



ADDENDUM NO. 1
DTCC OFFICE OF THE PRESIDENT
BID PACKAGE B
Dover, Delaware 19904

February 22, 2013

NOTICE: Attach this addendum to the project manual for this project. It modifies and becomes a part of the contract documents. Work or materials not specifically mentioned herein are to be described in the main body of the specifications and as shown on the drawings. Bidders shall acknowledge receipt of this addendum on the space provided on the Bid Form. Failure to do so may subject the bidder to disqualification.

Whenever this Addendum modifies a portion of the Project Manual added information is shown as **Bold** and deleted information is shown as strikethrough.

The contract documents for the above referenced project, dated February 5, 2013 are amended as follows:

General Clarifications:

- The bid opening location has been changed to the Terry Campus ETB, Room 741 on March 21, 2013 at 2pm.
- The pre-bid sign in sheet is attached for reference.

Questions and Answers:

1. Q. There are four drawings listed on the cover page that are not included. A502, M606, M607, E603. Please advise.
A. G001; Cover Sheet: List of Drawings:
 - Delete drawing A502 – Reserved for president's Suite Details
 - Add drawing M104 – Mechanical Roof Plan
 - Delete drawing M606 – Schedules & Details
 - Delete drawing M607 – Schedules
 - Delete drawing E603 – Schedules
2. Q. The scope of work for the electric (B-17) states "Provide pull strings and boxes for voice/data boxes" 011100-57; is this the limit of the scope of work for voice/data or are we expected to provide a complete system?
A. NO, the electrical contractor is responsible for all Electrical as well as TA drawings.



- 3. Q. Will DTCC provide an on site storage area for the light fixtures that need will be reinstalled or will they need to be stored off site?
 A. While there will be opportunities for storage container storage, they will be limited. For purposes of bidding, it should be assumed that all light fixtures will be removed from the site and be returned and installed as needed.
- 4. Q. 085113, 2.3, F. 1. The minimum height for projected windows operated by rotary operators is 20". Is it acceptable to increase the height of the vent from 12" to 20" or should the operators be eliminated and provide wicket screens?
 A. Section 085113 – Aluminum Windows:
 - Delete 2.2.F.1 as written, Substitute "1. Operator: Manufacturer’s standard project-out cams handle with strike."
 - Delete the words "Screen wickets are not permitted", Substitute " provide hinged wickets to match existing."
- 5. Q. 085113, 2.2, I. Verify that "Windborne-Debris Resistance" is not a requirement for this project.
 A. Section 085113 – Aluminum Windows:
 - Delete 2.2.I in its entirety.
- 6. Q. The base bid has a cooling tower outside the mechanical room. The site drawings MEP FP 001 does not show the location of the tower. Please clarify the location.
 A. Clarification note; The Base Bid Closed Circuit Cooler (Cooling Tower) is indicated on the drawings. The Cooling Tower shall be located in the same location as the Alternate No. 1 Geothermal Manifold Vault, if the Alternate is not accepted
- 7. Q. Please show the routing of the tower water. Also will this water be under or above ground?
 A. Clarification note; The Condenser Water for the Geothermal System (Alt. No. 1) and the Cooling Tower (Base Bid) are the same, and the routing of these underground pipes are shown on the drawing.

Changes to Specifications:

1	Section 012300 - Alternates: <ul style="list-style-type: none"> • Add Alternate No. 6 to read as follows: ALTERNATES - #6 Provide cleaning of the existing exterior brick wall as indicated in Specification Section 040120 0 Maintenance of Unit Masonry. Alternate No., 6: Provide Price to clean existing exterior brick walls.
2	Section 013300 - Submittal Procedures: <ul style="list-style-type: none"> • Add 6.3 to read as follows: 6.2 Architect's Digital Data Files: Electronic copies of digital data files of the Contract Drawings will be provided by the Design Professionals for Contractor's use in preparing submittals for a fee of \$200 per drawing file, and the execution of a Digital Media Release Form.



3	<p>Section 015639 – Temporary Tree & Plant Protection:</p> <ul style="list-style-type: none">• Add Specification Section 015639 – Temporary Tree & Plant Protection, attached, dated 02/15/13.
4	<p>Section 040120 – Maintenance of Unit masonry:</p> <ul style="list-style-type: none">• Add Specification Section 040120 – Maintenance of Unit Masonry, attached, dated 02/15/13.
5	<p>Section 084113 – Aluminum-Framed Entrances and Storefront:</p> <ul style="list-style-type: none">• Delete 1.8.L.1 as written, Substitute “1. Build mockup of window SF-5, in Office 161, using typical exterior wall assembly as indicated on the drawings, or provide independent free standing section of exterior wall with window SF-5 and typical exterior wall assembly.”
6	<p>Section 084126 – All-Glass Entrances and Storefront:</p> <ul style="list-style-type: none">• Delete 3.3 in its entirety.
7	<p>Section 085113 – Aluminum Windows:</p> <ul style="list-style-type: none">• Delete 2.2.F.1 as written, Substitute “1. Operator: Manufacturer’s standard project-out cams handle with strike.”• Delete 2.2.I in its entirety.• Delete the words “Screen wickets are not permitted”, Substitute “ provide hinged wickets to match existing.”
8	<p>Section 087100 - Door Hardware:</p> <ul style="list-style-type: none">• Hardware Schedule:<ul style="list-style-type: none">○ Set 8:<ul style="list-style-type: none">▪ Delete Door No. 120/1.▪ Add Door No. 119/1.○ Set 12:<ul style="list-style-type: none">▪ Add Door No. 120/1.○ Set 13:<ul style="list-style-type: none">▪ Delete Door No. 119/1.▪ Delete Door No. 119/2.
9	<p>Section 093000 - Tiling:</p> <ul style="list-style-type: none">• Delete 2.2.A.8 as written, Substitute “8. Tile Color and Pattern: Color Blox EC, Roasted Marshmallow (E1102).”• Add 2.2.B.10 to read “10. Tile Color and Pattern: Color Blox EC, Roasted Marshmallow (E1102).”
10	<p>Section 095113 – Acoustical Panel Ceilings:</p> <ul style="list-style-type: none">• Delete 2.3.A – 2.3.I as written, Substitute as follows:<ul style="list-style-type: none">A. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong World Industries Ultima Open Plan #1941 or comparable product.



	<p>B. Classification: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:</p> <p>C. Type and Form: Type IV, mineral fiber with painted finish; Form 2.</p> <p>D. Pattern: E (lightly textured).</p> <p>E. Color: White.</p> <p>F. LR: Not less than 0.89.</p> <p>G. NRC: Not less than 0.75.</p> <p>H. Edge/Joint Detail: Beveled Tegular.</p> <p>I. Thickness: 3/4 inch (19 mm).</p> <p>J. Modular Size: 24 by 24 inches (610 by 610 mm).</p> <p>K. Broad Spectrum Antimicrobial Fungicide and Bactericide Treatment: Provide acoustical panels treated with manufacturer's standard antimicrobial formulation that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria and showing no mold, mildew, or bacterial growth when tested according to ASTM D 3273 and evaluated according to ASTM D 3274 or ASTM G 21.</p> <ul style="list-style-type: none">• Delete 2.4 in its entirety.
11	<p>Section 096513 – Resilient Base and Accessories:</p> <ul style="list-style-type: none">• Delete 2.1.I as written, Substitute “I. Colors and Patterns: Storm Cloud #71.”• Add 2.4 Resilient Base RWB-02 to read as follows:<ul style="list-style-type: none">A. Resilient Base:<ul style="list-style-type: none">1. Basis-of-Design Product: Subject to compliance with requirements, provide Johnsonite or comparable product.B. Resilient Base Standard: ASTM F 1861.<ul style="list-style-type: none">1. Material Requirement: Type TV (vinyl, thermoplastic).2. Manufacturing Method: Group I (solid, homogeneous).3. Style: Cove (base with toe).C. Minimum Thickness: 0.125 inch (3.2 mm).D. Height: 4 inches (102 mm).E. Lengths: Coils in manufacturer's standard length.F. Outside Corners: Preformed.G. Inside Corners: Job formed.H. Finish: Matte.I. Colors and Patterns: Greege #190
12	<p>Section 096519 – Resilient Tile Flooring:</p> <ul style="list-style-type: none">• Delete 2.3.G as written, Substitute “G. Colors: Hawaiian Teak CP 3311-C TK.”
13	<p>Section 096813 – Tile Carpeting:</p> <ul style="list-style-type: none">• Add 2.4 Carpet Tile CPT-7 to read as follows:<ul style="list-style-type: none">A. Basis-of-Design Product: Subject to compliance with requirements, provide



	<p>Mannington Commercial or comparable product available for purchase through State of Delaware Contract.</p> <ul style="list-style-type: none">B. Color: Cinnamon #6407C. Pattern: Sentana Loop.D. Fiber Content: 100 percent nylon 6, 6.E. Fiber Type: Ultron.F. Pile Characteristic: Enhanced-loop pile.G. Pile Thickness: 0.174 inches for finished carpet.H. Stitches: 9.6 stitches per inch.I. Gage: 1/10 ends per inch .J. Face Weight: 36 oz./sq. yd.K. Primary Backing: 100% SyntheticL. Secondary Backing: Ultra Back RE with Minimum 10% Recycled Content.M. Width: 12 feet.N. Applied Soil-Resistance Treatment: Manufacturer's standard material.O. Antimicrobial Treatment: Manufacturer's standard material.P. Performance Characteristics: As follows:<ul style="list-style-type: none">1. Appearance Retention Rating: Heavy traffic, 3.0 minimum per ASTM D 7330.2. Dry Breaking Strength: Not less than 100 lbf (445 N) per ASTM D 2646.3. Resistance to Insects: Comply with AATCC 24.4. Colorfastness to Crocking: Not less than 4, wet and dry, per AATCC 165.5. Colorfastness to Light: Not less than 4 after 40 AFU (AATCC fading units) per AATCC 16, Option E.6. Antimicrobial Activity: Not less than 2-mm halo of inhibition for gram-positive bacteria; not less than 1-mm halo of inhibition for gram-negative bacteria; no fungal growth; per AATCC 174.7. Electrostatic Propensity: Less than 3.0 kV per AATCC 134.8. Emissions: Provide carpet that complies with testing and product requirements of CRI's "Green Label Plus" program.9. Emissions: Provide carpet that complies with the product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.
14	<p>Section 096816 – Sheet Carpeting:</p> <ul style="list-style-type: none">• Add 2.2.A – 2.2.M as follows:<ul style="list-style-type: none">A. Basis-of-Design Product: Subject to compliance with requirements, provide Dixie Home or comparable product.



- B. Color: As selected by Architect from manufacturer's full range.
- C. Pattern: Penley Estates 2478.
- D. Fiber Content: 100 percent nylon 6
- E. Fiber Type: Stainmaster Luxerell.
- F. Pile Characteristic: Cut pile.
- G. Yarn Twist: 5.75 TPI.
- H. Pile Height: 17/32 inches.
- I. Primary Backing: polypropylene.
- J. Secondary Backing: ActionBac.
- K. Width: 12 feet (3.7 m).
- L. Applied Soil-Resistance Treatment: Manufacturer's standard material.
- M. Antimicrobial Treatment: Manufacturer's standard material.
- Delete 2.3.A as written, Substitute "A. Not Used."
- Delete 2.3.B – 2.3.p in their entirety.
- Add 2.5 Tufted Carpet CPT-5 to read as follows:
 - A. Basis-of-Design Product: Subject to compliance with requirements, provide Kraus, Inc. or comparable product.
 - B. Color: Kiwi (04)
 - C. Pattern: @Work Conference (1804).
 - D. Fiber Content: 100% nylon
 - E. Pile Characteristic: pattern cut pile graphics.
 - F. Pile Thickness: 0.19 inches for finished carpet.
 - G. Stitches: 8.2 stitches per inch.
 - H. Gage: 1/10 ends per inch.
 - I. Face Weight: 28 oz./sq. yd.
 - J. Density: 7.5 kilotex/sq. cm.
 - K. Primary Backing: Dual Bonded Woven Synthetic
 - L. Applied Soil-Resistance Treatment: Manufacturer's standard material.
 - M. Antimicrobial Treatment: Manufacturer's standard material.
 - N. Performance Characteristics: As follows:
 1. Colorfastness to Light: Not less than 4 after 40 AFU (AATCC fading units) per AATCC 16, Option E.
 2. Antimicrobial Activity: Not less than 2-mm halo of inhibition for gram-positive bacteria; not less than 1-mm halo of inhibition for gram-negative bacteria; no fungal growth; per AATCC 174.
 3. Electrostatic Propensity: Less than 3.0 kV per AATCC 134.
 4. Emissions: Provide carpet that complies with testing and product requirements of CRI's "Green Label Plus" program.



	<ul style="list-style-type: none">• Add 2.5 Tufted Carpet CPT-6 to read as follows:<ul style="list-style-type: none">A. Basis-of-Design Product: Subject to compliance with requirements, provide Shaw/Philadelphia Commercial or comparable product.B. Color: Seagrass (65370)C. Pattern: Baytowne III 36 (J0065).D. Fiber Content: nylonE. Pile Characteristic: cut pile.F. Pile Thickness: 0.22 inches for finished carpet.G. Stitches: 10 stitches per inch.H. Gage: 1/10 ends per inch .I. Face Weight: 36 oz./sq. yd.J. Density 10.97 Kilotex/sq. cm.K. Primary Backing: SyntheticL. Secondary Backing: ClassicbacM. Width: 12 feet.N. Applied Soil-Resistance Treatment: Manufacturer's standard material.O. Antimicrobial Treatment: Manufacturer's standard material.
15	<p>Section 101400 – Signage:</p> <ul style="list-style-type: none">• Delete 2.9.D.2 in its entirety.
16	<p>Section 113100 – Residential Appliances:</p> <ul style="list-style-type: none">• Delete 2.2.B as written, Substitute as follows:<ul style="list-style-type: none">B. Microwave Oven:<ul style="list-style-type: none">1. Mounting: Undercabinet.2. Type: Convection.3. Dimensions:<ul style="list-style-type: none">a. Width: 30 inches (762 mm).b. Depth: 19-1/2 inches (495 mm).c. Height: 18 inches (457 mm).4. Capacity: 2.0 cu. ft. (0.06 cu. m).5. Oven Door: Door with observation window and pull handle and push-button latch release.6. Exhaust Fan: Two-speed fan, vented to outside and with manufacturer's standard 300-cfm (140-L/s) capacity.7. Microwave Power Rating: Manufacturer's standard.<ul style="list-style-type: none">a. Convection Element Power Rating: Manufacturer's standard.8. Electric Power Supply: 120 V, 60 Hz, 1 phase, 15 A.9. Controls: Digital panel controls and timer display.



	10. Other Features: Turntable. 11. Material: Porcelain-enameled steel. a. Color/Finish: White.
17	Section 123200 – Manufactured Wood Casework: C. Delete 2.2.J.1 as written, Substitute “1. Basis of design product: Subject to compliance with requirements, provide Wilsonart International or comparable product.” D. Delete 2.2.P.1 as written, Substitute “1. Basis of design product: Subject to compliance with requirements, provide DuPont Corian or comparable product.” E. Delete 2.4.B as written, Substitute “B. Plastic Laminate Colors Patterns and Finishes: Wild Cherry #7054.” F. Delete 2.4.D as written, Substitute “D. Solid-surfacing Material Colors and Patterns: Savannah.”

Changes to Drawings:

1	G001; Cover Sheet: <ul style="list-style-type: none">List of Drawing:<ul style="list-style-type: none">Delete drawing A502 – Reserved for president’s Suite DetailsAdd drawing M104 – Mechanical Roof PlanDelete drawing M606 – Schedules & DetailsDelete drawing M607 – SchedulesDelete drawing E603 – Schedules
2	G003; Life Safety Plan: <ul style="list-style-type: none">First Floor Life Safety Plan No. 1:<ul style="list-style-type: none">Delete room name “Office/Workroom” from room 119, Substitute “File/Storage Room”.Delete room name “File/Storage Room” from room 120, Substitute “Office”.Delete Occupant Load “1 OCC” from room 120, Substitute “2 OCC.”.Delete Occupant Load “21 OCC” from room 112, Substitute “22 OCC.”.
3	S101; Foundation Plan: <ul style="list-style-type: none">Foundation Plan P1:<ul style="list-style-type: none">Delete area of thickened slab along Column Line B, between Column Lines 4 & 6, Substitute revised size and location as indicated in drawing SKS-101-1, dated 02/22/13.
4	AD101; First Floor Demolition Plan: <ul style="list-style-type: none">Demo Plan No. 1:<ul style="list-style-type: none">Delete floor demolition area indicated along Column Line B, between Column Lines 4 & 6, Substitute revised size and location as indicated in drawing SKAD-101-1, dated



	<p>02/22/13.</p> <ul style="list-style-type: none">○ Provide demolition for new wall louver opening as indicated in drawing SKAD-101-2, dated 02/22/13.
5	<p>A101; First Floor Plan:</p> <ul style="list-style-type: none">● First Floor Plan No. 1:<ul style="list-style-type: none">○ Delete room layout for rooms 119 & 120 as shown, Substitute revised room layout as indicated in drawing SKA-101-1, dated 02/22/13.○ Delete room layout for room 126 as shown, Substitute revised room layout as indicated in drawing SKA-101-1, dated 02/22/13.
6	<p>A104; Finish Plan:</p> <ul style="list-style-type: none">● Finish Plan No. 1:<ul style="list-style-type: none">○ Delete CPT-1 floor finishes key for Office/Workroom 119, Substitute VCT-1.○ Delete VCT-1 floor finishes key for File/Storage Room 120, Substitute CPT-1.○ Delete room name "Office/Workroom" from room 119, Substitute "File/Storage Room".○ Delete room name "File/Storage Room" from room 120, Substitute "Office".○ Delete CPT-1 floor finishes key for Offices 103, 104 & 105, Substitute "CPT-6".○ Delete CPT-1 floor finishes key for areas 102A, 102B & 102C, Substitute "CPT-5".○ Delete EXG floor finishes key for Vest. 108, Substitute "CPT-7".○ Delete EXG wall base finishes key for Vest. 108, Substitute "RWB-1".○ Delete RWB-1 wall base finishes key for areas 102A, 102B & 102C, and Offices 103, 104 & 105, Substitute "RWB-2".○ Delete ACP-2 ceiling finishes key for Offices 101, 103, 104 & 105, and areas 102A, 102B & 102C, Substitute "ACP-1".
7	<p>A105; Furniture Plan:</p> <ul style="list-style-type: none">● Furniture Plan No. 1:<ul style="list-style-type: none">○ Delete room layout for rooms 119 & 120 as shown, Substitute revised room layout as indicated in drawing SKA-105-1, dated 02/22/13.○ Delete room layout for room 126 as shown, Substitute revised room layout as indicated in drawing SKA-105-1, dated 02/22/13.
8	<p>A201; Exterior Elevations:</p> <ul style="list-style-type: none">● West Elevation No. 3:<ul style="list-style-type: none">○ Delete Sign CL-2 in its entirety.● North Elevation No. 4:<ul style="list-style-type: none">○ Delete "10" letters" from sign note for Sign CL-3, Substitute "sign to be 32 Sq. Ft. in area, size proportional".
9	<p>A401; Enlarges Plans and Sections:</p> <ul style="list-style-type: none">● Add Interior Elevation – Lounge, No. 15, as indicated in drawing SKA-401-1, dated



	02/22/13.
10	A601; Door & Window Types and Schedule: <ul style="list-style-type: none">• Door Schedule :<ul style="list-style-type: none">○ Delete Door 119/2 in its entirety.
11	A602; Wall Types, Details and Schedules: <ul style="list-style-type: none">• Finish Schedule:<ul style="list-style-type: none">○ President's Office 101, delete Ceiling Material; ACP-2, Substitute ACP-1.○ Recept/Waiting area 102A, delete and substitute the following:<ul style="list-style-type: none">▪ Delete Ceiling Material; ACP-2, Substitute ACP-1.▪ Delete Floor Mat; CPT-1, Substitute CPT-5.▪ Delete Base Mat.; RWB-1, Substitute RWB-2.○ General Office area 102B, delete and substitute the following:<ul style="list-style-type: none">▪ Delete Ceiling Material; ACP-2, Substitute ACP-1.▪ Delete Floor Mat; CPT-1, Substitute CPT-5.▪ Delete Base Mat.; RWB-1, Substitute RWB-2○ Waiting area 102C, delete and substitute the following:<ul style="list-style-type: none">▪ Delete Ceiling Material; ACP-2, Substitute ACP-1.▪ Delete Floor Mat; CPT-1, Substitute CPT-5.▪ Delete Base Mat.; RWB-1, Substitute RWB-2○ Office 103, delete and substitute the following:<ul style="list-style-type: none">▪ Delete Ceiling Material; ACP-2, Substitute ACP-1.▪ Delete Floor Mat; CPT-1, Substitute CPT-6.▪ Delete Base Mat.; RWB-1, Substitute RWB-2○ Office 104, delete and substitute the following:<ul style="list-style-type: none">▪ Delete Ceiling Material; ACP-2, Substitute ACP-1.▪ Delete Floor Mat; CPT-1, Substitute CPT-6.▪ Delete Base Mat.; RWB-1, Substitute RWB-2○ Office 105, delete and substitute the following:<ul style="list-style-type: none">▪ Delete Ceiling Material; ACP-2, Substitute ACP-1.▪ Delete Floor Mat; CPT-1, Substitute CPT-6.▪ Delete Base Mat.; RWB-1, Substitute RWB-2○ Vestibule 108, delete and substitute the following:<ul style="list-style-type: none">▪ Delete Floor Mat; EXG, Substitute CPT-7.▪ Delete Base Mat.; EXG, Substitute RWB-1○ Office/Work Room 119, delete and substitute the following:<ul style="list-style-type: none">▪ Delete Room Name; Office/Work Room, Substitute File/Storage Room.▪ Delete Floor Mat; CPT-1, Substitute VCT-1.



- File/Storage Room 120, delete and substitute the following:
 - Delete Room Name; File/Storage Room, Substitute Office.
 - Delete Floor Mat; VCT-1, Substitute CPT-1.
- Finish Schedule legend:
 - Delete Pattern Name/Number for ACP-1, Cirrus Open Plan Angled Tegular, Substitute Ultima Open Plan 1941.
 - Delete ACP-2 in its entirety.
 - Delete all product information for CPT-4, Substitute “Not Used”.
 - Add CPT-5 to read:
CPT-5 - Carpet Broadloom - Kraus, Inc. - @Work Conference 1804 - Kiwi 04 - 096816.
 - Add CPT-6 to read:
CPT-6 - Carpet Broadloom – Shaw/Philadelphia Commercial – Baytowne III 36 J0065 – Seagrass 65370 - 096816.
 - Add CPT-7 to read:
CPT-7 - Carpet Floor Tile – Mannington Commercial – Sentana Loop – Cinnamon 6407 - 096813.
 - Delete Pattern Name/Number for CT-1, TBD, Substitute Roasted Marshmallow E1102.
 - Delete Pattern Name/Number for CT-2, TBD, Substitute Roasted Marshmallow E1102.
 - Delete Pattern Name/Number for CT-3, TBD, Substitute Roasted Marshmallow E1102.
 - Delete Pattern Name/Number for CT-4, TBD, Substitute Roasted Marshmallow E1102.
 - Delete Pattern Name/Number for LVT-1, Contour Wood Look, Substitute Contour Plank.
 - Delete Color for LVT-1, TBD, Substitute Hawaiian Teak CP 3311-CTK.
 - Add RWB-2 to read:
RWB-2 - Resilient Wall Base – Johnsonite - 4” Cove - Greege #190 - 096513

End of Addendum No. 1

B-04 Masonry

BID FORM

For Bids Due: _____

To: EDiS Company
110 S. Poplar Street
Wilmington, DE 19801

Name of Bidder: _____

Bidder Address: _____

Contact Name: _____ E-Mail Address: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____

(Other License Nos.): _____

Phone No.: () _____ - _____ Fax No.: () _____ - _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

\$ _____ (\$ _____)

ALTERNATES - #1 Geothermal System and Components

Alternate No. 1: Change In Price To Serve The Building Water Source Heat Pump System With A Geo-Thermal Supplied Well-Field. Work Includes Test Well For Ground Conductivity Verification, Geo-Thermal Well Field, Manifold Vault As Indicated On Sheet MEPFP-001 And Change In Pump Size.

Add/Deduct _____ (\$ _____)

ALTERNATES - #2 Parking Lot & Bio Retention Pond Changes

Alternate No. 2: #2 Includes Construction of SWM Pond No. 1, Shrubbery, Parking Lot, Curbing, Sidewalk, Relocation Of Pole With Surveillance Camera. New Trees, Fire Hydrant and Fire Service Line Included In Base Bid.

Add/Deduct _____ (\$ _____)

ALTERNATES - #3 Provide Basis Of Design Roof Panel Manufacturer. (Building Concepts of America)

Alternate No. 3: Provide Basis of Design Roof Panel Manufacturer. Base Bid Is For Substitute Manufacturer As Specified

Add/Deduct _____ (\$ _____)

ALTERNATES - #4 Provide Basis Of Design To Use Fire Alarm Contractor/Vendor Already On-Site (Advantech Of Dover, DE.)

Alternate No. 4: Change In Price To Use Current DDC/ATC Controls Contractor/Vendor Already On-site (Advantech Of Dover, DE)

Add/Deduct _____ (\$ _____)

ALTERNATES - #5 Provide Sole Source Price To Use Current DDC/ATC Controls Contractor/Vendor Already On-Site (CM3 Building Solutions)

Alternate No. 5: Change in Price to Use Current DDC/ATC Controls Contractor/Vendor Already On-site (CM3 Building Solutions).

Add/Deduct _____ (\$ _____)

ALTERNATES - #6 Provide cleaning of the existing exterior brick wall as indicated in Specification Section 040120 0 Maintenance of Unit Masonry.

Alternate No., 6: Provide price to clean existing exterior brick walls.

Add/Deduct _____ (\$ _____)

UNIT PRICES

Unit prices conform to applicable project specification section. Refer to the specifications for a complete description of the following Unit Prices:

		<u>BULK</u>		<u>TRENCH</u>	
		<u>Add</u>	<u>Deduct</u>	<u>Add</u>	<u>Deduct</u>
1.	Price per cubic yard for rock excavation as specified in excavation section.	_____	_____	_____	_____
2.	Price per cubic yard for earth excavation as specified in excavation section.	_____	_____	_____	_____
3.	Price per cubic yard for earth excavation by hand.	_____	_____	_____	_____
4.	Price per cubic yard for reinforced concrete on grade	_____	_____	_____	_____

NOTE: The difference in price between Add and Deduct in the above Unit Prices should not exceed fifteen percent (15%).

I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for sixty (60) days (Project Manager’s Note: Verify and coordinate with Section 00100 Instruction to Bidders.) from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (if required).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

**Delaware Technical Community College
Office of the President
Bid Package 'B'**

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____ By: _____
(SEAL) (Authorized Signature)

(Title)
Date: _____

ATTACHMENTS

- Sub-Contractor List
- Non-Collusion Statement
- Bid Bond
- Consent of Surety
- (Others as Required by Project Manuals)

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor must be listed for each category where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the Owner, it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work.

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State)</u>
-------------------------------	----------------------	-----------------------------------

N/A

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date _____

All the terms and conditions of Contract B-4 Masonry have been thoroughly examined and are understood.

NAME OF BIDDER: _____

AUTHORIZED REPRESENTATIVE
(TYPED): _____

AUTHORIZED REPRESENTATIVE
(SIGNATURE): _____

TITLE: _____

ADDRESS OF BIDDER: _____

PHONE NUMBER: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

CONSENT OF SURETY

DATE _____

To: Delaware Technical Community College
100 Campus Drive
Dover, DE 19904-1383

Gentlemen:

We, the _____

(Surety Company's Address)

a Surety Company authorized to do business in the State of Delaware hereby agrees that if

(Contractor)

(Address)

is awarded the Contract No. _____

We will write the required Performance and/or Labor and Material Bond required by Paragraph 9 of the Instructions to Bidders.

(Surety Company)

By _____
(Attorney-in-Fact)

END OF SECTION

SECTION 012300 - ALTERNATES

1. GENERAL PROVISIONS

- 1.1 The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary and other conditions, if any) and Division 1 as appropriate, apply to the Work specified in this Section.
- 1.2 Refer to provisions in AIA Document A232 – 2009 Edition, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, CONSTRUCTION MANAGER AS ADVISOR EDITION, for requirements in addition to those specified in Division 1.
- 1.3 For work being constructed under separate prime contracts, provisions of this Section apply to each contract being bid.

2. BASE BID

- 2.1 The Base Bid shall consist of all work shown or specified in the Contract Documents, exclusive of any Additive Alternates specified herein.
- 2.2 The Base Bid shall include all work in any Subtractive Alternates specified herein.

3. ALTERNATES

- 3.1 State in the Bid Form the amount to be added to the Base Bid for each Alternate specified.
- 3.2 See Section 002113 - INSTRUCTIONS TO BIDDERS for related information.
- 3.3 The description of Alternates contained herein is in summary form. Detailed requirements for materials and execution shall be as specified in other sections and as shown on drawings.

ALTERNATES - #1 Geothermal System and Components

Alternate No. 1: Change In Price To Serve The Building Water Source Heat Pump System With A Geo-Thermal Supplied Well-Field. Work Includes Test Well For Ground Conductivity Verification, Geo-Thermal Well Field, Manifold Vault As Indicated On Sheet MEPFP-001 And Change In Pump Size.

ALTERNATES - #2 Parking Lot & Bio Retention Pond Changes

Alternate No. 2: #2 Includes Construction of SWM Pond No. 1, Shrubbery, Parking Lot, Curbing, Sidewalk, Relocation Of Pole With Surveillance Camera. New Trees, Fire Hydrant and Fire Service Line Included In Base Bid.

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ALTERNATES - #3 Provide Basis Of Design Roof Panel Manufacturer. (Building Concepts of America)

Alternate No. 3: Provide Basis of Design Roof Panel Manufacturer. Base Bid Is For Substitute Manufacturer As Specified

ALTERNATES - #4 Provide Basis Of Design To Use Fire Alarm Contractor/Vendor Already On-Site (Advantech Of Dover, DE.)

Alternate No. 4: Change In Price To Use Current DDC/ATC Controls Contractor/Vendor Already On-site (Advantech Of Dover, DE)

ALTERNATES - #5 Provide Sole Source Price To Use Current DDC/ATC Controls Contractor/Vendor Already On-Site (CM3 Building Solutions)

Alternate No. 5: Change in Price to Use Current DDC/ATC Controls Contractor/Vendor Already On-site (CM3 Building Solutions).

ALTERNATES - #6 Provide cleaning of the existing exterior brick wall as indicated in Specification Section 040120 0 Maintenance of Unit Masonry.

Alternate No., 6: Provide price to clean existing exterior brick walls.

END OF SECTION

SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.
- B. Related Sections:
 - 1. Division 31 Section "Site Clearing" for removing existing trees and shrubs.

1.3 DEFINITIONS

- A. Caliper: Diameter of a trunk measured by a diameter tape or the average of the smallest and largest diameters at 6 inches (150 mm) above the ground for trees up to, and including, 4-inch (100-mm) size; and 12 inches (300 mm) above the ground for trees larger than 4-inch (100-mm) size.
- B. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.
- C. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by a circle concentric with each tree with a radius 1.5 times the diameter of the drip line unless otherwise indicated.
- D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each type of the following:
 - 1. Organic Mulch: 1-pint (0.5-L) volume of organic mulch; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.
 - 2. Protection-Zone Signage: Full-size Samples of each size and text, ready for installation.

- C. Qualification Data: For qualified arborist and tree service firm.
- D. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- E. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- F. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.
 - 1. Use sufficiently detailed photographs or videotape.
 - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

1.5 QUALITY ASSURANCE

- A. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.
- B. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:
 - a. Construction schedule. Verify availability of materials, personnel, and equipment needed to make progress and avoid delays.
 - b. Enforcing requirements for protection zones.
 - c. Arborist's responsibilities.
 - d. Field quality control.

1.6 PROJECT CONDITIONS

- A. The following practices are prohibited within protection zones:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Foot traffic.
 - 4. Erection of sheds or structures.
 - 5. Impoundment of water.
 - 6. Excavation or other digging unless otherwise indicated.
 - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

- B. Do not direct vehicle or equipment exhaust toward protection zones.
- C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil: Natural or cultivated top layer of the soil profile or manufactured topsoil; containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 1 inch (25 mm) in diameter; and free of weeds, roots, and toxic and other nonsoil materials.
 - 1. Obtain topsoil only from well-drained sites where topsoil is 4 inches (100 mm) deep or more; do not obtain from bogs or marshes.
- B. Topsoil: Stockpiled topsoil from location shown on Drawings.
- C. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:
 - 1. Type: Shredded hardwood.
 - 2. Size Range: 3 inches (76 mm) maximum, 1/2 inch (13 mm) minimum.
 - 3. Color: Natural.
- D. Protection-Zone Fencing: Fencing fixed in position and meeting one of the following requirements.
 - 1. Wood Protection-Zone Fencing: Constructed of two 2-by-4-inch (50-by-100-mm) horizontal rails, with 2-by-2-inch (50-by-50-mm) preservative-treated wood posts spaced not more than 8 feet (2.4 m) apart, and lower rail set halfway between top rail and ground.
 - a. Height: 4 feet (1.2 m).
 - 2. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch (50-mm) maximum opening in pattern and weighing a minimum of 0.4 lb/ft. (0.6 kg/m); remaining flexible from minus 60 to plus 200 deg F (minus 16 to plus 93 deg C); inert to most chemicals and acids; minimum tensile yield strength of 2000 psi (13.8 MPa) and ultimate tensile strength of 2680 psi (18.5 MPa); secured with plastic bands or galvanized-steel or stainless-steel wire ties; and supported by tubular or T-shape galvanized-steel posts spaced not more than 8 feet (2.4 m) apart.
 - a. Height: 4 feet (1.2 m).

- b. Color: High-visibility orange, nonfading.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- B. For the record, prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

3.2 PREPARATION

- A. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated. Tie a 1-inch (25-mm) blue-vinyl tape around each tree trunk at 54 inches (1372 mm) above the ground.
- B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
- C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated.
 1. Apply 4-inch (100-mm) average thickness of organic mulch. Do not place mulch within 6 inches (150 mm) of tree trunks.

3.3 TREE- AND PLANT-PROTECTION ZONES

- A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones in a manner that will prevent people from easily entering protected area except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.
 1. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Architect.
- B. Maintain protection zones free of weeds and trash.
- C. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Architect.

- D. Maintain protection-zone fencing and signage in good condition as acceptable to Architect and remove when construction operations are complete and equipment has been removed from the site.
 - 1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
 - 2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.4 EXCAVATION

- A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Division 31 Section "Earth Moving."
- B. Trenching near Trees: Where utility trenches are required within protection zones, hand excavate under or around tree roots or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.
- C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches (75 mm) back from new construction and as required for root pruning.
- D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.5 ROOT PRUNING

- A. Prune roots that are affected by temporary and permanent construction. Prune roots as follows:
 - 1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
 - 2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
 - 3. Cover exposed roots with burlap and water regularly.
 - 4. Backfill as soon as possible according to requirements in Division 31 Section "Earth Moving."

3.6 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.
 - 1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.
- C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- D. Minor Fill within Protection Zone: Where existing grade is 2 inches (50 mm) or less below elevation of finish grade, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations.

3.7 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.8 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Architect.
 - 1. Submit details of proposed root cutting and tree and shrub repairs.
 - 2. Have arborist perform the root cutting, branch pruning, and damage repair of trees and shrubs.
 - 3. Treat damaged trunks, limbs, and roots according to arborist's written instructions.
 - 4. Perform repairs within 24 hours.
 - 5. Replace vegetation that cannot be repaired and restored to full-growth status, as determined by Architect.
- B. Trees: Remove and replace trees indicated to remain that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.
 - 1. Provide new trees of same size and species as those being replaced for each tree that measures 6 inches (150 mm) or smaller in caliper size.
 - 2. Provide one new tree(s) of 6-inch (150-mm) caliper size for each tree being replaced that measures more than 6 inches (150 mm) in caliper size.

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Delaware Technical Community College
Terry Campus, Dover, Delaware

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3. Plant and maintain new trees as specified in Division 32 Section "Plants."
- C. Disposal: Remove excess excavated material, displaced trees, trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 015639

SECTION 040120 - MAINTENANCE OF UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes maintenance of unit masonry consisting of brick clay masonry restoration and cleaning as follows:
 - 1. Repairing unit masonry, including replacing units.
 - 2. Repointing joints.
 - 3. Preliminary cleaning, including removing plant growth.
 - 4. Cleaning exposed unit masonry surfaces.
- B. Related Sections:
 - 1. Division 04 Section "Unit Masonry" for new clay masonry construction.
 - 2. Division 07 Section "Water Repellents" for water repellents applied to clay masonry.
 - 3. Division 07 Section "Sheet Metal Flashing and Trim" for metal flashing installed in or on restored clay masonry.

1.3 DEFINITIONS

- A. Very Low-Pressure Spray: Under 100 psi (690 kPa).
- B. Low-Pressure Spray: 100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- C. Medium-Pressure Spray: 400 to 800 psi (2750 to 5510 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- D. High-Pressure Spray: 800 to 1200 psi (5510 to 8250 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- E. Saturation Coefficient: Ratio of the weight of water absorbed during immersion in cold water to weight absorbed during immersion in boiling water; used as an indication of resistance of masonry units to freezing and thawing.

1.4 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on masonry units as follows.

1. Provide test specimens as indicated and representative of proposed materials and construction.
2. Existing Brick: Test each type of existing masonry unit indicated for replacement, according to testing methods in ASTM C 67 for compressive strength, 24-hour cold-water absorption, 5-hour boil absorption, saturation coefficient, and initial rate of absorption (suction). Carefully remove five existing units from locations designated by Architect. Take testing samples from these units.
3. Existing Mortar: Test according to ASTM C 295, modified as agreed by testing service and Architect for Project requirements, to determine proportional composition of original ingredients, sizes and colors of aggregates, and approximate strength. Use X-ray diffraction, infrared spectroscopy, and differential thermal analysis as necessary to supplement microscopical methods. Carefully remove existing mortar from within joints at five locations designated by Architect.
4. Temporary Patch: As directed by Architect, provide temporary materials at locations from which existing samples were taken.
5. Replacement Brick: Test each proposed type of replacement masonry unit, according to sampling and testing methods in ASTM C 67 for compressive strength, 24-hour cold-water absorption, 5-hour boil absorption, saturation coefficient, and initial rate of absorption (suction).

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements.
- B. Shop Drawings: For the following:
 1. Provisions for expansion joints or other sealant joints.
 2. Provisions for flashing, lighting fixtures, conduits, and weep holes as required.
 3. Replacement and repair anchors. Include details of anchors within individual masonry units, with locations of anchors and dimensions of holes and recesses in units required for anchors.
- C. Samples for Initial Selection: For the following:
 1. Pointing Mortar: Submit sets of mortar for pointing in the form of sample mortar strips, 6 inches (150 mm) long by 1/4 inch (6 mm) wide, set in aluminum or plastic channels.
 - a. Have each set contain a close color range of at least three Samples of different mixes of colored sands and cements that produce a mortar matching the cleaned masonry when cured and dry.
 - b. Submit with precise measurements on ingredients, proportions, gradations, and sources of colored sands from which each Sample was made.
 2. Patching Compound: Submit sets of patching compound Samples in the form of plugs (patches in drilled holes) in sample units of masonry representative of the range of masonry colors on the building.

- a. Have each set contain a close color range of at least three Samples of different mixes of patching compound that matches the variations in existing masonry when cured and dry.
3. Sealant Materials: See Division 07 Section "Joint Sealants."
4. Include similar Samples of accessories involving color selection.

D. Samples for Verification: For the following:

1. Each type of masonry unit to be used for replacing existing units. Include sets of Samples as necessary to show the full range of shape, color, and texture to be expected.
 - a. For each brick type, provide straps or panels containing at least four bricks. Include multiple straps for brick with a wide range.
2. Each type of sand used for pointing mortar; minimum 1 lb (0.5 kg) of each in plastic screw-top jars.
 - a. For blended sands, provide Samples of each component and blend.
 - b. Identify sources, both supplier and quarry, of each type of sand.
3. Each type, color, and texture of pointing mortar in the form of sample mortar strips, 6 inches (150 mm) long by 1/2 inch (13 mm) wide, set in aluminum or plastic channels.
 - a. Include with each Sample a list of ingredients with proportions of each. Identify sources, both supplier and quarry, of each type of sand and brand names of cementitious materials and pigments if any.
4. Each type of masonry patching compound in the form of briquettes, at least 3 inches (75 mm) long by 1-1/2 inches (38 mm) wide. Document each Sample with manufacturer and stock number or other information necessary to order additional material.
5. Sealant Materials: See Division 07 Section "Joint Sealants."
6. Accessories: Each type of anchor, accessory, and miscellaneous support.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For restoration specialists, including field supervisors and restoration workers.
- B. Preconstruction Test Reports: For existing and replacement masonry units.
- C. Quality-Control Program.
- D. Restoration Program.
- E. Cleaning Program.

1.7 QUALITY ASSURANCE

- A. Restoration Specialist Qualifications: Engage an experienced masonry restoration and cleaning firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience installing standard unit masonry is not sufficient experience for masonry restoration work.
1. At Contractor's option, work may be divided between two specialist firms: one for cleaning work and one for repair work.
 2. Field Supervision: Restoration specialist firms shall maintain experienced full-time supervisors on Project site during times that clay masonry restoration and cleaning work is in progress. Supervisors shall not be changed during Project except for causes beyond the control of restoration specialist firm.
 3. Restoration Worker Qualifications: Persons who are experienced in restoration work of types they will be performing. When masonry units are being patched, assign at least one worker among those performing patching work who is trained and certified by manufacturer of patching compound to apply its products.
- B. Chemical-Cleaner Manufacturer Qualifications: A firm regularly engaged in producing masonry cleaners that have been used for similar applications with successful results, and with factory-trained representatives who are available for consultation and Project-site inspection and assistance at no additional cost.
- C. Source Limitations: Obtain each type of material for masonry restoration (face brick, cement, sand, etc.) from one source with resources to provide materials of consistent quality in appearance and physical properties.
- D. Quality-Control Program: Prepare a written quality-control program for this Project to systematically demonstrate the ability of personnel to properly follow methods and use materials and tools without damaging masonry. Include provisions for supervising performance and preventing damage due to worker fatigue.
- E. Restoration Program: Prepare a written, detailed description of materials, methods, equipment, and sequence of operations to be used for each phase of restoration work including protection of surrounding materials and Project site.
1. Include methods for keeping pointing mortar damp during curing period.
 2. If materials and methods other than those indicated are proposed for any phase of restoration work, add to the Quality-Control Program a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project and worker's ability to use such materials and methods properly.
- F. Cleaning Program: Prepare a written cleaning program that describes cleaning process in detail, including materials, methods, and equipment to be used, protection of surrounding materials, and control of runoff during operations.

1. If materials and methods other than those indicated are proposed for any phase of restoration work, add to the Quality-Control Program a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project and worker's ability to use such materials and methods properly.

- G. **Cleaning and Repair Appearance Standard:** Cleaned and repaired surfaces are to have a uniform appearance as viewed from 20 feet (6 m) away by Architect. Perform additional paint and stain removal, general cleaning, and spot cleaning of small areas that are noticeably different, so that surface blends smoothly into surrounding areas.

- H. **Mockups:** Prepare mockups of restoration and cleaning to demonstrate aesthetic effects and set quality standards for materials and execution and for fabrication and installation.
 1. **Masonry Repair:** Prepare sample areas for each type of masonry material indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than 2 adjacent whole units or approximately 48 inches (1200 mm) in least dimension. Erect sample areas in existing walls unless otherwise indicated, to demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:
 - a. **Replacement:**
 - 1) Four brick units replaced.
 - b. **Patching:** Three small holes at least 1 inch (25 mm) in diameter for each type of masonry material indicated to be patched, so as to leave no evidence of repair.
 - c. **Widening Joints:** Widen a joint in 2 separate locations , each approximately 12 inches (300 mm) long.
 2. **Repointing:** Rake out joints in 2 separate areas , each approximately 36 inches (900 mm) high by 48 inches (1200 mm) wide for each type of repointing required and repoint one of the areas.
 3. **Cleaning:** Clean an area approximately 25 sq. ft. (2.3 sq. m) for each type of masonry and surface condition.
 - a. Test cleaners and methods on samples of adjacent materials for possible adverse reactions. Do not use cleaners and methods known to have deleterious effect.
 - b. Allow a waiting period of not less than seven days after completion of sample cleaning to permit a study of sample panels for negative reactions.
 4. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 5. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

- I. **Preinstallation Conference:** Conduct conference at Project site.

1. Review methods and procedures related to masonry restoration and cleaning including, but not limited to, the following:
 - a. Construction schedule. Verify availability of materials, Restoration Specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Materials, material application, sequencing, tolerances, and required clearances.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry units to Project site strapped together in suitable packs or pallets or in heavy-duty cartons.
- B. Deliver other materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.
- C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- D. Store hydrated lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.
- E. Store lime putty covered with water in sealed containers.
- F. Store sand where grading and other required characteristics can be maintained and contamination avoided.

1.9 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit masonry restoration and cleaning work to be performed according to manufacturers' written instructions and specified requirements.
- B. Repair masonry units and repoint mortar joints only when air temperature is between 40 and 90 deg F (4 and 32 deg C) and is predicted to remain so for at least 7 days after completion of the Work unless otherwise indicated.
- C. Cold-Weather Requirements: Comply with the following procedures for masonry repair and mortar-joint pointing unless otherwise indicated:
 1. When air temperature is below 40 deg F (4 deg C), heat mortar ingredients, masonry repair materials, and existing masonry walls to produce temperatures between 40 and 120 deg F (4 and 49 deg C).
 2. When mean daily air temperature is below 40 deg F (4 deg C), provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for 7 days after repair and pointing.

- D. Hot-Weather Requirements: Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar and repair materials. Provide artificial shade and wind breaks and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures of 90 deg F (32 deg C) and above unless otherwise indicated.
- E. For manufactured repair materials, perform work within the environmental limits set by each manufacturer.
- F. Clean masonry surfaces only when air temperature is 40 deg F (4 deg C) and above and is predicted to remain so for at least 7 days after completion of cleaning.

1.10 COORDINATION

- A. Coordinate masonry restoration and cleaning with public circulation patterns at Project site. Some work is near public circulation patterns. Public circulation patterns cannot be closed off entirely, and in places can be only temporarily redirected around small areas of work. Plan and execute the Work accordingly.

1.11 SEQUENCING AND SCHEDULING

- A. Order replacement materials at earliest possible date to avoid delaying completion of the Work.
- B. Order sand and portland cement for pointing mortar immediately after approval of mockups. Take delivery of and store at Project site a sufficient quantity to complete Project.
- C. Perform masonry restoration work in the following sequence:
 - 1. Remove plant growth.
 - 2. Inspect for open mortar joints and repair before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
 - 3. Remove paint.
 - 4. Clean masonry surfaces.
 - 5. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
 - 6. Repair masonry, including replacing existing masonry with new masonry materials.
 - 7. Rake out mortar from joints to be repointed.
 - 8. Point mortar and sealant joints.
 - 9. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.
 - 10. Inspect for open mortar joints and repair before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
 - 11. Remove paint.
 - 12. Clean masonry surfaces.

PART 2 - PRODUCTS

2.1 MASONRY MATERIALS

- A. Face Brick: Provide face brick, including specially molded, ground, cut, or sawed shapes where required to complete masonry restoration work.
 - 1. Provide units with colors, color variation within units, surface texture, size, and shape to match existing brickwork.
- B. Building Brick: Provide building brick complying with ASTM C 62, of same vertical dimension as face brick, for masonry work concealed from view.
- C. Salvaged Brick: Salvaged brick from demolition areas for reuse in patch and repair areas. Clean off residual mortar.

2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type II, white where required for color matching of exposed mortar.
 - 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Factory-Prepared Lime Putty: ASTM C 1489.
- D. Quicklime: ASTM C 5, pulverized lime.
- E. Mortar Sand: ASTM C 144 unless otherwise indicated.
 - 1. Color: Provide natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
 - 2. For pointing mortar, provide sand with rounded edges.
 - 3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
- F. Mortar Pigments: Natural and synthetic iron oxides, compounded for mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.
- G. Water: Potable.

2.3 MANUFACTURED REPAIR MATERIALS

- A. Masonry Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching masonry.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cathedral Stone Products, Inc.; Jahn M100 Terra Cotta and Brick Repair Mortar.
 - b. Conproco Corporation; Mimic.
 - c. Edison Coatings, Inc.; Custom System 45.
2. Use formulation that is vapor- and water permeable (equal to or more than the masonry unit), exhibits low shrinkage, has lower modulus of elasticity than the masonry units being repaired, and develops high bond strength to all types of masonry.
3. Use formulation having working qualities and retardation control to permit forming and sculpturing where necessary.
4. Formulate patching compound used for patching brick in colors and textures to match each masonry unit being patched. Provide sufficient number of colors to enable matching the color, texture, and variation of each unit.

2.4 CLEANING MATERIALS

- A. Water: Potable.
- B. Hot Water: Water heated to a temperature of 140 to 160 deg F (60 to 71 deg C).
- C. Job-Mixed Detergent Solution: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium polyphosphate, 1/2 cup (125 mL) of laundry detergent, and 20 quarts (20 L) of hot water for every 5 gal. (20 L) of solution required.
- D. Job-Mixed Mold, Mildew, and Algae Remover: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium polyphosphate, 5 quarts (5 L) of 5 percent sodium hypochlorite (bleach), and 15 quarts (15 L) of hot water for every 5 gal. (20 L) of solution required.
- E. Acidic Cleaner: Manufacturer's standard acidic masonry cleaner composed of hydrofluoric acid or ammonium bifluoride blended with other acids, detergents, wetting agents, and inhibitors.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ABR Products, Inc.; 801 Heavy Duty Masonry Cleaner.
 - b. Diedrich Technologies Inc.; Diedrich 101 Masonry Restorer or Diedrich 101G Granite, Terra Cotta, and Brick Cleaner.
 - c. Dumond Chemicals, Inc.; Safe n' Easy Ultimate Stone and Masonry Cleaner or Safe n' Easy Heavy Duty Restoration Cleaner.
 - d. EaCo Chem, Inc.; GS-Restoration or HD-Acid
 - e. Hydroclean, Hydrochemical Techniques, Inc.; Hydroclean Brick, Granite, Sandstone and Terra Cotta Cleaner (HT-626).
 - f. Price Research, Ltd.; Price Heavy Duty Restoration Cleaner or Price Restoration Cleaner.
 - g. PROSOCO; Enviro Klean Restoration Cleaner or Sure Klean Heavy-Duty Restoration Cleaner.

2.5 ACCESSORY MATERIALS

- A. Liquid Strippable Masking Agent: Manufacturer's standard liquid, film-forming, strippable masking material for protecting glass, metal, and polished stone surfaces from damaging effects of acidic and alkaline masonry cleaners.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ABR Products, Inc.; Rubber Mask.
 - b. Price Research, Ltd.; Price Mask.
 - c. PROSOCO; Sure Klean Strippable Masking.
- B. Masonry Repair Anchors, Expansion Type: Mechanical fasteners designed for masonry veneer stabilization consisting of 1/4-inch- (6-mm-) diameter, Type 304 stainless-steel rod with brass expanding shells at each end and water-shedding washer in the middle. Expanding shells shall be designed to provide positive mechanical anchorage to veneer on one end and backup masonry on the other.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BLOK-LOK Limited; Torq-Lok.
 - b. Dur-O-Wal, a division of Dayton Superior; Dur-O-Wal Repair Anchor.
 - c. Hohmann & Barnard, Inc.; #521RA-B Restoration Anchor.
- C. Masonry Repair Anchors, Spiral Type: Type 304 stainless-steel spiral rods designed to anchor to backing and veneer. Anchors are flexible in plane of veneer but rigid perpendicular to it.
1. Provide adhesive-installed anchors complete with manufacturer's standard epoxy adhesive and injection tubes, or other devices required for installation.
 2. Provide driven-in anchors designed to be installed in drilled holes and relying on screw effect rather than adhesive to secure them to backup and veneer.
 3. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BLOK-LOK Limited; Spira-Lok.
 - b. Dur-O-Wal, a division of Dayton Superior; Dur-O-Pair Resin Anchor or Dur-O-Flex Friction Pin Anchor.
 - c. Heckmann Building Products Inc.; #391 Remedial Tie.
 - d. Hohmann & Barnard, Inc.; Helix Spiro-Ties.
- D. Masonry Repair Anchors, Rod/Screen Tube Type: Stainless-steel screen tube with or without Type 304 stainless-steel rod, adhesive installed by injection with manufacturer's standard epoxy adhesive, complete with other devices required for installation.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- a. BLOK-LOK Limited; Chem-Lok.
- b. Hohmann & Barnard, Inc.; #520RA.

E. Sealant Materials:

1. Provide manufacturer's standard chemically curing, elastomeric sealant(s) of base polymer and characteristics indicated below that comply with applicable requirements in Division 07 Section "Joint Sealants."
 - a. Single-component, nonsag urethane sealant.
2. Colors: Provide colors of exposed sealants to match colors of masonry adjoining installed sealant unless otherwise indicated.
3. Ground-Mortar Aggregate: Custom crushed and ground pointing mortar sand or existing mortar retrieved from joints. Grind to a particle size that matches the adjacent mortar aggregate and color. Remove all fines passing the 100 sieve.

F. Joint-Sealant Backing:

1. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) or Type B (bicellular material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
2. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where acceptable.

G. Setting Buttons: Resilient plastic buttons, nonstaining to masonry, sized to suit joint thicknesses and bed depths of masonry units without intruding into required depths of pointing materials.

H. Masking Tape: Nonstaining, nonabsorbent material, compatible with pointing mortar, joint primers, sealants, and surfaces adjacent to joints; that will easily come off entirely, including adhesive.

I. Antirust Coating: Fast-curing, lead- and chromate-free, self-curing, universal modified-alkyd primer complying with MPI #79, Alkyd Anticorrosive Metal Primer or SSPC-Paint 20 or SSPC-Paint 29 zinc-rich coating.

1. Use coating requiring no better than SSPC-SP 2, "Hand Tool Cleaning" surface preparation according to manufacturer's literature or certified statement.
2. Use coating with a VOC content of 420 g/L (3.5 lb/gal.) or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

J. Miscellaneous Products: Select materials and methods of use based on the following, subject to approval of a mockup:

1. Previous effectiveness in performing the work involved.

2. Little possibility of damaging exposed surfaces.
3. Consistency of each application.
4. Uniformity of the resulting overall appearance.
5. Do not use products or tools that could do the following:
 - a. Remove, alter, or in any way harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in contract.
 - b. Leave a residue on surfaces.

2.6 MORTAR MIXES

- A. Preparing Lime Putty: Slake quicklime and prepare lime putty according to appendix to ASTM C 5 and manufacturer's written instructions.
- B. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
 1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.
- C. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
 1. Mortar Pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.
- D. Do not use admixtures in mortar unless otherwise indicated.
- E. Mortar Proportions: Mix mortar materials in the following proportions:
 1. Pointing Mortar for Brick: 1 part portland cement, 2 parts lime, and 6 parts sand.
 - a. Add mortar pigments to produce mortar colors required.
 2. Rebuilding (Setting) Mortar: Same as pointing mortar.

2.7 CHEMICAL CLEANING SOLUTIONS

- A. Dilute chemical cleaners with water to produce solutions not exceeding concentration recommended by chemical-cleaner manufacturer.

- B. Acidic Cleaner Solution for Brick: Dilute with water to produce hydrofluoric acid content of 3 percent or less, but not greater than that recommended by chemical-cleaner manufacturer.

PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.
 - 1. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of restoration and cleaning work.
- B. Comply with chemical-cleaner manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical-cleaning solutions from coming into contact with people, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.
 - 1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
 - 2. Keep wall wet below area being cleaned to prevent streaking from runoff.
 - 3. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
 - 4. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
 - 5. Dispose of runoff from cleaning operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
- C. Prevent mortar from staining face of surrounding masonry and other surfaces.
 - 1. Cover sills, ledges, and projections to protect from mortar droppings.
 - 2. Keep wall area wet below rebuilding and pointing work to discourage mortar from adhering.
 - 3. Immediately remove mortar in contact with exposed masonry and other surfaces.
 - 4. Clean mortar splatters from scaffolding at end of each day.
- D. Remove downspouts adjacent to masonry and store during masonry restoration and cleaning. Reinstall when masonry restoration and cleaning are complete.
 - 1. Provide temporary rain drainage during work to direct water away from building.

3.2 BRICK REMOVAL AND REPLACEMENT

- A. At locations indicated, remove bricks that are damaged, spalled, or deteriorated or are to be reused. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
 - 1. When removing single bricks, remove material from center of brick and work toward outside edges.
- B. Support and protect remaining masonry that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
- C. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.
- D. Remove in an undamaged condition as many whole bricks as possible.
 - 1. Remove mortar, loose particles, and soil from brick by cleaning with hand chisels, brushes, and water.
 - 2. Remove sealants by cutting close to brick with utility knife and cleaning with solvents.
 - 3. Store brick for reuse. Store off ground, on skids, and protected from weather.
 - 4. Deliver cleaned brick not required for reuse to Owner unless otherwise indicated.
- E. Clean bricks surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.
- F. Replace removed damaged brick with other removed brick and salvaged brick in good quality, where possible, or with new brick matching existing brick, including size. Do not use broken units unless they can be cut to usable size.
- G. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
 - 1. Maintain joint width for replacement units to match existing joints.
 - 2. Use setting buttons or shims to set units accurately spaced with uniform joints.
- H. Lay replacement brick with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. (30 g/194 sq. cm per min.). Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.
 - 1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
 - 2. Rake out mortar used for laying brick before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing masonry, and at same time as repointing of surrounding area.
 - 3. When mortar is sufficiently hard to support units, remove shims and other devices interfering with pointing of joints.

3.3 MASONRY UNIT PATCHING

A. Patch the following masonry units unless another type of replacement or repair is indicated:

1. Units indicated to be patched.
2. Units with holes.
3. Units with chipped edges or corners.
4. Units with small areas of deep deterioration.

B. Remove and replace existing patches unless otherwise indicated or approved by Architect.

C. Patching Bricks:

1. Remove loose material from masonry surface. Carefully remove additional material so patch will not have feathered edges but will have square or slightly undercut edges on area to be patched and will be at least 1/4 inch (6 mm) thick, but not less than recommended by patching compound manufacturer.
2. Mask adjacent mortar joint or rake out for repointing if patch will extend to edge of masonry unit.
3. Mix patching compound in individual batches to match each unit being patched. Combine one or more colors of patching compound, as needed, to produce exact match.
4. Rinse surface to be patched and leave damp, but without standing water.
5. Brush-coat surfaces with slurry coat of patching compound according to manufacturer's written instructions.
6. Place patching compound in layers as recommended by patching compound manufacturer, but not less than 1/4 inch (6 mm) or more than 2 inches (50 mm) thick. Roughen surface of each layer to provide a key for next layer.
7. Trowel, scrape, or carve surface of patch to match texture and surrounding surface plane or contour of the masonry unit. Shape and finish surface before or after curing, as determined by testing, to best match existing masonry unit.
8. Keep each layer damp for 72 hours or until patching compound has set.

3.4 WIDENING JOINTS

A. Do not widen a joint, except where indicated or approved by Architect.

B. Location Guideline: Where an existing masonry unit abuts another or the joint is less than 1/8 inch (3 mm), widen the joint for length indicated and to depth required for repointing after obtaining Architect's approval.

C. Carefully perform widening by cutting, grinding, routing, or filing procedures demonstrated in an approved mockup.

D. Widen joint to width equal to or less than predominant width of other joints on building. Make sides of widened joint uniform and parallel. Ensure that edges of units along widened joint are in alignment with joint edges at unaltered joints.

3.5 CLEANING MASONRY, GENERAL

- A. Proceed with cleaning in an orderly manner; work from top to bottom of each scaffold width and from one end of each elevation to the other. Ensure that dirty residues and rinse water will not wash over cleaned, dry surfaces.
- B. Use only those cleaning methods indicated for each masonry material and location.
 - 1. Do not use wire brushes or brushes that are not resistant to chemical cleaner being used. Do not use plastic-bristle brushes if natural-fiber brushes will resist chemical cleaner being used.
 - 2. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.
 - a. Equip units with pressure gages.
 - 3. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray tip.
- C. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.
- D. Chemical-Cleaner Application Methods: Apply chemical cleaners to masonry surfaces to comply with chemical-cleaner manufacturer's written instructions; use brush or spray application. Do not spray apply at pressures exceeding 50 psi (345 kPa). Do not allow chemicals to remain on surface for periods longer than those indicated or recommended by manufacturer.
- E. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.
 - 1. Apply neutralizing agent and repeat rinse if necessary to produce tested pH of between 6.7 and 7.5.
- F. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

3.6 PRELIMINARY CLEANING

- A. Removing Plant Growth: Completely remove visible plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing to dry as long as possible before removal. Remove loose soil and debris from open masonry joints to whatever depth they occur.

- B. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, calking, asphalt, and tar.
 - 1. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or chip masonry surface.
 - 2. Remove paint and calking with alkaline paint remover.
 - a. Repeat application up to two times if needed.
 - 3. Remove asphalt and tar with solvent-type paint remover.
 - a. Apply paint remover only to asphalt and tar by brush without prewetting.
 - b. Allow paint remover to remain on surface for 10 to 30 minutes.
 - c. Repeat application if needed.

3.7 PAINT REMOVAL

A. Paint Removal with Alkaline Paste Paint Remover:

- 1. Remove loose and peeling paint using low-pressure spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
- 2. Apply paint remover to dry, painted masonry with brushes.
- 3. Allow paint remover to remain on surface for period recommended by manufacturer.
- 4. Rinse with hot water applied by low-pressure spray to remove chemicals and paint residue.
- 5. Repeat process if necessary to remove all paint.
- 6. Apply acidic cleaner or manufacturer's recommended afterwash to masonry, while surface is still wet, using low-pressure spray equipment or soft-fiber brush. Let cleaner or afterwash remain on surface as a neutralizing agent for period recommended by chemical cleaner or afterwash manufacturer.
- 7. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.

3.8 CLEANING BRICKWORK

A. Mold, Mildew, and Algae Removal:

- 1. Wet masonry with hot water applied by low-pressure spray.
- 2. Apply mold, mildew, and algae remover by brush or low-pressure spray.
- 3. Scrub masonry with medium-soft brushes until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing. Use small brushes for mortar joints and crevices. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used and that masonry surface remains wet.
- 4. Rinse with hot water applied by low-pressure spray to remove mold, mildew, and algae remover and soil.
- 5. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.

B. Acidic Chemical Cleaning:

1. Wet masonry with cold water applied by low-pressure spray.
2. Apply cleaner to masonry in two applications by brush or low-pressure spray. Let cleaner remain on surface for period indicated below:
 - a. As recommended by chemical-cleaner manufacturer.
 - b. As established by mockup.
 - c. Two to three minutes.
3. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.
4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use a steam cleaning.

3.9 REPOINTING MASONRY

A. Rake out and repoint joints to the following extent:

1. All joints in areas indicated.
2. Joints where mortar is missing or where they contain holes.
3. Cracked joints where cracks can be penetrated at least 1/4 inch (6 mm) by a knife blade 0.027 inch (0.7 mm) thick.
4. Cracked joints where cracks are 1/8 inch (3 mm or more in width and of any depth.
5. Joints where they sound hollow when tapped by metal object.
6. Joints where they are worn back 1/4 inch (6 mm) or more from surface.
7. Joints where they are deteriorated to point that mortar can be easily removed by hand, without tools.
8. Joints where they have been filled with substances other than mortar.
9. Joints indicated as sealant-filled joints.

B. Do not rake out and repoint joints where not required.

C. Rake out joints as follows, according to procedures demonstrated in approved mockup:

1. Remove mortar from joints to depth of joint width plus 1/8 inch (3 mm), but not less than 1/2 inch (13 mm) or not less than that required to expose sound, unweathered mortar.
2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
3. Do not spall edges of masonry units or widen joints. Replace or patch damaged masonry units as directed by Architect.
 - a. Cut out mortar by hand with chisel and resilient mallet. Do not use power-operated grinders without Architect's written approval based on approved quality-control program.

- b. Install sealant using only proven installation techniques that will ensure that sealant will be deposited in a uniform, continuous ribbon, without gaps or air pockets, and with complete wetting of the joint bond surfaces equally on both sides. Fill joint flush with surrounding masonry and matching the contour of adjoining mortar joints.
 - c. Install sealant as recommended by sealant manufacturer but within the following general limitations, measured at the center (thin) section of the bead:
 - 1) Fill joints to a depth equal to joint width, but not more than 1/2 inch (13 mm) deep or less than 1/4 inch (6 mm) deep.
 - d. Immediately after first tooling, apply ground-mortar aggregate to sealant, gently pushing aggregate into the surface of sealant. Retool sealant to form smooth, uniform beads, slightly concave. Remove excess sealant and aggregate from surfaces adjacent to joint.
 - e. Do not allow sealant to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces, particularly rough textures. Remove excess and spillage of sealant promptly as the work progresses. Clean adjoining surfaces by the means necessary to eliminate evidence of spillage, without damage to adjoining surfaces or finishes, as demonstrated in an approved mockup.
4. Cure sealant according to Division 07 Section "Joint Sealants."
- G. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

3.10 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.
 1. Do not use metal scrapers or brushes.
 2. Do not use acidic or alkaline cleaners.
- B. Wash adjacent woodwork and other nonmasonry surfaces. Use detergent and soft brushes or cloths.
- C. Clean mortar and debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.
- D. Sweep and rake adjacent pavement and grounds to remove mortar and debris. Where necessary, pressure wash pavement surfaces to remove mortar, dust, dirt, and stains.

3.11 FIELD QUALITY CONTROL

- A. Inspectors: Owner will engage qualified independent inspectors to perform inspections and prepare test reports. Allow inspectors use of lift devices and scaffolding, as needed, to perform inspections.
- B. Architect's Project Representatives: Architect will assign Project representatives to help carry out Architect's responsibilities at the site, including observing progress and quality of portion of the Work completed. Allow Architect's Project representatives use of lift devices and scaffolding, as needed, to observe progress and quality of portion of the Work completed.
- C. Notify inspectors and Architect's Project representatives in advance of times when lift devices and scaffolding will be relocated. Do not relocate lift devices and scaffolding until inspectors and Architect's Project representatives have had reasonable opportunity to make inspections and observations of work areas at lift device or scaffold location.

END OF SECTION 040120



ARCHITECTURE
ENGINEERING

<Date>

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ADDENDUM NO. 1



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Jerry McNeshey DTCC

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ADDENDUM NO. 1



DTCC - Terry Campus
Office of the President
PRE BID MEETING SIGN IN SHEET
DATE: 20 February 2013

Please Print!

COMPANY/ REPRESENTATIVE:

EMAIL ADDRESS:

Dirk BEATTY CAVAN CONST.

VICTOR ROLLI/MID-ATLANTIC ELECTRICAL
MID-ATLANTIC DISMANTLEMENT

MAT MITTEN CORP.

BEAD INDUSTRIES / CHAMUS JOHNSTON

FIRST STATE ELECTRIC / Fred Fisher

PLYMOUTH ENVIRONMENTAL - TIM BRYAN

R&D E SONS INC. Anthony S. Degli Obizzi

GERRY LAMENZO Merit Mechanical CO INC

Mike Voss Wickle Electrical

D.A. NOLT, INC / Ron EISTER

~~RE FAB~~ RE FAB / DAN Edelen

Power Plus Electrical Cont, Inc / Matt Bailey

BILL MICHELINIE, BCI

BW ELECTRIC Mike HINES

K.B. COLDIRON INC Chuck White

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MAT@DANOLT.COM

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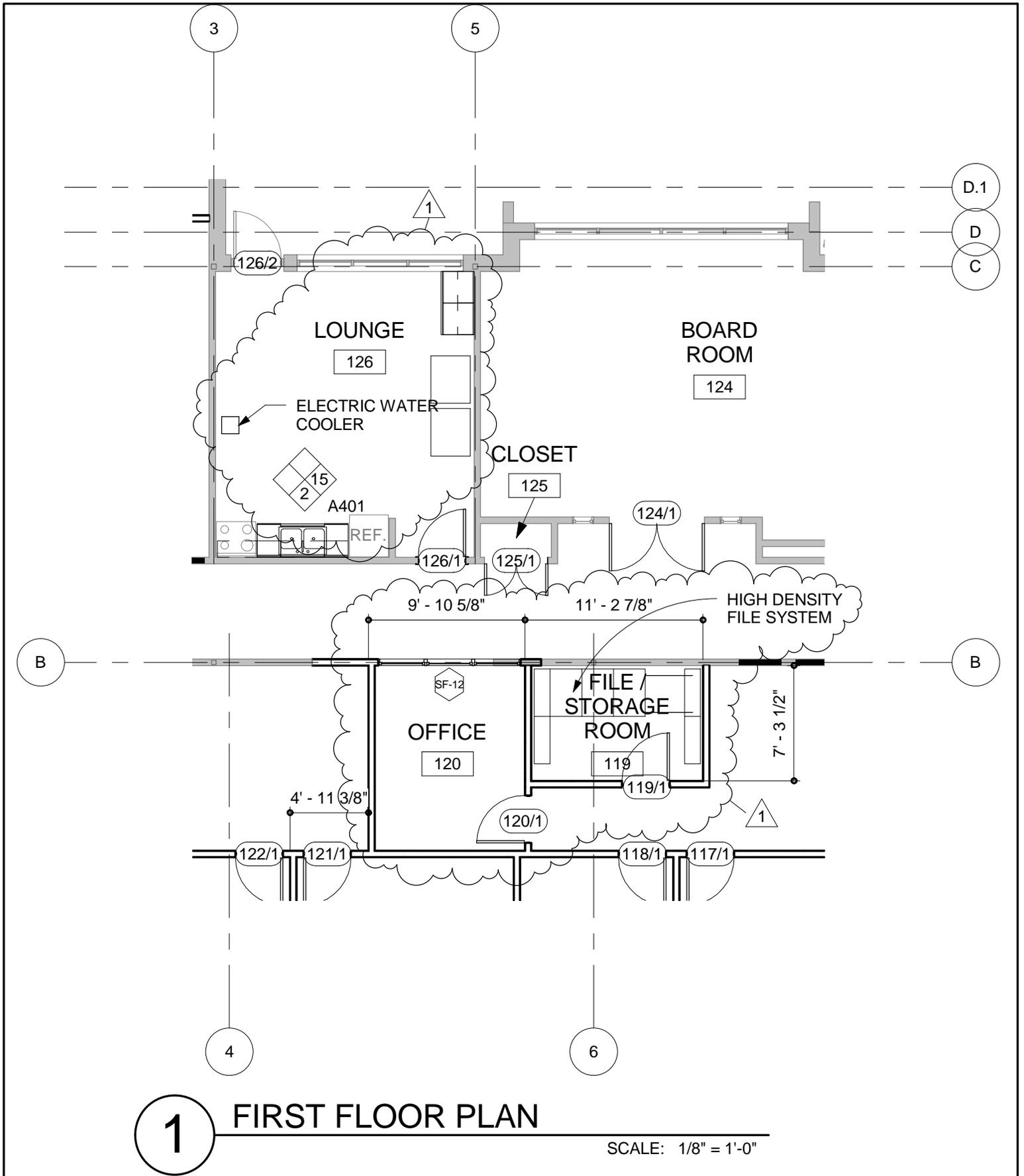
Matt b3@prodigy.net 302-325-2700

BMICHELINIE@BCI-ONLINE.COM

BWELECTRIC@COMCAST.NET 302-491-6154

Chuck@KBCOLDIRON.COM PH. 302-436-2611

ADDENDUM NO. 1



1 FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"



Dover, DE
 309 S. Governors Ave.
 Dover, DE 19904
 P: 302.734.7950
 F: 302.734.7965

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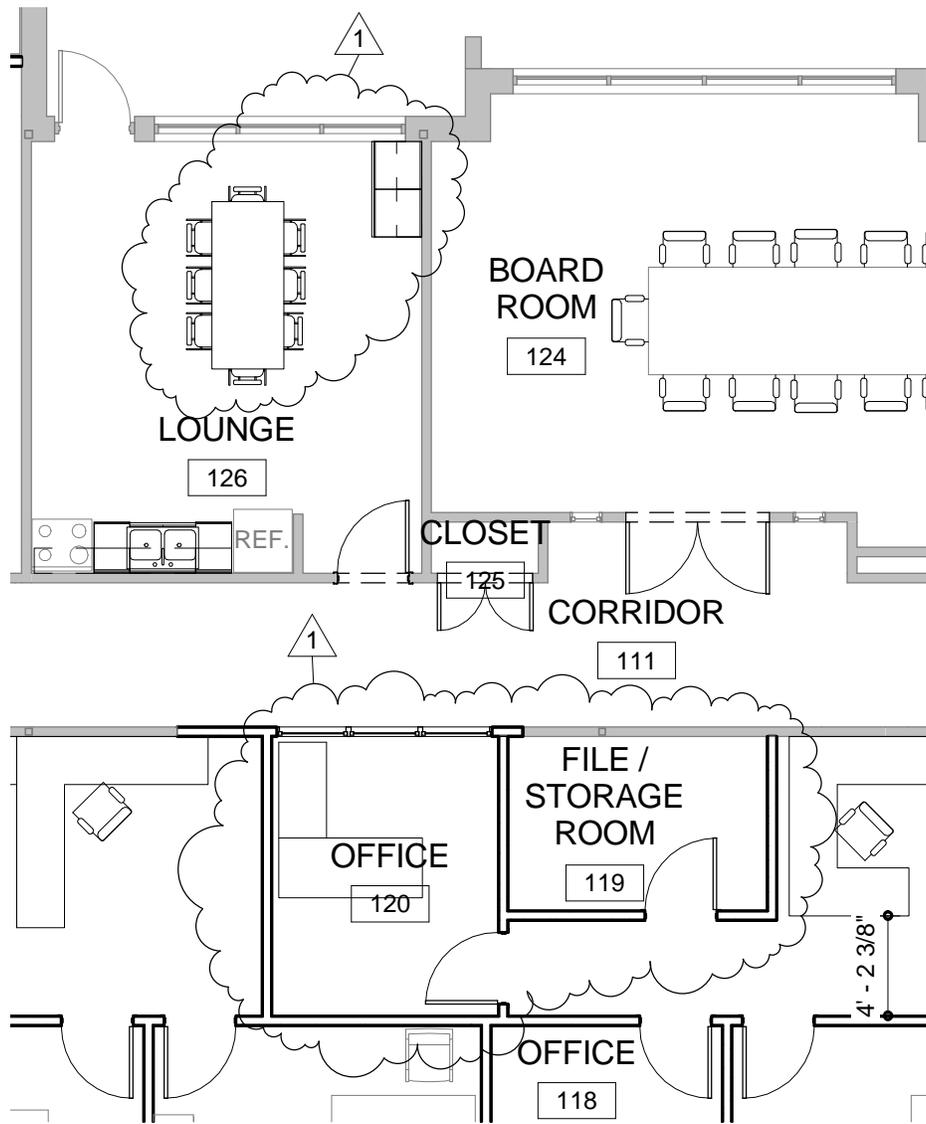
FIRST FLOOR PLAN
 (ADDENDUM NO. 1)

PROJECT NO.: 2012025.00
 DATE: 2/22/13
 SCALE: 1/8" = 1'-0"
 DRAWN BY: BJC

SKA101-1

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FURNITURE PLAN FOR REFERENCE ONLY
 FURNITURE PROCUREMENT UNDER SEPERATE CONTRACT

1

FURNITURE PLAN

SCALE: 1/8" = 1'-0"



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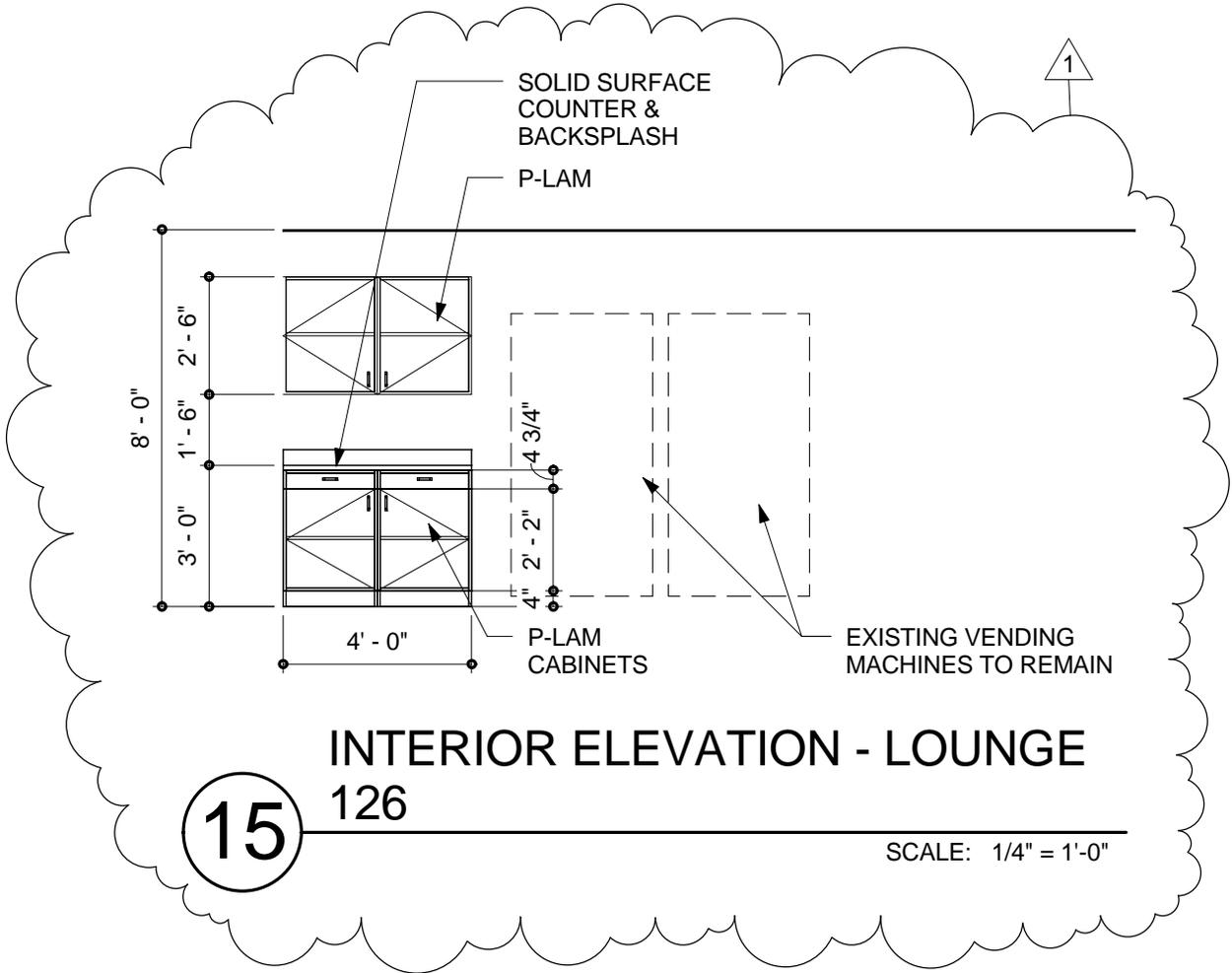
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FURNITURE PLAN
 (ADDENDUM NO. 1)
 PROJECT NO.: 2012025.00
 DATE: 2/22/13
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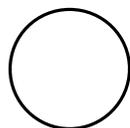
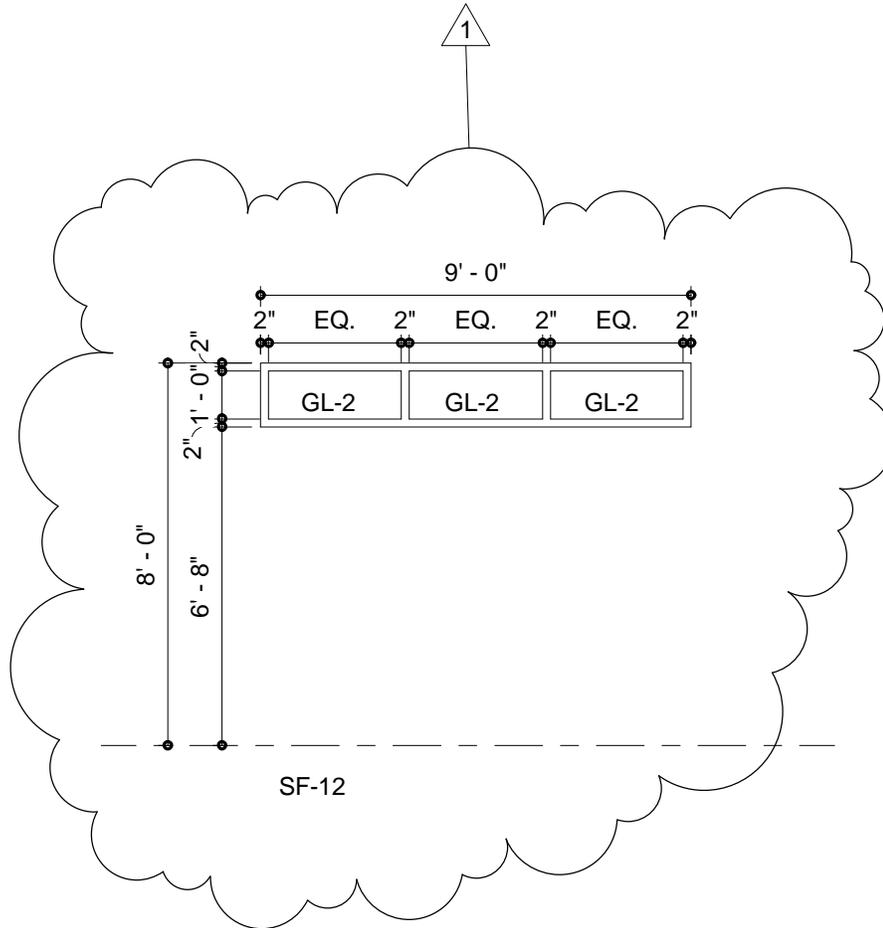
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ENLARGED PLANS AND SECTIONS
(ADDENDUM NO. 1)

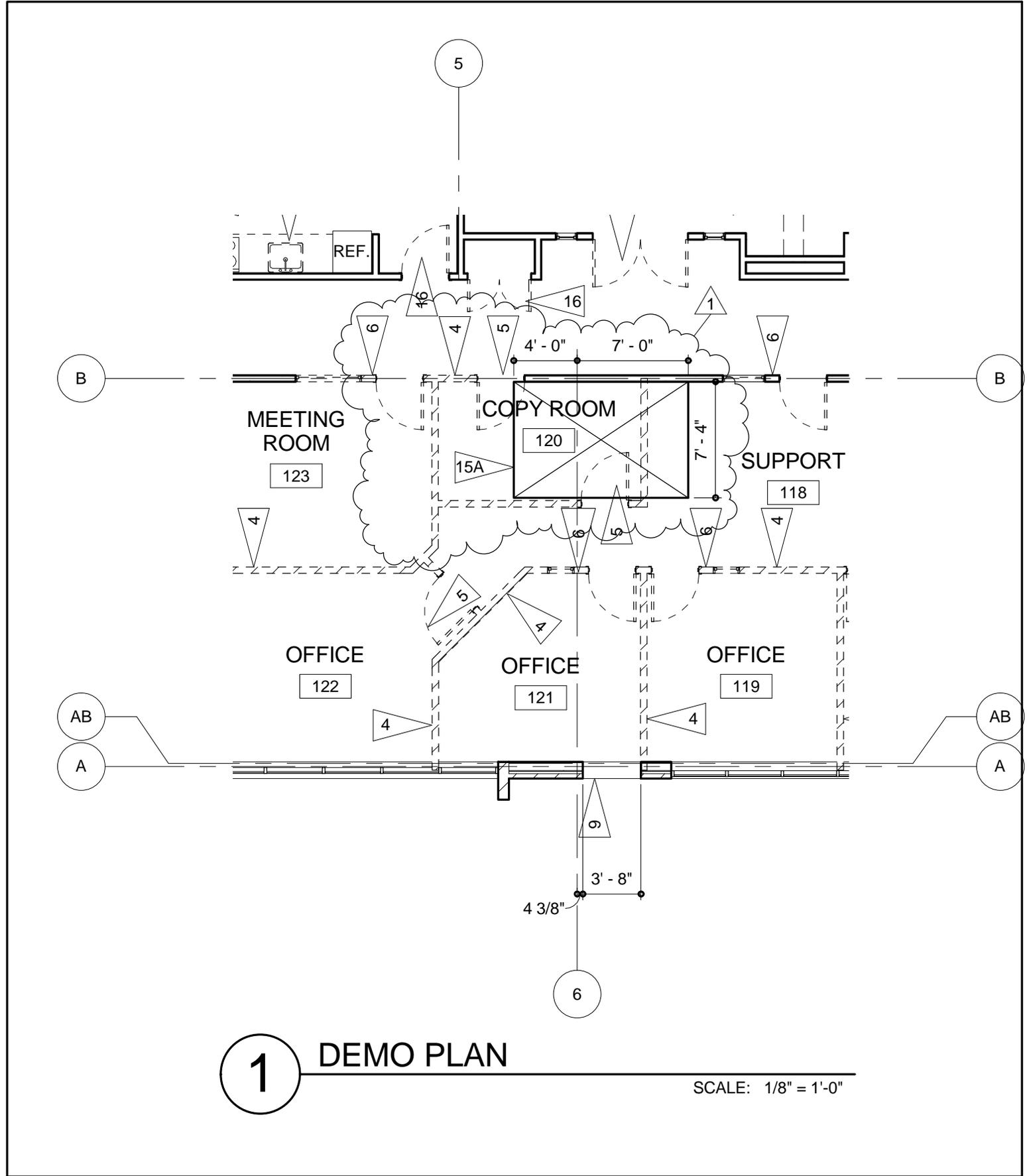
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DATE: 2/22/13
SCALE: 1/4" = 1'-0"
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SKA401-1



WINDOW/STOREFRONT TYPES

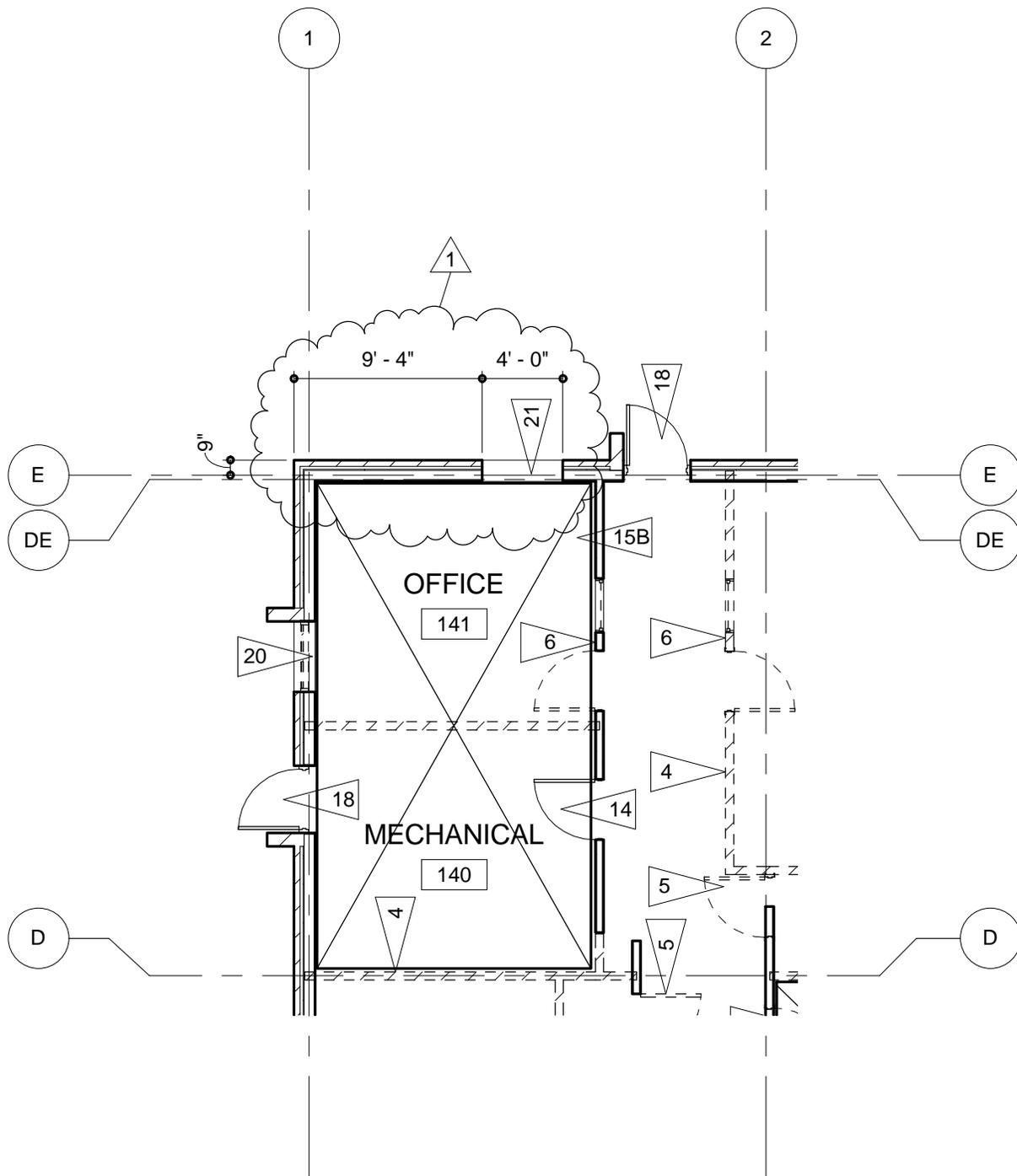
SCALE: 1/4" = 1'-0"



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DEMO PLAN (ADDENDUM NO. 1)		SKAD101-1
PROJECT NO.:	2012025.00	
DATE:	2/22/13	
SCALE:	1/8" = 1'-0"	
DRAWN BY:		BJC



1

DEMO PLAN

SCALE: 1/8" = 1'-0"

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DEMO PLAN
(ADDENDUM NO. 1)

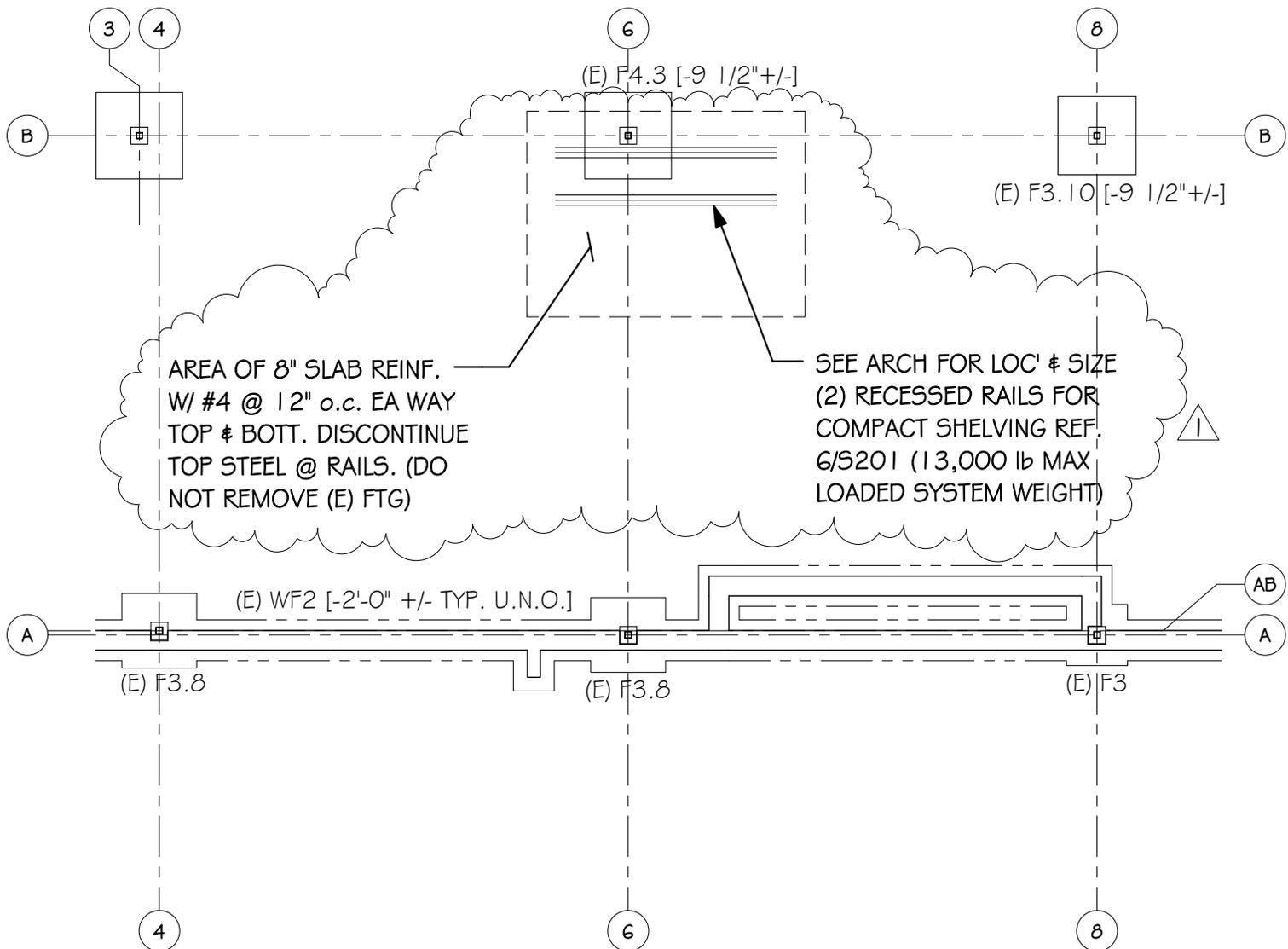
PROJECT NO.: 2012025.00

DATE: 2/22/13

SCALE: 1/8" = 1'-0"

DRAWN BY: BJC

SKAD101-2



1
PATRIAL FOUNDATION PLAN
SKS101-1
1/8" = 1'-0"

<p style="font-size: 8px; margin-top: 5px;">ARCHITECTURE ENGINEERING</p>	<p><u>Dover, DE</u> 309 S. Governors Ave. Dover, DE 19904 P: 302.734.7950 F: 302.734.7965</p>	<p>OFFICE OF THE PRESIDENT Delaware Technical Community College Terry Campus 100 Campus Drive Dover, Delaware 19903</p>	<p>FOUNDATION PLAN (ADDENDUM NO. 1)</p>	
			<p>PROJECT NO.: D7527.00</p>	SKS101-1
			<p>DATE: 2/22/13</p>	
			<p>SCALE: 1/8" = 1'-0"</p>	
			<p>DRAWN BY: AJC</p>	
<p>www.beckermorgan.com</p>				