td>
<td>Wireless Systems,</td>
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I. Product Information
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   B. Chemical Name and Synonyms: N/A
   C. Chemical or Product Family: Man-made Vitreous Fibers

II. Ingredient Information
   A. Hazardous Components
      (Chemical Identity; Common Name)
      | C.A.S No. | %   | OSHA PEL | ACGIH TLV |
      |           | 0-60|         | Respirable: |
      |           |     |         | Respirable: |
      | Mineral Wool Fiber | N/A | 0-60 | 1 f/cc | 1 f/cc |
      | Fibrous Glass | 65997-17-3 | 0-13 | 1 f/cc | 1 f/cc |

   This product formulation does not contain asbestos.

III. Physical Data
   A. Appearance and Color: Gray, pressed man-made vitreous fiber panel of various colors
   B. Boiling Point (degrees F): N/A
   C. Vapor pressure (mm Hg @ 20 degrees C): N/A
   D. Vapor density (Air = 1): N/A
   E. Solubility in Water: N/A
   F. Specific Gravity (H2O = 1): N/A
   G. Percent Volatile by weight (30 min. @ 275 degrees F): N/A
   H. Evaporation Rate (Butyl Acetate = 1): N/A
   I. pH: N/A

IV. Fire and Explosion Data
   A. Flash point: N/A
   B. Flammable Range: LEL = N/A ; UEL = N/A
   C. Extinguishing Media: Water fog, dry chemical ABC rated
   D. Special Fire Fighting Procedures: None
   E. Unusual Fire and Explosion Hazards: None
V. Health Data

A. Primary Route(s) of Entry: Inhalation, skin, and eye contact

B. Target Organs: Lungs, skin and eyes

Effects of Overexposure:

Acute Health Effects: Products are a transient mechanical irritant to the skin, eyes and upper respiratory system. Refer to special protection information for handling instructions.

Chronic Health Effects:

Mineral Wool Fiber: Mineral wool fiber has been classified as "not classifiable as to its carcinogenicity to human" (Group 3) by the International Agency for Research on Cancer (IARC).

Fibrous Glass: Fibrous glass has been classified as "not classifiable as to its carcinogenicity to human" (Group 3) by the International Agency for Research on Cancer (IARC). Fibrous glass is listed by NTP as 2, reasonably anticipated to be a carcinogen.

C. Carcinogenicity: NTP: Yes IARC Monographs: No OSHA Regulated: No

D. Medical Conditions Generally aggravated by Exposure: Any condition generally aggravated by respiratory and mechanical irritants in the air or on the skin. Pre-existing upper respiratory and lung disease such as, but not limited to bronchitis, emphysema, and asthma.

E. First Aid Procedures:

Skin: Wash with mild soap and running water

Eyes: Flush with flowing water for at least 15 minutes and if symptoms persist, seek immediate medical attention.

VI. Reactivity Data

A. Stability: Material is stable

B. Incompatibility: N/K

C. Hazardous Decomposition Products: Carbon dioxide, and other trace pyrolysis products typical of decomposition of any organic chemical.

D. Hazardous Polymerization: N/A

VII. Spill or Leak Procedures

A. Steps to be taken if material is released or spilled: N/A

B. Recycling Information: Armstrong Ceilings can be recycled through the Armstrong Ceiling Recycling Program. For more information on the program, requirements and local resources, please visit www.armstrong.com/ceilings/recycling or call our Recycling Center at 877-276-7876, press 1 (Ceilings), then press 8.

If the Armstrong Ceiling Recycling Program cannot be used, please dispose in accordance with federal, state and local waste disposal regulations

VIII. Special Protection Information

During the installation, be certain that the work site is well ventilated, and avoid breathing dust.

Wear long-sleeve, loose fitting clothes, gloves and eye protection.

Handle these materials carefully to minimize airborne dust.

If high dust levels are anticipated during installation, such as with the use of power tools, use the appropriate NIOSH approved dust respirator.

All power cutting tools must be equipped with dust collectors.

After using these materials, wash with warm water and mild soap. Do not scratch or rub skin if it becomes irritated.

Wash work clothes separately, and then rinse the washer.

The information presented herein is supplied as a guide to those who handle or use this product. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.
**P Relude® XL®**

15/16” Exposed Tee System

---

### Key Selection Attributes

- **Seismic Rx® Suspension System** saves time and money; ICC-ES approach to installations (ESR-1308)
- **PeakForm®** patented profile increases strength and stability for improved performance during installation
- **SuperLock™** main beam clip is engineered for a strong, secure connection and fast accurate alignment confirmed with an audible click; easy to remove and relocate
- Hot dipped galvanized coating inhibits red rusting better than electrogalvanized or painted systems
- Rotary-stitched during manufacture by a patented method for additional torsional strength and extra stability during installation
- XL2® staked-on stab end detail provides tight, secure locked connection; easy to remove, reuse and relocate
- State-of-the-art expansion relief on Fire Guard™ options; provides greater strength and prohibits distortion of grid face during installation
- 10-year limited warranty; 30-year with HumiGuard® Plus

### Typical Applications

- Retail
- Education
- Offices
- Hospitality
- Fire Guard applications based on building construction and local fire code requirements

### Color Selection

<table>
<thead>
<tr>
<th>Standard Colors</th>
<th>Premium Colors (cont.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WA - White</td>
<td>WA - White</td>
</tr>
<tr>
<td>CA - Cream</td>
<td>CA - Camel</td>
</tr>
<tr>
<td>AR - Hazo</td>
<td>AR - Hazo</td>
</tr>
<tr>
<td>HO - Hot Dipped</td>
<td>HO - Hot Dipped</td>
</tr>
<tr>
<td>OD - Oatb®</td>
<td>OD - Oatb®</td>
</tr>
<tr>
<td>FL - Platinum</td>
<td>FL - Platinum</td>
</tr>
<tr>
<td>LG - Tech Hail</td>
<td>LG - Tech Hail</td>
</tr>
<tr>
<td>BG - Silver Grey</td>
<td>BG - Silver Grey</td>
</tr>
<tr>
<td>MP - Gun Metal Grey</td>
<td>MP - Gun Metal Grey</td>
</tr>
<tr>
<td>SR - Silver Satin</td>
<td>SR - Silver Satin</td>
</tr>
<tr>
<td>PW - Pewter®</td>
<td>PW - Pewter®</td>
</tr>
<tr>
<td>BZ - Bronze</td>
<td>BZ - Bronze</td>
</tr>
<tr>
<td>CP - Cooper</td>
<td>CP - Cooper</td>
</tr>
<tr>
<td>BS - Bright Gold</td>
<td>BS - Bright Gold</td>
</tr>
<tr>
<td>PM - Mirror</td>
<td>PM - Mirror</td>
</tr>
<tr>
<td>NT - Naturel</td>
<td>NT - Naturel</td>
</tr>
<tr>
<td>Al - Aluminum</td>
<td>Al - Aluminum</td>
</tr>
</tbody>
</table>

*Available Wood Look Finishes

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### Product Description

**Materials**

A. **General:** ASTM C635 (Intermediate-duty) (Heavy-duty) main beam classification, commercial-quality hot dipped galvanized steel. Exposed surfaces chemically cleansed, galvanized steel or aluminum capping prefinished in baked polyester paint or anodized.

B. **Components:**

1. **Main Beams:** Double-web construction, web height 1-11/16”, 15/16” bottom flange with prefinished steel or aluminum capping; one fire expansion relief per fire rated main beam.

   - *NOTE:* Fire Guard items available in steel capping only.

   - [7300 (14”), routes 6” OC, Intermediate-duty](#)
   - [7301 (14”), routes 6” OC, Heavy-duty](#)
   - [7302 (12”), routes 6” OC, Intermediate-duty](#)
   - [7305 (14”), routes 10” OC, Intermediate-duty](#)
   - [734032 (3600mm, 150mm OC, Intermediate-duty)](#)
   - [8300 (144”, 6” OC, Intermediate-duty)](#)
   - [8301 (144”, 6” OC, Heavy-duty)](#)
   - [834033 (3600mm, 150mm OC, Intermediate-duty)](#)

2. **Cross Tee:** Double-web construction, web height 1-1/16”, 15/16” bottom flange with prefinished steel or aluminum capping and override at each end. Staked-on end detail allows easy cross tee removal and remounting.

   - XL7340 (48”, 12” OC)
   - XL7341 (48”, 12” OC)
   - XL7330 (36”)
   - XL7380 (96”, 12” OC)
   - XL7357 (60”, 6” OC)
   - XL7358 (60”, 20” OC)
   - XL7390 (72”, 12” OC)
   - Fire Guard Items
     - XL8320 (24”)
     - XL8340 (48”, 12” OC)
     - XL8341 (48”, 12” OC)
     - 833033 (1200mm, routes 300mm OC)

3. **Cross Tee:** Double-web construction, web height 1-3/8”, 15/16” bottom flange with prefinished steel or aluminum capping and override at each end. Staked-on end detail allows easy cross tee removal and remounting.

   - XL7318 (12”)
   - XL7368 (20”)
   - XL7328 (24”)
   - XL7378 (30”)
   - XL7348 (48”)
   - 312451 (300mm, center rout)
   - 312541 (600mm)
   - 313031 (1200mm, center rout)
   - Fire Guard Items
     - XL8330 (24”)
     - 832032 (600mm)

4. **Cross Tee:** Double-web construction, web height 1-3/16”, 15/16” bottom flange with prefinished steel cap and override at each end. Staked-on end detail allows easy cross tee removal and remounting.

   - XL7414 (48”, 12” OC)
   - XL7126 (24”)

### Wall Molding:

3A. **Angle molding:** hemmed with prefinished exposed flanges

<table>
<thead>
<tr>
<th>Item #</th>
<th>Length</th>
<th>(A) Flange</th>
<th>(B) Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>7800</td>
<td>144”</td>
<td>7/8”</td>
<td>7/8”</td>
</tr>
<tr>
<td>7807</td>
<td>120”</td>
<td>2”</td>
<td>1”</td>
</tr>
<tr>
<td>7808</td>
<td>120”</td>
<td>2”</td>
<td>2”</td>
</tr>
<tr>
<td>HD7801</td>
<td>120”</td>
<td>7/8”</td>
<td>7/8”</td>
</tr>
</tbody>
</table>

3B. **Shadow molding:** hemmed with prefinished exposed flanges

<table>
<thead>
<tr>
<th>Item #</th>
<th>Length</th>
<th>(A) Flange</th>
<th>(B) Height</th>
<th>(C) Reveal</th>
</tr>
</thead>
<tbody>
<tr>
<td>7875</td>
<td>120”</td>
<td>3/4”</td>
<td>15/16”</td>
<td>1/2”</td>
</tr>
<tr>
<td>7877</td>
<td>120”</td>
<td>15/16”</td>
<td>15/16”</td>
<td>1/4”</td>
</tr>
<tr>
<td>7878</td>
<td>120”</td>
<td>15/16”</td>
<td>15/16”</td>
<td>3/8”</td>
</tr>
<tr>
<td>7897</td>
<td>120”</td>
<td>15/16”</td>
<td>15/16”</td>
<td>1/2”</td>
</tr>
</tbody>
</table>

3C. **Shadow Molding** *(Compatible with Seismic Rx® and BERC 2)*

<table>
<thead>
<tr>
<th>Item #</th>
<th>Length</th>
<th>(A) Flange</th>
<th>(B) Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>7877</td>
<td>120”</td>
<td>15/16”</td>
<td>15/16”</td>
</tr>
<tr>
<td>7878</td>
<td>120”</td>
<td>15/16”</td>
<td>15/16”</td>
</tr>
<tr>
<td>7897</td>
<td>120”</td>
<td>15/16”</td>
<td>15/16”</td>
</tr>
</tbody>
</table>

3D. **Channel molding:** hemmed with prefinished exposed flanges

<table>
<thead>
<tr>
<th>Item #</th>
<th>Length</th>
<th>(A) Flange</th>
<th>(B) Height</th>
<th>(C) Flange</th>
</tr>
</thead>
<tbody>
<tr>
<td>7875</td>
<td>120”</td>
<td>3/4”</td>
<td>15/16”</td>
<td>1/2”</td>
</tr>
<tr>
<td>7877</td>
<td>120”</td>
<td>15/16”</td>
<td>15/16”</td>
<td>1/4”</td>
</tr>
<tr>
<td>7878</td>
<td>120”</td>
<td>15/16”</td>
<td>15/16”</td>
<td>3/8”</td>
</tr>
<tr>
<td>7897</td>
<td>120”</td>
<td>15/16”</td>
<td>15/16”</td>
<td>1/2”</td>
</tr>
</tbody>
</table>

---

1. Only available on 7301, 73242, 73228, and 7800

2. NOTE: Color chips included with samples of Armstrong grid. See your Armstrong representative for sample color chips.

3. NOTE: Items 7305, 7302, XL7342, XL7328, and 7800 are available in white only.

4. NOTE: 83300, XL8340 and XL8333 are available in white and black only.
### Physical Data

**Material**
Hot dipped galvanized steel

**Surface Finish**
Baked polyester paint or anodized

**Face Dimension**
15/16" x 1-1/16"

**Profile**
Exposed tee

**Cross Tee/Main Beam Interface**
Override

**End Detail**
Main Beam: Staked-on clip
XL Cross Tee: Staked-on clip

**Duty Classification**
Intermediate or Heavy-duty

---

### Main Beam Load Test Data

<table>
<thead>
<tr>
<th>MAIN BEAMS</th>
<th>LENGTH</th>
<th>WEB HEIGHT</th>
<th>ASTM CLASS</th>
<th>4'</th>
<th>5'</th>
</tr>
</thead>
<tbody>
<tr>
<td>7300</td>
<td>144&quot;</td>
<td>1-1/16&quot;</td>
<td>Intermediate-dry</td>
<td>17.5</td>
<td>6.75</td>
</tr>
<tr>
<td>7301</td>
<td>144&quot;</td>
<td>1-1/16&quot;</td>
<td>Heavy-dry</td>
<td>16.73</td>
<td>6.75</td>
</tr>
<tr>
<td>8300/830403</td>
<td>144&quot;</td>
<td>1-1/16&quot;</td>
<td>Intermediate-dry</td>
<td>12.8</td>
<td>6.30</td>
</tr>
<tr>
<td>8301</td>
<td>144&quot;</td>
<td>1-1/16&quot;</td>
<td>Heavy-dry</td>
<td>16.73</td>
<td>6.75</td>
</tr>
<tr>
<td>7302</td>
<td>120&quot;</td>
<td>1-1/16&quot;</td>
<td>Intermediate-dry</td>
<td>13.5</td>
<td>6.30</td>
</tr>
<tr>
<td>7306</td>
<td>140&quot;</td>
<td>1-1/16&quot;</td>
<td>Intermediate-dry</td>
<td>10.70</td>
<td>6.30</td>
</tr>
</tbody>
</table>

### Cross Tee Load Test Data

<table>
<thead>
<tr>
<th>CROSS TEE</th>
<th>LENGTH</th>
<th>WEB HEIGHT</th>
<th>4'</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL736/9341</td>
<td>12&quot;</td>
<td>1-3/8&quot;</td>
<td>40.45</td>
</tr>
<tr>
<td>XL732</td>
<td>24&quot;</td>
<td>1-5/8&quot;</td>
<td>61.33</td>
</tr>
<tr>
<td>XL735</td>
<td>30&quot;</td>
<td>1-3/8&quot;</td>
<td>16.54</td>
</tr>
<tr>
<td>XL734</td>
<td>36&quot;</td>
<td>1-1/16&quot;</td>
<td>23.21</td>
</tr>
<tr>
<td>XL746</td>
<td>48&quot;</td>
<td>1-3/16&quot;</td>
<td>6.00</td>
</tr>
<tr>
<td>XL830403/8305</td>
<td>48&quot;</td>
<td>1-1/16&quot;</td>
<td>12.25</td>
</tr>
<tr>
<td>XL7341/8341</td>
<td>48&quot;</td>
<td>1-1/2&quot;</td>
<td>16.09</td>
</tr>
<tr>
<td>XL7342</td>
<td>48&quot;</td>
<td>1-1/2&quot;</td>
<td>9.0</td>
</tr>
<tr>
<td>XL7348/31305</td>
<td>48&quot;</td>
<td>1-3/8&quot;</td>
<td>8.31</td>
</tr>
<tr>
<td>XL7357</td>
<td>60&quot;</td>
<td>1-1/16&quot;</td>
<td>7.61</td>
</tr>
<tr>
<td>XL7358</td>
<td>60&quot;</td>
<td>1-1/16&quot;</td>
<td>7.61</td>
</tr>
<tr>
<td>XL7380</td>
<td>96&quot;</td>
<td>1-1/16&quot;</td>
<td>12.12</td>
</tr>
<tr>
<td>XL7390</td>
<td>72&quot;</td>
<td>1-1/16&quot;</td>
<td>12.23</td>
</tr>
</tbody>
</table>

### Maximum Fixture Weight

**A. Main Beam to Main Beam**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>HANGER SPACING (lbs./LF, Simple Span)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fixture*</td>
<td>24&quot; x 48&quot;</td>
</tr>
<tr>
<td>2. Planning Module</td>
<td>48&quot; x 48&quot;</td>
</tr>
<tr>
<td>3. Hanger Spacing</td>
<td>48&quot;</td>
</tr>
<tr>
<td>4. Item 7300/8300/7302</td>
<td>Item 7301/8301</td>
</tr>
<tr>
<td>72.32 lbs.</td>
<td>100.0 lbs.</td>
</tr>
</tbody>
</table>

**B. Cross Tee to Cross Tee**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>HANGER SPACING (lbs./LF, Simple Span)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fixture*</td>
<td>24&quot; x 48&quot;</td>
</tr>
<tr>
<td>2. Planning Module</td>
<td>48&quot; x 48&quot;</td>
</tr>
<tr>
<td>3. Hanger Spacing</td>
<td>48&quot;</td>
</tr>
<tr>
<td>4. Item 7300/8300/7305</td>
<td>Item 7301/8301</td>
</tr>
<tr>
<td>63.17 lbs.</td>
<td>43.21 lbs.</td>
</tr>
</tbody>
</table>

### Seismic Performance

Main Beams tested as follows: 7300 tested at 13.0 lbs./LF to 1/360 of 4’ span; 7301 tested at 16.5 lbs./LF to 1/360 of 4’ span.

**Main Beams**
7300, 7302, 7305, 734032, 8300
7301, 8301

**Cross Beams**
All XL cross tees exceed 300 lbs. in both compression and tension.

### ICC Reports

For areas under ICC jurisdiction, see ICC evaluation report number 1289 for allowable values and/or conditions of use concerning the suspension system components listed on this page. The report is subject to reexamination, revisions and possible cancellation.

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TechLine™ / 1 877 ARMSTRONG 1 877 276 7876
armstrong.com/drywallgrid CS-4358-413
**APPENDIX 09 02 RESTROOM STANDARDS**

**Wall Tile (Basis of Design):**
1. Porcelain tile and layout based on MOSA USA Porcelain Tile. Basis of Design Pattern: PT 3115
2. Core Selection-Terra
3. Sizes: 12" x 24" and 24" x 24"
4. Color: CT-1 225V; CT-2 226V
5. Grout: Latcrete #89 Smoke Gray (or similar). Apply grout sealer.
6. Install Schluter Quadec aluminum transition strip at all tiled exterior locations.
7. Install Schluter Schiene transition strip between top of epoxy floor base and bottom of wall tile. Finish shall be satin anodized aluminum.

**Floors (Basis of Design):**
1) Manufacturer: Dura-A-Flex
2) Product Line: Hybir-Flex EQ
3) Color: Architect/Owner to select from standard Q-28 Quartz Color Blends
4) Return epoxy up walls 6". Use an aluminum Schluter SCHIENE strip to transition between base and wall tile.
5) Threshold shall be installed in bed of sealant to retain water within restroom in the event of a leak.

**Toilet Partitions (Basis of Design):**
1) Manufacturer: Scranton Products "Hiny Hiders" 1" Solid HDPE with homogeneous color.
2) Texture: Standard Orange Peel
3) Color: Architect/Owner to select from the standard color palette.
4) Urinal screens: Provide double ear continuous aluminum bracket for urinals, single ear for partition adjacent to obstructions (i.e., sink) to avoid a conflict (mount ear on urinal side). Use type "A" wall hung.
5) Toilet Partitions: Provide double ear 54" continuous channel for attachment to wall in lieu of stirrup brackets.
6) Toilet Partition Doors: Provide continuous aluminum strike full height of door.
7) CM to field verify all dimensions.
8) Architect to verify all dimensions for code/ADA compliance.
9) Use fasteners appropriate for substrate, and for headrail brace (sex bolt).
10) Remove all layout markings from all materials and surfaces.

**Ceiling:**
1) Use 2' x 2' acoustical ceiling with Armstrong Optima Health Zone

---

**Plumbing Fixtures & Accessories:**
- Lavatory: in counter
- Lavatory Faucet: Low Flow, battery operated, automatic sensor.
- Baby Change Station: Koala Kare KB110-SSWM
- Mirrors: Bobrick B-165 2436 (24 x 36")
- Grab Bars: Bobrick B-6806 Series, Satin finish
- Surface Mounted Seat Cover Dispenser: Bobrick B-221
- Wall faucet: Woodford Anti-Siphon Flush Mount B24 with 3/4" inlet and 3/4" FPT or equivalent.
- Floor drain/s are required in every restroom.
- Paper towel, toilet paper and soap dispensers will be provided by owner, installed by contractor.
- Trash Receptacles: Provided by Owner. Do not use semi-recessed wall mounted trash receptacles.
- Backsplash: 4" high 1/2" solid surface over 3/4" exterior grade plywood core.
- Sink: American Standard "mezzo" semi-counter top lav, model 9960.001 - color white.
- Counter: top and face 1/2" solid surface over 3/4" exterior grade plywood core.
- Pipe protection: provide ADA pipe protection.
- Sealant: Match color solid surface.
160BN BluNose High Impact
Corner Guard

*From Inpro Corp. or equal

- 2” wing (51mm) with 90° corner protection
- Mounted on a .070” (1.8mm) thick continuous vinyl retainer with a co-extruded Biopolymer Flex PVC apex
- Vinyl retainer is four times stronger than our aluminum retainer and six times stronger than any other vinyl retainer
- .080” (2mm) thick scratch and stain resistant rigid vinyl cover
- Manufactured 3’ (.91m), 4’ (1.22m), 8’ (2.44m), 9’ (2.74m) and 12’ (3.66m) standard heights, custom heights available
- Available in 100 standard colors and Woodland patterns
- Quick Ship applies to 4’ (1.22m) and 8’ (2.44m) heights and select colors only
- Meets the most rigorous standards and criteria of chemical emissions as prescribed by the GREENGUARD Environmental Institute
- Has been tested and meets GREENGUARD Environmental Institute’s and the state of California’s requirements for low emitting products as tested by Air Quality Sciences
- Has been tested and meets the GREENGUARD Children & School chemical emissions levels
**Installation Instructions**

BluNose™ High Impact Corner Guards
Models: 150BN, 160BN, 170BN, 130BN

---

**Important**

2. Install in accordance with manufacturer’s installation instructions. Failure to do so will void the warranty.

**Installation tips**

1. Cut covers up to 1/16” (1.6mm) longer to ensure a tight fit.

---

**Recommended tools**

- Safety Glasses
- Tape Measure
- Level
- Power Drill
- 1/4” Socket
- Drill Bits - 1/4” masonry (concrete/concrete block)
- Power Miter Saw
- 10” Blade with 60-80 Carbide Tipped Teeth

---

**SECTION VIEWS**

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IPC.381/REV.5

---

Installation Hotline • 866.EZINPRO
Inprocorp.com • 800.222.5556 • 262.679.9010

World Headquarters 580 W18766 Apollo Drive, Muskego, WI 53150 USA

IPC•

DOOR + WALL PROTECTION SYSTEMS
A DIVISION OF INPC•
Please read all instructions before installing corner guards. Material must be stored, installed and used in environmentally controlled conditions.

1. Position vinyl retainer against wall, leaving allowance for bottom cap. Secure retainer to the wall by staggering fasteners on each wing of the retainer. See Figure 1.

   Note for concrete installation: Use the slotted tabs on the top and bottom caps to transfer and drill 1/4" (6.5mm) holes into the ends of the retainer. Also drill 1/4" (6.5mm) holes staggered on each wing of the retainer. Drill 4 holes per 3' (.91m) length, 6 holes per 4' (1.22m) length, 10 holes per 8' (2.44m) length or 12 holes per 9' (2.74m) length. Transfer the location of the mounting holes to the wall. Drill marked holes on wall using a 1/4" (6mm) drill bit and position Alligator anchors into holes. Mount retainer on wall with #10 x 1 3/4" phillips pan head screws and tighten to secure.

2. Overlap the retainer with the mounting tabs of the top and bottom caps and attach them to retainer. Stagger the fasteners on each wing of the cap. See Figure 2.

   When installing flexible top caps on custom angle corner guards, use cup washers and flat head screws to fasten the top caps to the retainer. See Figure 2a.

   Note for concrete installation: Overlap the retainer with the mounting tabs of the top and bottom caps and attach them to retainer and into the Alligator anchors using two, #8 x 1 1/2" phillips flat head screws per cap.
3. Position cover on retainer and adjust the top cap for a tight fit. Starting at the top, push cover onto retainer pressing over the entire length until it snaps into place. See Figure 3.
Palladium® Rigid Vinyl Sheet

Wall Protection

*From Inpro Corp. or equal

Inside Classrooms except accent walls and walls with white-boards. Please coordinate with BC.

- Provides reliable wall protection and is durable, long lasting and easy to clean
- Available in standard 3' (.91m) and 4' (1.22m) widths and 8' (2.44m) lengths. Custom lengths and rolls up to 120' (36m) available
- Standard thicknesses of .040 (1mm) & .060 (1.5mm), .030 (.8mm) & .080 (2mm) thickness also available
- Vinyl, Aluminum and Stainless Steel trim accessories available
- Scratch and stain resistant rigid vinyl
- Quick Ship applies to .040" (1mm) and .060" (1.5mm) thicknesses in 4' (1.22m) x 8' (2.44m) sheets only
- Meets the most rigorous standards and criteria of chemical emissions as prescribed by the GREENGUARD Environmental Institute
- Has been tested and meets GREENGUARD Environmental Institute’s and the state of California’s requirements for low emitting products as tested by Air Quality Sciences
- Has been tested and meets the GREENGUARD Children & School chemical emissions levels

Inprocorp.com • 800.222.5556 • 262.679.9010
World Headquarters 580 W18766 Apollo Drive, Muskego, WI 53150 USA
**Palladium® Rigid Sheet/Rubrail or Palladium® G2 Sheet/Rubrail**

**Trim Pieces (see figure 5)**

If using trim pieces with an InPro Bond or XT-2000 installation, install the first sheet on the wall. Cut trim pieces with a metal straight edge and sharp utility knife. Slide vertical divider bars or inside corners on the next sheet to be installed. Overlap the edge of the sheet on the wall with the divider bar or inside corner. With aluminum divider bars, slide sheet into the divider bar. When using top caps and vertical divider bars, notch the back of the top cap where it intersects with the divider bar (see figure 6). Install the top cap by sliding it on the top edge of the sheet after the sheet is in place. Roll all trim pieces and the entire sheet with an extension roller (InPro item # 333). Stainless Steel Trim - Cut stainless steel trim with a hack saw or similar. Tape exposed surfaces with painters tape to help protect it when cutting.

- Cut trim pieces with a sharp utility knife.
- Overlap trim piece over the first sheet installed.
- Notch the back of the top cap where it intersects the vertical divider bar.
- Slide top cap on edge of sheet after sheet is on wall.
- Roll all trim pieces and entire sheet with extension roller.
- Cut stainless steel trim with a hack saw or similar.
Please consult with Broward College’s Senior Project Manager for paper and soap dispenser equipment. Custodial vendor will vary per campus.

**Soap Dispenser**

**Paper Dispenser**
ThermoVeil® Basket Weave
1300 Series (5% open), 1500 Series (3% open), 2100 Series (10% open)

This series is composed of a technically advanced material woven in a 2 x 2 basket weave pattern. Its weave provides a uniform scrim effect at the window wall with an appropriate density for sun control.

- Content: 75% PVC (coating), 25% polyester (yarn)
- Openness factor (approx.): See below
- Visible Light Transmittance (Tv): See below
- Stocked: 63”, 96” and 126” (1300 & 1500 series) wide
- NFPA 701-2015: pass

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<th>Visible Light Transmittance (Tv)</th>
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*Shown

SuperWide
1300 series
1500 series

Available for QuickShip. All QuickShip shadecloths are subject to the standard terms and conditions of the QuickShip program.
Building Code Advisory for Drinking Fountains (Based on FBCP 2020)

Originating Office: Facilities Management

Items for Consideration:

1. Typical BC Building Occupancy Type: Business
2. See FBCP 2020 Table 403.1 for quantity of drinking fountains required in Business Occupancy. Other occupancies such as labs, gymnasiums, etc. will have different requirements. Reference Life Safety Documents for analysis.
3. Per Section 410.3:

   Where drinking fountains are required, not fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirements for standing persons.

   Exceptions:
   1. A single drinking fountain with two separate spouts that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains.
4. Water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required drinking fountains. (FBCP 410.4)
5. For ADA– Spout cannot be higher than 36” measured from finish floor elevation to spout outlet (FBCA 602.4)
6. Drinking Fountains for Standing Persons shall be between 38” & 43” (FBC 602.7)
7. Water flow must be 4” high minimum, and 5” max. distance from front of the unit (FBCA 602.6 Water Flow). The spout shall provide a flow of water 4 inches (100 mm) high minimum and shall be located 5 inches (125 mm) maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches (75 mm) of the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches (75 mm) and 5 inches (125 mm) maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum
8. Cane protection is required to prevent a blind person from bumping into protruding objects that protrude more than 4” above a 27” elevation. (FBCA 307.2 & FBCA 305.7 respectively). Wing walls could be built or an apron that attaches to the taller unit could be used (see Figure 8e). The requirement is to have the apron at 27” (note 27” clear is required under DF’s).
9. Interior drinking fountains cannot be used for exterior installation.
GENERAL

Accessory apron designed to bring Elkay water coolers into compliance with the Americans with Disabilities Act (A.D.A.) when units are mounted on an exposed wall. This apron provides the mandatory 2" (68 mm) floor to underside requirement when mounted in this manner. Suitable for use with models LZSTLC, E2TLHC, EZSTLC, EZTLHC, EZSLTLC, EZUIC, E2STLDDC, E2STLDDC and E2STL60C.

Construction

Thermo-formed textured ABS plastic. Available in gray only. Equipped with bottom cover plate.
Quickly identify the model to meet your specific needs by choosing your application path below:

- **Section (A)** to retrofit a bottle filling station to existing EZ style water cooler installations
- **Section (B)** to install a new combination bottle filling station and water cooler kit as **(B1)** EZH2O® with EZ model coolers, **(B2)** EZH2O® with new EZ Green model coolers or **(B3)** EZH2O with VRGRMN model coolers.
- **Section (C)** to install **(C1)** a new bottle filling station combo kit with EMABF water cooler or **(C2)** retrofit an existing EMABF water cooler installation
- **Section (D)** to install a vandal-resistant bottle filling station and water cooler combination kit.
- **Section (E)** to install a surface mount bottle filling station.
- **Section (F)** to install a recessed in-wall bottle filling station as either **(F1)** stand-alone station or paired with **(F2)** SwirlFlo® GRN or **(F3)** Soft Sides® refrigerated fountain
- **Section (G)** to **(G1)** install a new architectural fountain with integral bottle filling station or **(G2)** retrofit an existing bi-level refrigerated SwirlFlo® or Soft Sides® fountain.
- Outdoor Bottle Filling Order Guide follows Section G.

### (A) EZH2O Retro-fit Kit for EZ Style Coolers

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Model to Order &amp; List Price</th>
<th>Shipped complete in single carton which includes:</th>
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<tbody>
<tr>
<td>Filtered Models</td>
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<tr>
<td>Retrofit to existing EZ style* coolers</td>
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<tr>
<td>LZWSRK ($699)</td>
<td>(1) EZH2O Retro Station</td>
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<tr>
<td></td>
<td>(2) EWF3000 WaterSentry® Plus Filter</td>
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<td>(3) Retrofit Tools</td>
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<td>Filterless Models</td>
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<tr>
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<td>(2) Retrofit Tools</td>
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*Applicable on 115V/60Hz push-bar-activated EZ style single, bi-level and bi-level reverse water coolers. Bi-level models require (3) electrical receptacles. Optional accessory plug, 36292C (List $27) is available

### (B1) EZH2O Bottle Filling Station – EZ Water Cooler Combo Kits

<table>
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<tr>
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All models shipped in two cartons: (1) EZ Water Cooler and (2) EZH2O Station. Bi-level models require (3) electrical receptacles. Optional accessory plug, 36292C (List $27) is available.
## EZH2O Bottle Filling– EZ Green Water Cooler Combo Kits

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## EZH2O Bottle Filling–VRCGRN Water Cooler Combo Kits

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## EZH2O Bottle Filling-EMABF Water Cooler Combo Kits

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## EZH2O Retro-fit for EMABF coolers

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<td>(3) New Basin &amp; Drain assembly</td>
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<td>(2) New Basin &amp; Drain assembly</td>
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## Vandal-Resistant EZH2O Bottle Filling w/VRC Water Cooler Combination Kits

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<tr>
<td></td>
<td>Type</td>
</tr>
<tr>
<td>Single</td>
<td>8GPH</td>
</tr>
<tr>
<td>Non-Chilled</td>
<td>8GPH</td>
</tr>
<tr>
<td>Bi-Level</td>
<td>8GPH</td>
</tr>
<tr>
<td>Non-Chilled</td>
<td>8GPH</td>
</tr>
</tbody>
</table>

All cooler combo models shipped in two cartons: (1) Water Cooler and (2) EZH2O Station. Bi-level models require (3) electrical receptacles. Optional accessory plug, 36292C (List $27) is available.
### (E) EZH2O Surface Mount Bottle Filling Station

**NEW**

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Model to Order &amp; List Price</th>
<th>Shipped in multiple cartons. Carton components include:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Filtered Models</td>
<td>Filterless Models</td>
</tr>
<tr>
<td>Electrical Surface Mount</td>
<td>LZWSSSM ($1,217)</td>
<td>EZWSM8K ($1,149)</td>
</tr>
<tr>
<td>Mechanical Surface Mount</td>
<td>EMAS ($849)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Remote Chiller ordered separately and located 10-15 feet of unit. Optional EG3 ventilated louvered grill available. (See table below)*

<table>
<thead>
<tr>
<th>*Chiller Options</th>
<th>Capacity (GPH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER101Y</td>
<td>9.6</td>
</tr>
<tr>
<td>ER191</td>
<td>19</td>
</tr>
<tr>
<td>ER301</td>
<td>29.5</td>
</tr>
<tr>
<td>ERW201</td>
<td>19.8</td>
</tr>
<tr>
<td>ERW321</td>
<td>31.9</td>
</tr>
</tbody>
</table>

### (F1) EZH2O In-Wall Kit

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Model to Order &amp; List Price</th>
<th>Shipped in multiple cartons. Carton components include:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Filtered Models</td>
<td>Filterless Models</td>
</tr>
<tr>
<td>Refrigerated Model – can be used as stand alone or paired with Soft Sides® non-refrigerated fountains (EDFP214, EDFPB217)</td>
<td>LZWSM8K ($2,560)</td>
<td>EZWSM8K ($2,492)</td>
</tr>
<tr>
<td></td>
<td>LZWSSM8K ($2,763)</td>
<td>EZWSSM8K ($2,695)</td>
</tr>
<tr>
<td>Non-Refrigerated Model – can be used as stand alone, paired with models above or an alternate remote chiller*</td>
<td>LZWMDK ($1,597)</td>
<td>EZWMDK ($1,529)</td>
</tr>
<tr>
<td>Models to be paired with SwirlFlo® (EDFPB) non-refrigerated fountains (back panel height is slightly taller)</td>
<td>LZWSM8PK ($2,560)</td>
<td>EZWSM8PK ($2,492)</td>
</tr>
<tr>
<td></td>
<td>LZWSSM8PK ($2,763)</td>
<td>EZWSSM8PK ($2,695)</td>
</tr>
<tr>
<td></td>
<td>LZWMDPK ($1,597)</td>
<td>EZWMDPK ($1,529)</td>
</tr>
</tbody>
</table>

*Remote Chiller ordered separately and located 10-15 feet of unit. Optional EG3 ventilated louvered grill available. (See table below)*

### (F2) EZH2O In-Wall Bottle Filling Stationw/SwirlFlo® GRN Refrigerated Ftn Combos

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Model to Order &amp; List Price</th>
<th>Shipped in multiple cartons. Carton components include:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Filtered Models</td>
<td>Filterless Models</td>
</tr>
<tr>
<td>EZH2O In-Wall with Single SwirlFlo GRN</td>
<td>LWS-SFGRN8K ($5,007)</td>
<td>EZWS-SFGRN8K ($4,939)</td>
</tr>
<tr>
<td></td>
<td>(3 &amp; 4) MFWS100 &amp; MF100 Mounting Frames</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5) ECH8GRN Chiller</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(6) EWF3000 WaterSentry® Plus Filter, if applicable</td>
<td></td>
</tr>
<tr>
<td>EZH2O In-Wall with Bi-Level SwirlFlo GRN</td>
<td>LWS-SFGRN28K ($7,443)</td>
<td>EZWS-SFGRN28K ($7,310)</td>
</tr>
<tr>
<td></td>
<td>(3 &amp; 4) MFWS100 &amp; MF200 Mounting Frames</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5 &amp; 6) Two ECH8GRN Chillers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(7) EWF3000 WaterSentry® Plus Filter, if applicable</td>
<td></td>
</tr>
</tbody>
</table>

### (F3) EZH2O In-Wall Bottle Filling Station w/Soft Sides® Refrigerated Fountain Combos

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Model to Order &amp; List Price</th>
<th>Shipped in multiple cartons. Carton components include:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Filtered Models</td>
<td>Filterless Models</td>
</tr>
<tr>
<td>EZH2O In-Wall with Single Soft Sides</td>
<td>LWS-SS8K ($4,393)</td>
<td>EZWS-SS8K ($4,325)</td>
</tr>
<tr>
<td></td>
<td>(3 &amp; 4) MFWS100 &amp; MF100 Mounting Frames</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5) ECH8 Chiller</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(6) EWF3000 WaterSentry® Plus Filter, if applicable</td>
<td></td>
</tr>
<tr>
<td>EZH2O In-Wall with Bi-Level Soft Sides</td>
<td>LWS-SS28K ($6,466)</td>
<td>EZWS-SS28K ($6,333)</td>
</tr>
<tr>
<td></td>
<td>(3 &amp; 4) MFWS100 &amp; MF200 Mounting Frames</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5 &amp; 6) Two ECH8 Chillers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(7) EWF3000 WaterSentry® Plus Filter, if applicable</td>
<td></td>
</tr>
</tbody>
</table>
**G1) Architectural Fountains with Integral EZH2O**

| Configuration | Model to Order & List Price | Shipped in multiple cartons including:
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Filtered</td>
<td>Filterless</td>
</tr>
<tr>
<td>Bi-Level Soft Sides Ftn with Integral EZH2O Bottle Filler</td>
<td>LZWS-EDFP217K ($4,593)</td>
<td>EZWS-EDFP217K ($4,460)</td>
</tr>
<tr>
<td>Bi-Level SwirlFlo Ftn with Integral EZH2O Bottle Filler</td>
<td>LZWS-EDFPBM117K ($5,362)</td>
<td>EZWS-EDFPBM117K ($5,229)</td>
</tr>
<tr>
<td>Bi-Level SwirlFlo Refrigerated Ftn with Integral EZH2O Bottle Filler</td>
<td>LZWS-LRPBM28K ($6,648)</td>
<td>EZWS-ERPBM28K ($6,515)</td>
</tr>
</tbody>
</table>

Optional panel available for front access to bottle filler electricals or drain.
Order part number: ACCESS12X38-5 (List $195)

Model EZWS-EDFP217K shown with two optional access panels.

---

**G2) Retrofit an existing SwirlFlo or Soft Sides Refrigerated Fountain**

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Model to Order &amp; List Price</th>
<th>Shipped in single cartons. Carton components include:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Filtered</td>
<td>Filterless</td>
</tr>
<tr>
<td>Retrofit for existing SwirlFlo Bi-Level Refrigerated Fountain</td>
<td>LZWS-ERP8-RF ($2,400)</td>
<td>EZWS-ERP8-RF ($2,324)</td>
</tr>
<tr>
<td>Retrofit for existing Soft Sides Bi-Level Refrigerated Fountain</td>
<td>LZWS-ERP8-RF ($2,400)</td>
<td>EZWS-ERP8-RF ($2,324)</td>
</tr>
</tbody>
</table>

---

**Contact Information**
Website: elkayusa.com
Corporate Headquarters: 630.574.8484
Customer Service: 630.572.3192
Fax: 630.574.5012

Elkay Corporate Headquarters
2222 Camden Court
Oak Brook, Illinois 60523

---

**Replacement Filters**

<table>
<thead>
<tr>
<th>Model #</th>
<th>Quantity</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>51300C</td>
<td>One</td>
<td>$125.00</td>
</tr>
<tr>
<td>51300C_3PK</td>
<td>Three</td>
<td>$337.50</td>
</tr>
<tr>
<td>51300C_12PK</td>
<td>Twelve</td>
<td>$1275.00</td>
</tr>
<tr>
<td>51300C_24PK</td>
<td>Twenty-four</td>
<td>$2400.00</td>
</tr>
<tr>
<td>51300C_48PK</td>
<td>Forty-eight</td>
<td>$4500.00</td>
</tr>
</tbody>
</table>
Notes:
1) Grade fenceline to minimize racking
2) Conduct underground locates prior to excavation, coordinate location of fence based on found conflicts.
3) Coordinate footing elevation to allow backfilling that will support grass, or "cone" top of footing if allowable.
4) Provide footing detail where fence is to be mounted on existing loading platform.
5) Color approved as "Woodland Brown"
6) Fence post cap "Pyramid" acceptable.
7) Provide fasteners that will not corrode, or mark fence material (Stainless or similar).
WELCOME TO THE BACKYARD REVOLUTION.

Introducing Trex Seclusions® privacy fencing. Stunning looks, low maintenance, lasting durability, and it comes in more colors than wood or vinyl. You simply can’t find a better fencing alternative. When you build with Trex Seclusions fencing, each and every post goes in with pride.
OUTSTANDING LOOKS. YEAR AFTER YEAR.

The rich browns, deep tans, and soft grey hues of Trex Seclusions® fencing add beauty, elegance and value to a home. No glaring vinyl/plastic product can compare.

Create a separation from the street without detracting from the house.

Whether it's at a park, a school or at home, Trex® keeps kids safely secured in their play area.

Backyards are more beautiful when Trex is in the picture.

Perfect for poolside privacy.

A CHOICE OF COLOR. YOU SHOULD NEVER FEEL FENCED IN.

Unlike vinyl, Trex Seclusions fencing offers a palette of rich color choices.

<table>
<thead>
<tr>
<th>SADDLE</th>
<th>WINCHESTER GREY</th>
<th>WOODLAND BROWN*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before Weathering</td>
<td>Before Weathering</td>
<td>Before Weathering</td>
</tr>
<tr>
<td>After Weathering</td>
<td>After Weathering</td>
<td>After Weathering</td>
</tr>
</tbody>
</table>

*Available in 2018

www.trexfencing.com
THE LOOK OF WOOD.
THE EASE OF PLASTIC.

Trex Seclusions® is made of 50% reclaimed wood fiber and 50% polyethylene. That means you get the best of both worlds. This revolutionary product offers the rich beauty of wood, but requires no staining or painting.

Trex Seclusions – a revolutionary material that provides years of worry-free ownership.
Vinyl is treated with a white UV inhibitor, which limits color choice.
Wood rots and can require a great deal of maintenance.

WITSTANDS THE ELEMENTS.
AND THEN SOME.

Wind, rain, sleet and snow. No problem. Trex® won’t buckle, heave, freeze or thaw. Trex is also resistant to insects, including termites. And, while the upfront cost may be higher than wood, over time, the gap closes and Trex proves its value through years of worry-free ownership.

400%
300%
200%
100%

<table>
<thead>
<tr>
<th>COST COMPARISON OVER TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trex Seclusions fencing</td>
</tr>
<tr>
<td>Wood</td>
</tr>
</tbody>
</table>

The robust, 6X6 hollow post requires no additional reinforcement. The life of the fence is the life of the post.

5 yr  10 yr  15 yr  20 yr  25 yr
Based on internal research
A FENCE THAT STANDS ABOVE THE REST.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Trex Seclusions®</th>
<th>Wood</th>
<th>Vinyl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stunning Looks</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Maintenance</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Lasting Durability</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy to Install</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Miami/Dade Wind Load Certification**</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rich Color Choices</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>True Privacy</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(No gaps between pickets)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good Neighbor Fence</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(No one gets bad side of fence)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Reflective Surface</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Standard 6&quot; Nominal Posts</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited Residential Warranty (years)</td>
<td>25</td>
<td>0-12</td>
<td>20+</td>
</tr>
<tr>
<td>Top Building Products Brand</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WIND LOAD CERTIFICATION**

Trex Seclusions fencing is proven to withstand some of weather’s harshest conditions. It passes Miami/Dade wind load certification tests of 110 mph steady winds and 130 mph wind gusts.
IT'S EASY TO INSTALL THE FENCE OF YOUR DREAMS.

- As easy as installing an ordinary fence.
- Much easier and more convenient to work with—doesn’t splinter like wood.
- More detailed instructions are available at trexfencing.com.
- Find your local Trex® installer at trexfencing.com.

1. Stake out the fence line.
2. Dig holes.
4. Install brackets using the TrexExpress™ installation tool.
5. Slide bottom rail over the metal insert.*
6. Insert bottom rails.
7. Insert pickets.
8. Insert top rails.

RACKING

Trex Seclusions® has the ability to rack down slopes and around property lines for that beautiful seamless look.

*Available in both metal and galvanized steel.
THE BEST FENCING, WITH AN ORDERING PROCESS TO MATCH.

Trex Seclusions® fencing is sold a-la-carte, making it convenient and easy to order. This fence was designed to create any fencing up to 8 ft. per section.

<table>
<thead>
<tr>
<th>Each fence section includes the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Fence Post</td>
</tr>
<tr>
<td>1 Fence Post Cap</td>
</tr>
<tr>
<td>1 Top Rail</td>
</tr>
<tr>
<td>1 Bottom Rail Insert</td>
</tr>
<tr>
<td>2 Bottom Rails</td>
</tr>
<tr>
<td>4 Brackets</td>
</tr>
<tr>
<td>19 Pickets</td>
</tr>
</tbody>
</table>

8 ft. high 6 ft. high 4 ft. high

To help you achieve a custom look in your backyard, Trex Seclusions fencing is available with two styles of fence caps: pyramid or flat.

Interconnecting pickets for the ultimate in privacy.

GATE OPTIONS

There’s no need to stop at just the fence. Your installer can transform Trex Seclusions into a functional gate that provides an attractive entrance to your property.

Decorative entrance gate  RV/boat gate 4ft. entrance gate

www.trexfencing.com
Low Maintenance
- Revolutionary, made from wood and plastic
- No painting or staining required

Stunning Looks
- Rich colors and finish

Easy Installation
- Interconnecting pickets provide fast assembly

Wind Load Certification
- Tested up to 110mph

Durability
- Stands up to extreme weather and termites
- Stand-alone posts

Still on the fence? Visit us at trexfencing.com or call 1-800-BUY-TREX, ext. 925.
NOTES:

1. THE FENCE FOUNDATION HAS BEEN DESIGNED FOR 115 MPH WIND (3-SEC. GUST) IN ACCORDANCE WITH SECTION 1615.2.1 OF 2010 FLORIDA BUILDING CODE.
2. THE FOUNDATION DESIGN IS BASED ON AN ALLOWABLE LATERAL SOIL BEARING CAPACITY OF 400 PSF/FT. LATERAL SOIL BEARING VALUES HAVE BEEN DOUBLED BASED ON SECTION 1819.6.1 FBC 2010.
3. THE FENCE MANUFACTURER SHALL PROVIDE TEST DATA OR DRAWINGS AND CALCULATIONS WITH THE SIGNATURE AND SEAL OF THE SPECIALTY ENGINEER RESPONSIBLE FOR THE DESIGN OF FENCE AND POSTS.
4. THE CONCRETE USED FOR THE FOUNDATION SHALL BE A MIX DESIGNED TO ACHIEVE 3,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. MIXING, TRANSPORTING, AND PLACEMENT OF CONCRETE SHALL CONFORM TO ACI STANDARDS.
MIAMI-DADE COUNTY TEST REPORT

Rendered to:
TREX COMPANY, LLC
245 Capitol Lane
Winchester, Virginia 22602

Report No: 89754.01-119-18
Test Dates: 03/16/09
And: 03/21/09
Report Date: 04/16/09
Expiration Date: 03/16/19
Miami-Dade County Notification No.: ATI 09013

1.0 General Information

1.1 Product

6 ft high Seclusions™ wood-plastic composite privacy fence system with 5 in support posts

1.2 Project Description

Architectural Testing was contracted by Trex Company, Inc. to perform Miami-Dade County Performance tests on their 6 ft high by 8 ft wide Seclusions™ privacy fence system with 5 in support posts. The following tests were performed:

Dynamic Wind Load Testing of Fence System and Lateral, Static Load Testing of Posts.

This report includes comprehensive written and photographic documentation of the testing performed.

2.0 Fence Wind Load Testing

2.1 Test Specimen

A fence section measuring 8 ft wide (post center to post center) by 6 ft high was tested. Trex Company, Inc. provided all test materials. The test specimen was assembled by Architectural Testing at their York, Pennsylvania campus. See Appendix A for component drawings and installation instructions and Appendix B for component and test photographs.
2.2 Test Equipment

The wind generator consists of an engine driven vane axial fan. The fan blades were fixed at a 5-1/2° pitch as marked on the fan. The plenum has an outlet of 8 ft wide by 4 ft high with eight 2 ft by 2 ft baffled outlets. Fence deflections were measured with linear displacement transducers accurate to 0.01 in. Wind speeds were calibrated according to Section 7 of Florida Building Code Test Protocol TAS 100-95 (reference ATI Report No. 72064.02-119-18).

2.3 Test Setup

A steel test fixture was used to simulate a rigid post embedment. The bottom of the bottom rail was fixed at 2 in above the top of the test fixture. The wind generator outlet was located 48 in from the face of the specimen (see photographs in Appendix B). Electronic linear displacement transducers were fixed at mid-span on the top rail, middle of the in-fill area, and mid-span on the bottom rail for deflection measurements.

2.4 Test Procedure

Wind load testing was initiated at 75 mph and held for a duration of 50 seconds, then reduced to zero for at least one minute to determine recovery. Wind speed was then increased to 110 mph and held for a duration of 35 seconds, then reduced to zero for at least one minute to determine recovery. The duration of the applied wind load at each wind speed was determined by the following equation:

\[ t = \frac{3600}{V_{fm}} \]

where: \( t \) = duration, seconds; and \( V_{fm} \) = "fastest mile" wind speed, mph.

Wind speeds used in testing correlate with "fastest mile" wind speeds \( V_{fm} \) for reference to codes and design standards. Maximum deflections were recorded at each wind load level.

2.5 Limitations of Test

Test setup and procedure provide information for evaluation of the fence assembly to resist sustained wind speeds indicated in the test results. This evaluation included the transfer of wind loads to the fence panels, rails, and support posts. The posts only support a single section of fence in this simulation and were therefore not fully evaluated for actual field conditions. Evaluation of the supporting post members is addressed in Section 3 of this report.
2.6 Test Specimen Details

The test specimen was comprised of the following components and attachments:

**Top Rail:** Wood - plastic composite extrusion: 4-1/8 in wide by 5 in high by 1/2 in wall by 91 in long, double-legged "T" profile with center slot to accept pickets

**Bottom Rail:** 6063-T5 aluminum extrusion: 2-3/4 in wide by 5-1/8 in high by 0.07 in wall by 91 in long, "H" profile

**Picket / Bottom Rail Cover:** Wood - plastic composite extrusion: 5-7/8 in by 1 in by 1/4 in wall, "C" profile; nineteen 66-1/2 in long as pickets and two 91 in long as bottom rail covers

**Post:** 5 in square by 0.5 in wall by 97 in long, wood - plastic composite hollow extrusion

**Rail Bracket:** 3 in high by 1-7/8 in deep by 1.3 in wide by 0.15 in wall, glass filled nylon 6 injection molded part with four 0.21 in diameter holes through surface that contacts post

**Fastener:** #8 x 1-5/8 in x 9 tpi, coated flat head, Phillips head, steel deck screw - four to attach each bracket to post, one to attach each rail end to top of bracket, three to attach each end picket to post

2.7 Wind Load Test Results

<table>
<thead>
<tr>
<th>Wind Speed</th>
<th>Duration</th>
<th>Deflection (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Top</td>
</tr>
<tr>
<td>75 mph</td>
<td>50 sec</td>
<td>2.05</td>
</tr>
<tr>
<td>0 mph</td>
<td>≥ 1 min</td>
<td>0.19</td>
</tr>
<tr>
<td>110 mph</td>
<td>35 sec</td>
<td>4.51</td>
</tr>
<tr>
<td>0 mph</td>
<td>≥ 1 min</td>
<td>0.44</td>
</tr>
</tbody>
</table>

2.8 Observations

There was no separation of fence components or any visible damage to any fence component at the completion of the test. The *Seclusions*™ privacy fence test specimen withstood a maximum sustained wind speed, \( V_{fms} \), of 110 mph, which is equivalent to a "three-second gust" wind speed, \( V_{3s} \), of 126 mph.
3.0 Post Static Load Testing

3.1 Test Equipment

The support post was tested in a self-contained structural frame designed to accommodate anchorage of the specimen and application of the test loads. The specimen was loaded using an electric winch mounted to a rigid steel test frame. High strength steel cables and nylon lifting straps were used to impose test loads on the specimen. Applied load was measured using an electronic load cell located in-line within the loading system. Deflection at point of load application was measured to the nearest 0.01 in using an electronic linear displacement transducer.

3.2 Test Setup

One end of the tested post was securely anchored and braced in a rigid test frame to simulate post embedment. The test load was applied to the free end of the post 38 in from the test frame. This distance represents the vertical mid-span of the assembled 72 in tall fence section plus the 2 in recommended clearance between the bottom of the fence section and grade. The post and anchorage were arranged in a horizontal orientation to facilitate testing. See Photo No. 5 in Appendix B for typical test setup.

3.3 Test Procedure

Three support posts were preloaded up to a level not exceeding design load. After pre-loading, all load was released and any necessary fixture adjustments were made. Each post was then loaded at a uniform rate until failure.

3.4 Post Test Results

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Ultimate Test Load (lb)</th>
<th>Deviation from Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,719</td>
<td>1%</td>
</tr>
<tr>
<td>2</td>
<td>1,739</td>
<td>0%</td>
</tr>
<tr>
<td>3</td>
<td>1,757</td>
<td>-1%</td>
</tr>
<tr>
<td>Average:</td>
<td>1,738</td>
<td></td>
</tr>
</tbody>
</table>

3.5 Post Test Analysis

The design wind load for a 6 ft high by 8 ft wide fence system was calculated using ASCE 7-98 based on a sustained wind speed of 75 mph, which correlates to a 90 mph three-second gust wind. The average ultimate load for the post was then divided by the corresponding design load to obtain a Factor of Safety for the fence system post. See Appendix C for design wind load calculations.
3.5 Post Test Analysis (Continued)

The analysis results are as follows:

<table>
<thead>
<tr>
<th>Calculated Design Load (lb)</th>
<th>Average Ultimate Test Load (lb)</th>
<th>Calculated Factor of Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>749</td>
<td>1,738</td>
<td>2.32</td>
</tr>
</tbody>
</table>

4.0 Closing Statement

Detailed drawings, data sheets, representative samples of test specimens, a copy of this test report will be retained by Architectural Testing for a period of ten years from the original test date. At the end of this retention period such materials shall be discarded without notice and the service life of this report by Architectural Testing will expire. Results obtained are tested values and were secured using the designated test methods. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimens tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing.

For ARCHITECTURAL TESTING:

[Signatures]

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Senior Project Engineer
Structural Systems Testing

Joseph A. Reed, P.E.
Director
Engineering and Product Testing

DHF:dhf/alb

Attachments (pages): This report is complete only when all attachments listed are included.
  Appendix A - Drawings (10)
  Appendix B - Photographs (3)
  Appendix C - Calculations (1)