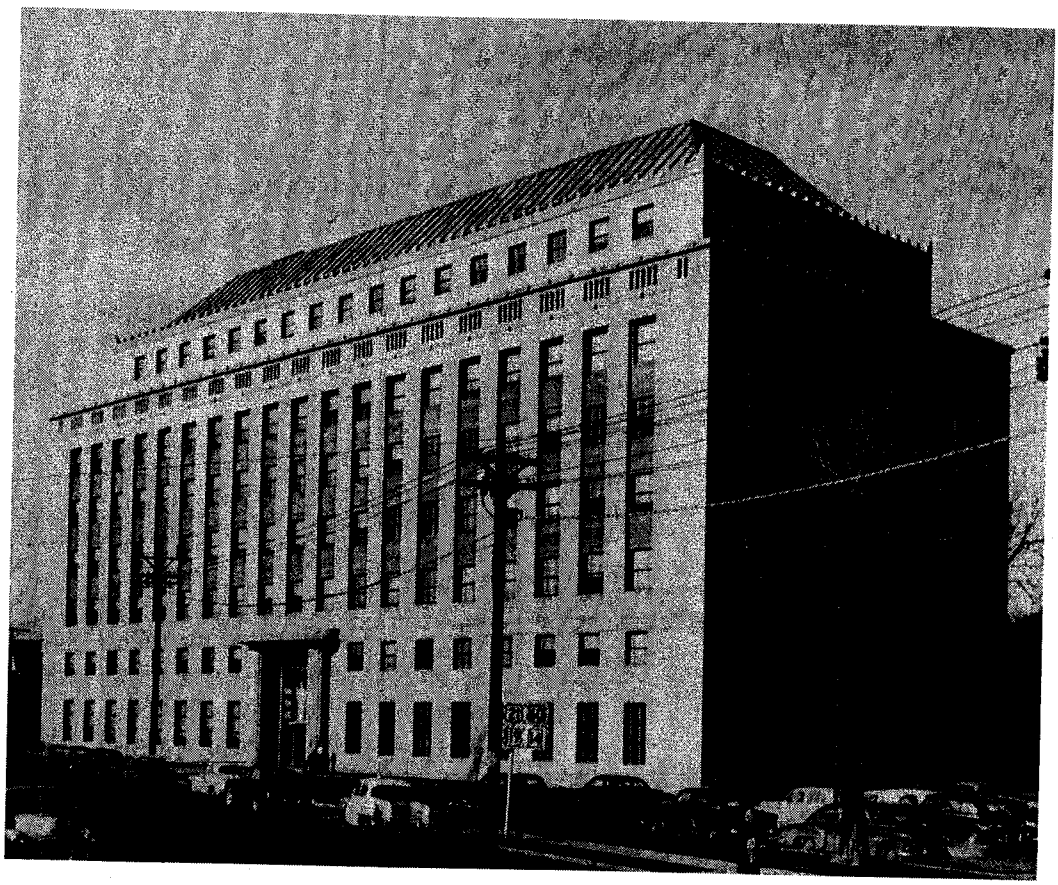

WEST VIRGINIA STATE OFFICE BUILDING NO. 3 RENOVATIONS

CHARLESTON, WEST VIRGINIA

ADDENDUM NO.2 – SPECIFICATIONS AND CLARIFICATION SKETCHES (SKs)

Prepared for:

General Services Division
Department of Administration
State of West Virginia

DECEMBER 8, 2010

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

West Virginia State Office Building No. 3 Renovations

Addenda No. 2

Architectural Items:

CHANGES TO SPECIFICATIONS:

ITEM #	SECTION	TITLE
S-A1		**TABLE OF CONTENTS**
I.		Delete pages 1 thru TOC-7, dated 10/8/2010 and replace with pages TOC-1 thru TOC-7, dated 12/08/2010
S-A2		**PROPOSAL FORM**
I.		Replace initial "PROPOSAL FORM" with no date, with "PROPOSAL FORM" dated 12/08/2010.
S-A3		**INDEX OF DRAWINGS (LIST OF DRAWINGS)**
I.		Delete pages 1 thru 8, dated 10/8/2010 and replace with pages 1 thru 8, dated 12/08/2010. Change title of Section from "LIST OF DRAWINGS" to "INDEX OF DRAWINGS"
S-A4	**015000**	**TEMPORARY FACILITIES AND CONTROLS**
I.		Replace paragraph 3.3.K and all subparagraphs with the following:

K. Existing Elevator Use: Use of Owner's existing elevator #3 will be permitted, provided elevators are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.

1. Do not load elevator beyond their rated weight capacity.
2. Provide temporary maintenance on Elevator #3 throughout the duration of the project.
3. Provide temporary protection for Elevator 1, 2 & 4 throughout the duration of the project, such as, but not limited to, motors, controllers, doors, and existing bronze finishes that are to remain.
4. At Substantial Completion, provide a final cleaning, and adjustments for all elevator hoistways and components.
5. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car #3 entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

S-A5	**012200**	**UNIT PRICES**
I.		Paragraph 3.1.A.1 revise chart title from "7th FLOOR PARAPET" to "7th FLOOR PARAPET BALUSTRADE".
II.		Paragraph 3.1.A.1 "7th FLOOR PARAPET BALUSTRADE" chart to be relocated under paragraph 3.1.A.

This chart provides the quantity of each balustrade section included in the base bid and provides unit cost for each section to be inserted in the Proposal Form.

III. Replace paragraph 3.1.B; and all other subparagraphs with the following:

B. Unit Price 2A: Exterior Masonry repointing.

1. Description: Granite, limestone, greenstone and brick repointing according to Division 040120 Section "Maintenance of Unit Masonry and Stone Assemblies".
2. Unit of Measurement: Linear foot.
3. Percentage of units to be replaced in the Base Bid:
   a. 100% of Building 3 granite base, including existing east granite steps.
   b. 10% of limestone and greenstone above granite base to 7th floor elevation.
   c. 100% of limestone balustrade (outer and inner side) from the 7th floor elevation and up to the stone coping, excluding the areas/quantities of parapet demolition and reconstruction outlined in Section 012200 "Unit Prices", paragraph 3.1.A.
   d. 100% of brick balustrade piers (inner face) from the 7th floor elevation and up to the stone coping, excluding the areas/quantities of parapet demolition and reconstruction outlined in Section 012200 "Unit Prices", paragraph 3.1.A.
   e. 100% limestone and brick above 7th floor roof to top of acroteria stones adjacent to the copper gutter, excluding the southwest area/corner of Bldg 3 per west elevation drawing 2/A-203.

C. Unit Price 2B: Interior Marble repointing.

4. Description: Spot point interior marble panels to match existing.
5. Unit of Measurement: Linear foot.
6. Percentage of units to be replaced in the Base Bid:
   a. 50% of Building 3 interior marble wall panels.

D. Unit Price 3: Repair and restore existing bronze windows.

REPAIR AND RESTORE EXISTING BRONZE WINDOWS

Unit Description	% of units to be **repaired** in the Base Bid	Unit Cost to **Repair**	% of units to be **replaced** in the Base Bid	Unit Cost to **Replace**
Frame	95%	$_____	5%	$_____
Sashes	90%	$_____	10%	$_____
Mullions	90%	$_____	10%	$_____
Hardware	75%	$_____	25%	$_____
Reglazing	N/A	N/A	100%	N/A
Repatination (Restore) & Recoating of all surfaces	100%	N/A	N/A	N/A

7. Description: Refer to Division 08 Section "Bronze Window, Door and Miscellaneous Restoration" for a detailed description of the work.
8. Unit of Measurement: Refer to chart 3.1.C "REPAIR AND RESTORE EXISTING BRONZE WINDOWS" for unit description.
9. Percentage of units to be **repaired and replaced** in the Base Bid: Refer to chart 3.1.C "REPAIR AND RESTORE EXISTING BRONZE WINDOWS" for percentages.

S-A6 024119 SELECTIVE STRUCTURE DEMOLITION

I. Paragraph 3.5; add the following:
H. Clay Tile Roof:
1. The goal is to leave as many tiles intact as possible, so remove them carefully.
2. Tiles will be attached with a nail, and some might be seated in with adhesive. The tiles should be carefully removed with a slate ripper or hacksaw blade inserted under the tile to cut the nail or nails holding it in place.
3. If the clay roof tile is held with an adhesive, carefully tap with a chisel between the top edge of the tile and the adhesive to break the bond.

II. Paragraph 3.8.A.22; replace with:
"All elevator wall Formica panels and metal railings."

III. Paragraph 3.8.A.; add the following:
"23. Elevator floor finishes in cabs 1, 2 & 3."

IV. Paragraph 3.8.C.4; replace with:
"Elevator components, such as controllers, motors and controls, and all front bronze walls and ceilings."

V. Paragraph 3.8.C.8; replace with:
"All terrazzo flooring throughout the building, unless noted otherwise on the drawings."

S-A7 084229 SLIDING AUTOMATIC DOORS

I. Add specification Division 08 Section "SLIDING AUTOMATIC DOORS" for revised north entrance doors 115A.1(interior) & 115A.2 (exterior) all-glass automatic bi-parting doors referenced in SK-07.

S-A8 085145 BRONZE WINDOWS AND DOORS RESTORATION (RETITLED)

I. Replace specification "085145 – BRONZE WINDOWS AND DOORS RESTORATION", dated 10/08/2010, with specification "085145 – BRONZE WINDOW, DOOR AND MISCELLANEOUS RESTORATION" dated 12/08/2010.

S-A9 087100 FINISH HARDWARE

I. Hardware set 27, delete all items.

II. Hardware set 28, delete all items except for 'BOLLARD POST' and 'CARD READER'.

III. Delete "DOOR / HWSET INDEX FOR (100459) RENOVATIONS WEST VIRGINA STATE OFFICE BLDG # 3" chart at the end of section.

IV. Add the following to "MISCELLANEOUS HARDWARE TO BE PROVIDED" in the Hardware Set list:

Furnish 10 EA PIB (AD300 Series) SEC
Furnish 70 EA PIM TD2 (AD400 Series) SEC
Access Control and Reader Interface by others.

S-A10 098413 FIXED SOUND ABSORBTIVE AND TACKABLE PANELS

I. Replace specification "098413 - FIXED SOUND-ABSORPTIVE AND TACKABLE PANELS ", dated 10/08/2010, with specification "098413 - FIXED SOUND-ABSORPTIVE AND TACKABLE PANELS" dated 12/08/2010.

S-A11 102238 DEMOUNTABLE PANEL PARTITIONS

I. Paragraph 1.2.A, add the following subparagraphs:
"2. Demountable panel partitions are located at rooms 104, 106, 111, 112, 113 and 114

adjacent to the pre-function spaces."

S-A12 104310 SIGNAGE

I. Add specification Division 10 Section "SIGNAGE" for interior room signage.

S-A13 142100 ELECTRIC TRACTION ELEVATORS

I. Replace all 1.2.A. subparagraphs with the following:

10. Converting elevator #3, as indicated on the drawings, from a passenger elevator to a service elevator.
    a. Cab finishes to remain. Provide temporary protection to interior cab jambs and front bronze wall.
    b. Modifications to the existing elevator governor and other related elevator systems.
    c. Modification to existing signal equipment on all floors and provide a card reader call switch.
    d. Modification to existing elevator cab control panel and provide card reader electronics inside cab.
11. Replacing existing elevator cab finishes for elevator 1, 2 & 4, as indicated on the drawings.
    a. Remove plastic laminate cab finishes and installing new finishes as indicated.
    b. Existing hall signal equipment on all floors to remain.
    c. Modification to existing elevator cab control panel and provide card reader electronics inside cab.
12. All existing bronze finishes in elevator cabs, excluding handrails, are to remain and have all oxidation removed, cleaned and lacquered. The general contractor to provide the same refinishing method as per SECTION 085145 – BRONZE WINDOW, DOOR AND MISCELLANEOUS RESTORATION.

II. Replace paragraph 2.1 and all subparagraphs with the following:

2.1 CAR ENCLOSURES

B. General:
1. Elevator #1, #2 & #4: Existing passenger cars to remain as passenger cars
    a. Remove all wall panels and floor finishes.
    b. Existing bronze handrails to be removed and recycled.
    c. Bronze metal ceilings, light fixtures, and control panel (modified with card access system) to remain.
2. Elevator #3: Existing passenger car to be modified into a service car
    a. Wall panels to remain throughout construction and replaced with new plastic laminate panels. Architect to select color.
    b. Salvage bronze handrails, bronze metal ceiling, and light fixtures.
    c. Control panel to remain and modified with card access system..

C. Elevator #1, #2 and #4 Car Enclosure Materials and Finishes
1. Subfloor: Existing to remain. Verify thickness for finished floor material options.
2. Floor Finish: Specified in a Division 09 Section, installed by flooring contractor.
3. Elevator Rear and Side Wall Panels
    a. General: Pre-engineered elevator interior system including clad panels over fire-rated MDF backer with .020" aluminum sealer sheet and Z-clip mounting system, bases, handrail and ceiling, along with installation template. Wall panels to consist of vertical and horizontal stile and rail framing elements surrounding contrasting insets.
        1) Panel configuration 2000-A. See drawing elevations for panel layout.
        2) Provide inset panels in the finishes specified.
    b. Basis-of-Design Product: Subject to compliance with requirements, provide

Forms+Surfaces, CabForms Series 2000 or comparable product by one of the following:
1) Stoller Metals
2) Novel Architectural Products.

c. Inset Materials
1) Fused Metal® Insets
a) Material: Fused Bronze™
b) Finish: Linen
c) Pattern: Dallas

d. Stiles & Rails
1) Fused Metal™ Stiles and Rails
a) Material: Forms+Surfaces Fused Bronze
b) Finish: Mirror
c) Substrate: fire-rated particleboard backer.

e. Reveals
1) Material: to match stiles & rails
2) Finish: to match stiles & rails

4. Bronze Doors: Existing to remain.
5. Metal Ceiling: Existing to remain.
6. Handrails:

a. Basis-of-Design Product: Subject to compliance with requirements, provide Forms+Surfaces, CabForms Series 2000 or comparable product by one of the following:
1) Stoller Metals
2) Novel Architectural Products.

b. Rectangular Series:
1) Material: Bronze

c. Finish: Satin

D. Elevator #3 Car Enclosure Materials and Finishes
1. Subfloor: Existing to remain.
2. Floor Finish: Existing to remain.
3. Wall Panels: Existing to remain throughout demolition and construction and replaced with plastic laminate at Substantial Completion. Architect to select color.
4. Fabricate car with recesses and cutouts for signal equipment.
5. Bronze Doors: Existing to remain.
6. Sills: Existing to remain.
7. Ceiling: Existing to remain.
8. Handrails: Existing to remain.

III. Replace paragraph 2.3 and all subparagraphs with the following:

2.3 OPERATION SYSTEMS

E. Retain existing MCE controllers and reprogram to have elevators 1,2 & 4 operate as a 3 car group. Elevator #3 (service elevator) shall become a single car collective control with its own new set of hall buttons and card reader system to register hall calls.

F. All four elevators to have a card reader device in each car operating panel to register car calls for all floors except the main lobby.

G. Auxiliary Operation. New emergency power generator is sized to run two passenger elevator at the same time. Provide emergency power panel with required key switches and indicators to allow either elevator #1 or #2 to operate and allow either elevator #3 or 4 to operate. Face plate to be stainless steel and to be located in the Fire Command Room 116.

H. Per Division 28 Section "Conductors and Cables for Electronic Safety and Security": The elevator contractor is to provide additional traveling cable to include a COAX cable for cameras in the elevator cabs. Include the required shielded pairs of wires for the card reader system.

IV. Paragraph 3.2, add the following subparagraph:

I. The general contractor to provide the same refinishing method as per SECTION 085145 – BRONZE WINDOWS AND DOORS RESTORATION for all existing bronze finishes, including, but not limited to:
   1. Hoistway entrances and accessories (call buttons) at first floor.
   2. Sills.
   3. Inside of cab doors.
   4. Ceilings.

S-A14 142400 HYDRAULIC FREIGHT ELEVATORS

I. Replace paragraph 2.2.F with the following:
   F. Travel: 12'-0"

II. Replace paragraph 2.2.M with the following:
   M. Machine Room: Elevator equipment room shall be located at the upper landing adjacent to the hoistway.

III. Paragraph 2.2.6, add the following subparagraph:
   C. Automatic open and automatic close.

END OF CHANGES TO SPECIFICATION

CHANGES TO DRAWINGS:

ITEM # DRAWING TITLE

Note: All drawing changes for this addendum are marked w/ Revision Note No. 2 and dated, 12/8/2010

Item D-A1 G-0V1 COVER SHEETS (VOLUME 1 & VOLUME 2)
G-0V2

I. Change "LIST OF DRAWINGS" to "INDEX OF DRAWINGS"
II. Delete Sheet L-003 "LANDSCAPE GRADING PLAN," dated "OCTOBER 8, 2010" and replace with Sheet L-004 "PLANTING PLAN, " dated **12/8/2010.**
III. Add sheet L-503 "LANDSCAPE DETAILS," dated **12/8/2010.**
IV. Add sheets: C-008 "E&S DETAILS" and C-009 "E&S DETAILS," dated **12/8/2010.**

Item D-A2 G-002 GENERAL NOTES

I. Replace sheet G-002 dated, "OCTOBER 8, 2010" with sheet G-002, dated, "December 8, 2010"
II. At PWWG CONTACT PERSON, change "JOE FILAR, AIA, LEED AP" note, to "RICHARD MILLER, AIA, LEED AP."
III. At VICINITY MAP, add "REFER TO 2/AS-101 FOR MORE INFORMATION."
IV. Under GENERAL DEMOLITION NOTES; delete the following note:
   F. ALL EXISTING WINDOWS TO REMAIN, UNO; REMOVE ALL WINDOW AIR CONDITIONERS UNITS, UNO.
V. Under GENERAL DEMOLITION NOTES; add the following note:
   V. PROVIDE FLOOR PATCHING AT ALL EXISTING INTERIOR MASONRY PARTITIONS TO BE REMOVED, TYP FROM BASEMENT TO 8TH FLOOR (AD-100 THROUGH A-108)

Note: All interior masonry partitions (speed tile & gypsum block walls) within the exterior walls were built on the structural slab. The existing topping slab was then poured around these walls. Additionally, assume that the metal door frame jambs are anchored in the topping slab as well.

Item D-A3 AD-101 thru AD-111; SELECTIVE DEMOLITION

	AD-201 thru AD-203; AD-501	

I. At TITLEBLOCK, change "95% CD SET" to "100% CD SUBMISSION" and change "JULY 29, 2010" to "OCTOBER 8, 2010"

Item D-A4 AD-100 FIRST FLOOR DEMOLITION PLAN

I. SK-01 – "FIRST FLOOR DEMOLITION PLAN" – Size & Location of new slab opening at first floor.

Item D-A5 AD-110 ROOF PLAN DEMOLITION

I. Change note, "EXIST STAIR BELOW" located between column lines 9 and 10, to "EXIST STAIR BELOW TO REMAIN"

II. Change note, "TYP EXIST CLAY ROOF TILES TO BE RECYCLED" located at Keynote 16 between column lines 10 and 11, to "TYP EXIST CLAY ROOF TILES TO BE RECYCLED BELOW TO BE SALVATED & RETURNED TO OWNER"

Item D-A6 A-100 BASEMENT FLOOR PLAN

I. SK-02 "BASEMENT FLOOR PLAN" – Framing change at Elevator Lobby 100

II. SK-03 – "BASEMENT FLOOR PLAN" – Updated dimensions and descriptions at Mechanical Room BM1 guard rail and stairs.

III. SK-04 – "BASEMENT FLOOR PLAN" – Updated dimensions and descriptions at Mechanical Room BM1 guard rail and stairs & Janitor Room BM5 shelving.

IV. SK-05 – "BASEMENT FLOOR PLAN" - Updated dimensions and descriptions at UPS Room B105 hand rail and stairs.

V. Change note, "RAISED SLAB ON DECK" located along column line D, near column line 1, to "RAISED SLAB ON RIGID INSULATION". Refer to structural detail 107/S-400.

VI. Refer to Drawing A-111 dated 12/13/2010 for the updated basement floor plan of the Loading Pavilion.

Item D-A7 A-101 FIRST FLOOR PLAN

I. SK-06 "FIRST FLOOR PLAN" – Framing changes at:
   a. Exit Passage 107
   b. Prefunction 105/110.
   c. Dimension Clarification at Demountable framing location shown at room 112, and typical for rooms 104, 112, and 114. Framing similar at rooms 106 and 111.
   d. Delete Closets 105A & 110A. Provide wall type 5A
   e. Change Elevation Marker at East side of plan to 1/A-203.
   f. Change Elevation Marker at West side of plan to 2/A-203
   g. At door 107.5 Replace note "Granite & Limestone Return to match Exist" w/ tag "17/A-502, SIM"

II. SK-07 "FIRST FLOOR PLAN" – Changes to Vestibule 115A & North Lobby 116.

III. Meeting Room 113: Delete manufactured casework (Keynote 12.1). AV Rack will be free-standing in location as shown on A-101.

IV. Meeting Room 114: Delete manufactured casework (Keynote 12.1) and AV Rack located in wall. AV Rack will be bid separately and located within room 114 similar to room 113.

V. Refer to Landscape drawings for joints in typical Concrete pavement at sidewalks, unless noted otherwise.

VI. Joints in Concrete walkways that connect Vestibule 115A exterior landing to site

sidewalk (Refer to SK-07):

a. All pavement joints shall align w/ vertical joints @ existing stone wall and/or vertical joints in adjacent new wall construction and/or vertical corners at site walls.
b. Locate Expansion Joints at joint between site sidewalk and sloped walkway landings
c. Locate Expansion Joints at top and bottom of sloped walkway and space approximately 10'-12' apart to align w/ vertical wall joints as indicated above.
d. Locate Control Joints approximately 5'-6' apart to align w/ vertical wall joints as indicated above, unless location coincides w/ Expansion Joint location.

VII. Refer to Drawing A-111 dated 12/13/2010 for the updated first floor plan of the Loading Pavilion.

Item D-A8 A-102 SECOND FLOOR PLAN

I. 1/A-102 – Curved/straight wall segment between column lines B & C. Wall is NIC (demountable partition).
II. 2/A-102 – Refer to 2/AC-102 & 1A/A-408 for framing information at wall construction over Prefunction space below.

Item D-A9 A-103 THIRD FLOOR PLAN

I. Delete dimensions at bulkhead above at Column line No. 10.

Item D-A10 A-108 EIGHTH FLOOR PLAN

I. Delete dimensions at bulkhead above between Column lines No. 9 and No. 10.

Item D-A11 A-111 LOADING PAVILION PLANS

I. Replace Drawing A-111 dated 10/8/2010, with reissued Drawing A-111 dated 12/13/2010

Item D-A12 AC-101 REFLECTED CEILING PLAN – FIRST FLOOR

I. Delete sheet AC-101, dated October 8, 2010
II. Replace with sheet AC-101, dated December 3, 2010

Item D-A13 AC-102 REFLECTED CEILING PLAN – SECOND FLOOR

I. SK-09 "SECOND FLOOR REFLECTED CEILING PLAN" – Add dimensions at Break Room C.BE (typical for Break Rooms C.BE & C.BW, floors 2-8, UNO).
II. Conference Room 205, Delete eight (8) recessed down lights. Add 2 Suspended direct/Indirect light fixtures to correspond to the Lighting Plan on 1/EL-102.
III. At note that begins, "EXIST RECESSED LIGHT LOCATIONS..." Add, "REFER TO ELECTRICAL DRAWINGS."

Item D-A14 AC-103 REFLECTED CEILING PLAN – THIRD FLOOR

I. Conference Room 305, Delete two (2) Suspended direct/Indirect light fixtures. Add eight (8) recessed down lights to similar to the reflected ceiling plan on 1/AC-102 and the Lighting Plan on 1/EL-102.

Item D-A15 A-201 SOUTH ELEVATION

I. Delete note, "EXIST. GRANITE BASE TO BE CLEANED & SPOT POINTED, TYP. @ ALL FOUR ELEVATIONS". Replace with: **"100% OF EXIST. GRANITE BASE TO BE CLEANED**

&REPOINTED, TYP @ ALL FOUR ELEVATIONS (INCLUDING EAST STEPS)"

II. Delete note, "EXIST LIMESTONE & GREENSTONE SPANDREL PANELS TO BE CLEANED & SPOT POINTED (UNIT PRICE). PORTION OF TO BE SPOT POINT, REFER TO SPECIFICATIONS, TYP @ ALL FOUR ELEVATIONS," Replace with: **"100% OF EXISTING LIMESTONE & GREENSTONE TO BE CLEANED & 10% OF EXISTING LIMESTONE VENEER & GREENSTONE SPANDREL PANEL JOINTS TO BE SPOT POINTED, TYP @ ALL FOUR ELEVATIONS FROM TOP OF GRANITE BASE TO 7TH FLR ROOF (PROVIDE UNIT PRICE FOR ADDITIONAL SPOT POINTING IN SPECIFICATION SECTION 012200)"**

III. Delete Note, "EXIST BRICK & LIMESTONE TO BE CLEANED & ALL BRICK TO BE REPOINTED, TYP @ ALL FOUR ELEVATIONS," Replace with: **"100% EXIST BRICK & LIMESTONE VENEER TO BE CLEANED & REPOINTED, TYP @ ALL FOUR ELEVATIONS, FROM 7TH FLR ROOF TO TOP OF STONE ACROTERIA (INCLUDING OUTER AND INNER FACE OF BALUSTRADE)"**

Item D-A16 A-202 NORTH ELEVATION

I. Delete Note, "EXIST WALL & SLAB CONSTRUCTION TO BE ABANDONED, DRILL 1" DIA HOLES INTO EXIST SLAB" between column lines 7 & 8. Replace with: ***"EXIST WALL & SLAB CONSTRUCTION TO BE ABANDONED, DRILL 1" DIA HOLES INTO EXIST SLAB FOR DRAINAGE"***

II. Replace Note "PATINIA" with **"PRE-PATINA"** at Roof Hatch Note between column lines 6 and 7. The roof hatch material shall be Pre-patina copper.

Item D-A17 A-204 LOADING PAVILION ELEVATIONS

I. Replace Drawing A-204 dated 10/8/2010, with reissued Drawing A-204 dated 12/13/2010
   a. Changes update the elevations to reflect plan changes described on A-111.

II. 3/A-204 – Delete Cast-in-place Concrete from West Elevation, replace with Granite as shown in revised drawing.

Item D-A18 A-302 BUILDING & STAIR SECTIONS

I. 1/A-302 – Delete entire note starting with, "Option A...."

II. 1/A-302 – Delete the words "Option B" from note shown on 5th floor, there are no options for roof drain routing.

III. 1/A-302 – Delete text description at Keynote 7.2 shown between the 6th and 7th floors. Replace text description with ***"R-7 MIN AT EXT WALLS, TYP. R-7 AT UNDERSIDE OF 7TH FLOOR ROOF"***

Item D-A19 A-301 BUILDING & STAIR SECTIONS

I. Delete detail marker 1/A-501 at bottom right hand corner of drawing. *The extent of the exterior foundation wall drain shown on detail 1/A-501 is shown on P-100.1.* Plumbing note on the bottom left of P-100.1 "P.C. SHALL INSTALL 6" PERFORATED STORM PIPING ON EXISTING FOUNDATION. G.C. SHALL EXCAVATE AND BACKFILL ENTIRE PERIMETER OF BUILDING. (TYP)" to be replaced with the following note: "P.C. SHALL INSTALL 6" PERFORATED STORM PIPING ON EXISTING FOUNDATION. G.C. SHALL EXCAVATE AND BACKFILL AS REQUIRED. (TYP)"

Item D-A20 A-304, A-305, & A-306 BUILDING & STAIR SECTIONS

I. All exposed steel structure and the metal decking shall be protected with spray applied

fire proofing (2 hour fire rating).

Item D-A21 A-401 ENLARGED FIRST FLOOR PLAN

I. DMV Prefunction, Room 122 – Add note "REINSTALL SLAVAGED POLISH GLASS WALL DESKS" to desk along column line 8.

II. Security, Room 122 – Add dimension w/ note "VIF" to counter depth at North wall.

III. Vestibule, Room 100A – Add note "EXISTING STONE FLOORING BORDER TO REMAIN"

IV. Vestibule, Room 100A – Keynote 12.2, Add note "GRIND EXIST RECESSED FLOOR LOWER IF NEEDED TO CREATE FLUSH TRANSITION."

V. Coats, Room 125 – Add closet shelf and rod @ 48" AFF at East wall ; Add closet shelf and rod @ 64" AFF at West wall

Item D-A22 A-402 FIRST FLOOR LOBBY ELEVATIONS

I. Delete Transom above door & sidelites

Item D-A23 A-403 ENLARGED TYPICAL CORE PLAN & ELEVATIONS (FLRS 2-8)

I. SK-08 "TYPICAL CORRIDOR ENLARGED PLAN" – dimension clarifications & updated enlarged plan detail reference.

II. 4/A-403 – Change note at Mail Chute to add, "TYP AT FLOORS 1-8."

Item D-A24 A-404 ENLARGED TOILET ROOM PLANS & ELEVATIONS

I. At "FIXTURE LEGEND", Add, "11A – COAT HOOK (ACCESSIBLE HEIGHT)"

II. At "FIXTURE LEGEND", Add, "15 – FULL LENGTH MIRROR" (Full Length Mirror shall be SST Framed mirror similar to item #14, in size: 24"x60."

2/A-404 & 10/A-404 – Add item #15, Full Length Mirror to room "VEST" (C.VE), typical for floors: 2-8.

III. 2/A-404 & 10/A-404 (Womens (C.WRR) & Mens (C.MRR) Rooms) – Add:

a. Tile wainscot to extend to same height as top of toilet partition panels of all walls (delete portion of tile wainscot on toilet wall above the top of the toilet partition panels).

b. Approx. 3 ½" wide continuous counter extensions at left and right sides of vanity counter. Counter Extensions to extend to perpendicular walls as a "shelf."

Item D-A25 A-405 ENLARGED TOILET ROOM PLANS & ELEVATIONS

I. 1/A-405, 9/A-405 – (Womens (C.MRR), Mens (C.MRR), and Family Toilet (FT) Rooms) – Add:

a. Item #15, Full Length Mirror.

b. Full-height tile wainscot to extend to same height as top of toilet partition panels of all walls (delete portion of tile wainscot on toilet wall above the top of the toilet partition panels).

c. At 1st Floor Mens & Womens rooms only – Stainless Steel Corner Guards at outside corners of partition separating entrance vestibule area from restroom.

Item D-A26 A-406 ENLARGED TOILET ROOM PLANS & ELEVATIONS

I. 2/A-406 & 9/A-406 – Add item #15, Full Length Mirror to room "SHOWER" room (C.WS) & (C.MS).

II. 2/A-406 & 9/A-406 (Womens (C.WRR) & Mens (C.MRR) Rooms, including Shower Rooms) – Add:
   a. Tile wainscot to extend to same height as top of toilet partition panels of all walls (delete portion of tile wainscot on toilet wall above the top of the toilet partition panels).
   b. Approx. 3 ½" wide continuous counter extensions at left and
   c. right sides of vanity counter. Counter Extensions to extend to perpendicular walls as a "shelf."

Item D-A27 A-407 INTERIOR ELEVATIONS

I. 3/A-407 – At Column Lines 10 and 11, Add note: "Video Screens NIC, refer to Technology Drawings"

Item D-A28 A-408 INTERIOR ELEVATIONS

I. 1A/A-408 – Delete Note, "4" WD BASE, TYP IN MTG RM, EXCL EXT WALL"
II. 4/A-408 – Add note: "FABRIC WRAPPED ACOUSTICAL WALL PANEL, TYP" similar to note shown on 1A/A-408

Item D-A29 A-501 EXTERIOR DETAILS

I. 8/A-501 – Add the words "DELIVER TO OWNER" to the note that begins, "ALL EXIST TILE TO BE..."
II. 13/A-501 – Delete the word "BLCK" and replace with the word "BLOCK"
III. 1/A-501 – Delete Keynote 3.1, Architectural Cast-in-place concrete from the drawing below the loading dock platform. Replace w/ Keynote 4.12, Granite (as shown in revised Loading Pavilion Elevation 3/A-204)
IV. 1/a-501 – Refer to SK-18 for additional note "ENGINEERED FILL" & clarification to notes at the lower right-hand corner.

Item D-A30 A-502 EXTERIOR DETAILS

I. 13/A-502 – At Note 7.17 with the descriptive note that begins, "SOLDERED ZINC GUTTER..." add the note: "WRAP W/ ICE AND WATER SHIELD PRIOR TO ZINC INSTALLATION."

Item D-A31 A-503 EXTERIOR DETAILS

I. 9/A-503 – Delete Note that reads, "8"X30" STRIP FOOTER..." and replace with the note "CONC FTG, REFER TO STRUCT DWGS"
II. 15/A-503 – Angle supporting the GALV STL GRATING shall be continuous.
III. 15/A-503 – Add Note "SEE STRUCTURAL" with leader pointed to vertical rebar rod.

Item D-A32 A-504 EXTERIOR DETAILS

II. 6/A-504 – Delete Keynote 3.1, Architectural Cast-in-place concrete from the drawing below the loading dock platform. Replace w/ Keynote 4.12, Granite (as shown in revised Loading Pavilion Elevation 3/A-204)

Item D-A33 A-505 EXTERIOR DETAILS

I. 3/A-505 – Add text to second note down from the upper left corner: "REMOVE & SALV LIMESTONE & BRICK. INSPECT AND REPORT ON THE CONSTRUCTION, CONNECTIONS AND PHYSICAL CONDITION OF EXIST MASONRY (LIMESTONE & BRICK), MORTAR & CONC WITHIN HATCHED AREA, TYP"
II. 9/A-505 – Add note & leader " CONCRETE STEPS SEE STRUCTURAL
III. DRAWINGS FOR REINFORCING"

Item D-A34 A-506 EXTERIOR DETAILS

I. 1/A-506 – Add descriptive note" EXTERIOR GRADE" to keynote 6.2
II. 2/A-506 – At Keynote 7.4, "VP" signifies "VAPOR BARRIER"

Item D-A35 A-507 INTERIOR DETAILS

I. 1/A-507 and 9/A-507 – delete Steel Reinforcement, and delete note "STL REINFORCEMENT, REFER TO STRUCTURAL DWGS"

Item D-A36 A-508 INTERIOR DETAILS

I. 1/A-508 – Change Wall Type Tag "X" to "3" and add a second layer of gyp board to Large Hall side of wall.

Item D-A37 A-509 EXTERIOR DETAILS

I. 9/A-509 – Delete reference to detail 19/A-501 in notes and replace with reference to 13/A-509
II. 15/A-509 – Delete reference to "#/A-509" replace with reference to "10/A-509, SIM"
III. Delete Detail 16/A-509

Item D-A38 A-510 INTERIOR DETAILS

I. 1/A-510 – Change Wall Tag "-" to "5AGM"
II. 9/A-510 – Change Wall Type Tag "X" to "2G"

Item D-A39 A-511 INTERIOR DETAILS

I. 3/A-511 – At Keynote 6.1, Delete "PT-9A"
II. 4/A-511 – Delete reference to "3/A-510" replace with reference to "3/A-511"
III. 8/A-511 – Delete reference to "2 HR" Fire Rating at Keynote 5.1.
IV. 9/A-511 – Delete Keynote 15.6, replace with Keynote 15.7.
V. 9/A-511 – Delete wood base shoe trim
VI. SK-10 – "INTERIOR DETAILS" – Updated 11/A-511, "Wall Base Detail"
VII. SK-11 – "INTERIOR DETAILS" – Updated 12/A-511, "Wall Base Return – Plan Detail"
VIII. 17/A-511 – Delete ¾" x ¾" wood base shoe trim

Item D-A40 A-512 INTERIOR DETAILS

I. 8/A-512 – Replace wood blocking at edge of counter w/ continuous 1x3x¼ steel angle to support edge of counter.
II. Exposed Apron finish to match cabinet front finish @ Breakroom Kitchens as shown for floors 2-6.
III. 11/A-512 – Change Steel angle size to: 3.5x5x¼, fasten angle to metal studs and/or continuous metal strapping with steel screws.

Item D-A41 A-601 WALL TYPES & FLOOR ASSEMBLIES

I. Wall Type Modifiers, Change item (E). Dens-Glass" to " Fiberglass-mat faced gypsum sheathing"
II. Wall Type Modifiers, Change item (F). Dens-Glass" to " Fiberglass-mat faced gypsum roof boards"
III. Wall Type Notes – Delete item #3.
IV. Wall Type #1, Add "WHERE REQUIRED" to the Fire Rating Label
V. Wall Type #2, Add "WHERE REQUIRED" to the Fire Rating Label
VI. Wall Type #3, Add "WHERE REQUIRED" to the Fire Rating Label
VII. Wall Type #10, Change "STC N/A" to "STC 63"
VIII. Wall Type #11, Change dimension to 9 ¾."
IX. 12/A-601 – Add 2 " of spray applied fire proofing to exposed steel structure to provide a 2 hour fire rating

Item D-A42 A-602 FINISH SCHEDULE

I. 13/A-602 – Delete General Notes
II. 2/A-602 – Add, **"GENERAL NOTES:"**
    1. **REFER TO ELEVATION DWGS FOR SPECIFIC MATERIAL LOCATIONS**
    2. **RM 108 – NOT USED**
    3. **EXIST STRUCTURE TO REMAIN EXPOSED SHALL BE PAINTED PT-8, UNO.**
III. Room BM-6, BM-7 – Floor Material shall be "VCT-1;" Base Material shall be "VB-1"
IV. Rooms B108, B109, B110, B111, B112, B113, B114, B115, B116, B117, B118, B119 – Delete "VCT," replace with "BY RAISED FLR MANUF"
V. Delete Room 105A "Closet"
VI. Delete Room 110A "Closet"
VII. Rooms 901 & 902 – Ceiling Material shall be "EXIST UNPAINTED;" Ceiling Height shall be "EXIST"
VIII. Room 903 – Ceiling Material shall be "EXIST;" Ceiling Height shall be "EXIST"
IX. Rooms LPB1, LPB2, LP.ST.1, LP101, LP102, LP103, LP104 – Floor Base Material shall be "NONE"

Item D-A43 A-603 DOOR & WINDOW TYPES

I. 1/A-603 - Door Type 4 – Add Note "PROFILE TO MATCH EXISTING, FV"
II. 1/A-603 - Door Type 5 – Add Note "LOUVER TO MATCH EXISTING, FV"
III. 1/A-603 - Door Type 7 – Add Note "Type 7A" to leader pointing to vision lite.
IV. 1/A-603 – Door Type 9 – Door Lite Dimensions are: 6"x 30." Door Lite is located
V. 6" from vertical edge of door and 12" below door head.
VI. 1/A-603 – Add Door type 16 via SK-16
VII. 2/A-603 – Delete Frame Type F, replace with "NOT USED"
VIII. 2/A-603 – Frame Type G – Delete "NOT USED;" Frame Type G shall be similar to Frame Type L, but with a 12" Bottom Rail, and a Total Frame width = 6'-2" (Door is 3'-0" x 7'-0")
IX. 4/A-603 – at "NOTE" change "WILL BE CLEANED..." to "SHALL BE CLEANED..."

Item D-A44 A-604 DOOR SCHEDULE

I. Keynote List did not print notes 7.15 through 8.8. Refer to A-605 for complete list of Keynotes.
II. Door Schedule Notes Legend – Add:

T. CUSTOM ANNODIZED ALUMINUM FINISH TO MATCH ZINC CLADDING AT LOADING PAVILION

III. Door Schedule General Notes – Add:

8. DOORS LOCATED IN DEMOUNTABLE PARTITIONS SHALL BE PROVIDED BY DEMOUNTABLE PARTITION MANUFACTURER.

IV. Delete the following Room Names from the Basement Door Schedule (room numbers shown in parenthesis, for reference). These rooms have demountable partitions – refer to Door Schedule General Note #8:

- Process Network Equip Rm (B108)
- Operator's Room (B110)
- FE Room (B112)
- Office (B113)
- Drop Off (B114)
- Laptop Room (B116)
- Treasurer's Print Distribution (B118)

V. Delete: Door 105A – Closet

VI. Door 107.5 – Change Width to "3'-6"

VII. Delete: Door 110A – Closet

VIII. Change Fire Rating Label to "1 ½" HR" at the following doors:

- Basement, EX.ST.W – Exist West Stair
- Basement, EX.ST.E – Exist East Stair
- Basement, B104 – UPS Room
- First Floor, EX.ST.W – Exist West Stair
- First Floor, EX.ST.E – Exist East Stair
- First Floor, 107.1 – West Exit Passage
- First Floor, 107.2 – West Exit Passage
- First Floor, 107.3 – West Exit Passage
- First Floor, 107.4 – West Exit Passage
- First Floor, 107.5 – West Exit Passage
- 2^{nd}-8^{th} Floors Typical Core, C.DS.W – West Duct Shaft
- 2^{nd}-8^{th} Floors Typical Core, C.DS.E – East Duct Shaft
- Loading Pavilion Basement, LP.ST.1 – Exit Stair
- Loading Pavilion First Floor, LP.ST.1.1 – Exit Stair
- Loading Pavilion First Floor, LP.ST.1.2 – Exit Stair

IX. Add Note "L" to the following doors:

- 104.1 – Meeting Room
- 104.1 – Meeting Room
- 106 – Meeting Room
- 111 – Meeting Room
- 112.1 – Meeting Room
- 112.2 – Meeting Room
- 113 – Meeting Room
- 114 – Meeting Room

X. Doors at 115A.1 & 115A.2 - Delete Doors & Frames as shown on schedule and replace with 115A.1 and 115A.2 as shown below:

- Door Width: 5'-0"
- Door Height: 8'-0"
- Door Thickness: 1 ¾"
- Door Material: AL/GL
- Door Type: 16 (see SK-16)
- Frame Material: AL
- Frame Type: NONE (SEE DOOR TYPE)

- Fire Rating Label: -
- Hardware Set: None @ Door 115.1; 28 @ Door 115.2
- Detail: -
- Sign Type: E
- Notes: C, T @ Door 115.1; B, S, T @ Door 115.2

XI. Door 121 – Conference Room:
- Change Door Width to "3'-0"
- Change Frame Type to "G"

XII. Door 123 – Conference Room:
- Change Frame Type to "G"

XIII. SK-17 - Loading Pavilion Basement & First Floor Door Schedule: refer to sketch for changes.

Item D-A45 A-606 DOOR SIGNAGE

I. 2/A-606 – Sign Type "C" – Add raised polymer lettering (Braille) below signage Text similar to sign type "D."

Structural Items:

Item D-A46 S-100 GROUND FLOOR FRAMING PLAN

I. Replace sheet S-100 dated, "OCTOBER 8, 2010" with sheet S-100, dated, "December 8, 2010"

Item D-A47 S-101 FIRST FLOOR FRAMING PLAN

I. Replace sheet S-101 dated, "OCTOBER 8, 2010" with sheet S-101, dated, "December 8, 2010"

Item D-A48 S-400 SECTIONS AND DETAILS

I. Replace sheet S-400 dated, "OCTOBER 8, 2010" with sheet S-400, dated, "December 8, 2010"

Landscaping Items:

Include new specification **SECTION 044310 LANDSCAPE STONE MASONRY**
Drawing alterations to the: West Virginia State Office Building No. 3 Renovation, Landscape Details. 100% CD Submission October 8, 2010, are:
Delete Drawing **L-003 Landscape Grading Plan**
Insert Drawing **L-004 Landscape Planting Plan**
Insert Drawing **L-503 Landscape Details**
Delete **Detail No. 5 drawing L-502**

The following are Addendum items for issued specifications

SECTION 321800 STONE PAVING & EDGING, MAINTENANCE STRIP & GRAVEL STRIP
Section 1.2, A, delete 2. Granite Curbs along Axial Walk Planting Bed

Section 1.2, B, replace "Cast-in-Place Concrete" with "Cast-in-Place Concrete" Civil

Section 1.4 F, delete 3. Stone Curb Edge

Section 1.5, delete E. 1. Mock-up of Stone Curb

Section 2.2, B, delete 2 Curb Stone Edging

Section 3.5, delete D. Anchor granite masonry curb.

SECTION 033100- CAST-IN-PLACE-CIVIL
After Section 1.2, A,2 curbs, Add 3. Site Wall, 4. Concrete Steps 5. Low Concrete Walls

After Section 2.2 A. 1. add a. Medium -density overlay, Class 1 or better, mill release agent treated and edge sealed.

After 2.2 D, add E. Chamfer Strips: 3/8 by 3/8 inch (10 by 10 mm) Metal, PVC or rubber strips a. Use chamfer strips on tops, sides and expansion joints of concrete walls with exposed finish. Section 2.3 A. Add Epoxy-Coated before Reinforcing

Section 2.3 delete B. Low-alloy-Steel Reinforcing Bars: ASTM A706/A706M, deformed

Section 2.3 D. Delete Plain-Steel Wire Reinforcement, Add Epoxy Coated Welded Wire Reinforcement ASTM A 884/A884M, Class A coated Type 1 plain steel:

Section 2.8 After A. Add: B. See Division 07 Section "Joint Sealants" for sealing joints in dimension stone exterior walls. C. General: Provide joint -sealant backer materials that are nonstaining: are compatible with joint substrates, sealants, primers, and other joint fillers: and are approved for applications indicated by joint-sealant manufacturer.

Section 3.1 E. add 1. Install keyways, reglets, recesses and the like for easy removal. 2. Do not used rest-stained steel form - facing material.

After section 3.1, K, Add L. Place embedded items and secure anchorage devices for adjoining work that is attached to or supported by Cast-In-Place concrete. Use; setting drawings, templates, diagrams instructions, and manufacturer's directions with items to be embedded.

Section 3.4 C. after 2, add 3. Install isolation joints in walks at not less than 20 foot intervals unless otherwise indicated.

Site / Civil Items:

SECTION 312000 – EARTHMOVING

Section 1.3, Add "B. Prior to any earthmoving activity, the Contractor must have and implement a Groundwater Protection Plan (GPP), as required by the NPDES Permit. Copies of

the GPP and the Stormwater Pollution Prevention Plan (SWPPP) must be maintained on site at all times and made available for DEP personnel at the construction site. The Contractor must fill out forms for the GPP. Assistance with GPP forms and implementation is available from the DWWM Groundwater Section at (304) 926-0495."

Section 1.3, Add "C. Public Notice Sign - Within 24 hours of filing an NOI for an NPDES permit with DWWM, all projects must display a public notice sign, for the duration of construction activities, at or near the entrance of the site. Information required on the sign must be as shown on the Construction Detail Plans."

SECTION 311000 – SITE CLEARING

Section 3.1, Add "D. Prior to any site demolition, earthmoving activities, placement of construction fence, or E&S controls, the Contractor must coordinate with the Owner and Engineer regarding phasing of work to allow pedestrian access through the site from the parking areas to Building 5 and the Capitol (Building 1). The Owner will make ultimate decision on timing for various phasing and closures of access points."

SECTION 312500 – EROSION AND SEDIMENTATION CONTROL

Section 1.3.A.2, Revise first sentence as follows, "NPDES Permit application will be submitted after bid, with coordination between the Contractor, Owner and Engineer. All conditions and requirements of the permit will be met by the Contractor."

Section 1.5.A.2, Revise as follows, "Erosion and Sedimentation Control Plan, also referred to as Stormwater Pollution and Prevention Plan."

Section 2.1, Add "E. Crushed Aggregate/Stone: For use in E&S and drainage devices, such as rock filter berms, sediment traps, etc., shall be clean, graded stone as specified free of fines and debris."

Section 3.1, Add "E. Rock filter berm: Install per plan detail using properly graded course aggregate, free of fines and debris."

Section 3.1, Add "F. Sediment Trap: Install sediment trap, including riser and barrier as shown on the plans and per DEP requirements."

Section 3.2, Add "E. Rock filter berm: Remove collected sediment and redress rock face when sediment depth is ½ the upstream depth of berm."

Section 3.2, Add "F. Sediment Trap: A stake shall be provided in the trap indicating the sediment cleanout elevation. Sediment shall be removed and disposed of properly when depth reaches cleanout elevation. The riser and barrel shall also be inspected periodically to insure they are functional and free of debris and sediment."

SECTION 334000 – STORM DRAINAGE

Section 2.7, Replace existing "A" with, "A. Area and yard drains shall be concrete inlets with specified Neenah or approved equal grates and frames as shown on the Detail Sheets. All grates shall be bicycle safe. Pipe sizes vary as listed on the Drawings."

SECTION 334500 – STORM UTILITY DRAINGE PUMPS

Section 2.14, Revise A to read, " A. All power wiring by Electrical Contractor; all control wiring by Site Contractor. Refer to "Control Wiring" Section 220500, as specified."

Detail Plan Revision:

In response to a request for information, it has come to our attention that several details on the Civil Detail Sheets use nomenclature specific to Pennsylvania regarding stone subbase and backfill material. The more appropriate West Virginia classifications have been added to Sheet C-008 and C-009 details, as follows:

- The pavement structure details that called for "No. 2A Coarse Aggregate Subbase" have been revised to indicate "Grade 1 Crushed Aggregate Subbase Course" and shall meet the gradation requirements specified by the West Virginia Division of Highways, Construction Manual, Section 314.

- For other details that specified backfill or foundation material, aggregate backfill not specified by AASHTO No., should be revised to require Class 1 Aggregate as per Table 704.6.2A-Gradation Requirements of the Division of Highways Manual.

- It was also questioned whether Superpave was a Pennsylvania designation. The Division of Highways Manual uses both Superpave and Marshall mix designs. An equivalent Marshall mix designation would also be acceptable. The Contractor will provide information on the mix to be used prior to the start of pavement operations.

Mechanical Items:

HVAC Specification Revision – Section 230900 – INSTRUMENTATION AND CONTROL FOR HVAC

1. New specification section 230900 issued as part of Addendum #2 to replace previously issued specification section 230900 in its entirety.

HVAC Specification Revision – Section 230993 – SEQUENCE OF OPERATION FOR HVAC CONTROLS

1. New specification section 230993 issued as part of Addendum #2 to replace previously issued specification section 2309930 in its entirety.

HVAC Specification Revision – Section 230995 – VARIABLE FREQUENCY DRIVES

1. Add the following paragraph under Part 3:

"3.2 AUTOMATIC TEMPERATURE CONTROL INTERFACE

A. Variable frequency drive (VFD) shall be furnished complete with all hardware and software required to establish a communication network with the building automation system (BAS). Drive shall be factory furnished with a BACnet Communication card/port for integration into the DDC system and be factory furnished with a BACnet Communication card/port for integration into the DDC system and be capable of providing status and metering information to the BAS and receiving operational commands from BAS. VFD manufacturer shall coordinate with the ATC Contractor to determine communication media requirements (BACnet MS/TP, Ethernet or IP) and carry the associated costs in VFD pricing given to the heating contractor. VFD manufacturer shall be responsible for supplying the interface format as required by the ATC Contractor without additional costs to the ATC Contractor."

HVAC Specification Revision – Section 232123 – HVAC PUMPS

1. Revise Paragraph A, under section 3.1, to read as follows:

"Install base mounted pumps located on the Basement Level on 4" high concrete housekeeping pad and grout base full. Balance per manufacturers recommendations."

2. Add the following paragraph under Section 3.1:

"B. Install base mounted pumps located in the Upper Level Machine Room on inertia bases as hereinafter specified and detailed."

HVAC Specification Revision – Section 233600 – VARIABLE VOLUME BOXES

1. Add the following paragraph under Part 3:

"3.2 AUTOMATIC TEMPERATURE CONTROL INTERFACE

A. VAV Boxes: Unit shall be furnished with no controls. Unit shall be equipped with a flow cross/ring averaging sensor that samples duct pressure and a control damper with a ½ in. extended shaft that requires rotary operation to open and close damper. The ATC Contractor shall furnish a DDC controller to the box manufacturer for factory installation by the box manufacturer for each variable/constant volume box. DDC controller to the airflow ring/cross furnished as part of the VAV/CV box. Box manufacturer shall also connect the DDC controller to the airflow ring/cross furnished as part of the VAV/CV box. Box manufacturer shall include the cost for all factory mounting and connecting work in the variable volume box pricing given to the heating contractor. The ATC Contractor shall furnish the reheat control valve for installation by the heating contractor."

HVAC Specification Revision – Section 233713 – AIR OUTLETS AND INLETS

1. Add the following paragraph under Part 2:

"2.7 SUPPLY BAR GRILLE (FIRST FLOOR WINDOW SILLS)

A. Furnish and install sill mounted linear bar grilles as indicated on plans by SBG.

B. Grille shall be extruded aluminum construction with 0 degrees blade deflection, ½" bar spacing and 7/32" blade thickness. Noise criteria not to exceed NC 15.

C. Basis of design manufactured by AirFlex with satin bronze finish and continuous frame. New grille sizes to match existing sill openings in marble window sills and shall be field verified, but are approximately 4 1/2" x 48"."

HVAC Specification Revision – Section 235200 – GAS BOILERS AND ACCESSORIES

1. Revise Paragraph T, under section 2.1, to read as follows:

"T. The Boiler manufacturer's representative shall provide as part of the boiler equipment package a "cycle minimizer" with a hot water temperature reset and warm weather shutdown options. The system shall have two (2) stages of control (boiler on low fire, boiler on modulation, The temperature of the boiler plant will be adjusted according to the outdoor air temperature via a boiler reset controller and the plant will have an adjustable control measuring the outdoor temperature for warm weather shut-down. This control panel and the ATC system shall read the same outside air temperature sensor."

2. Revise Paragraph U, under section 2.1, to read as follows:

"U. The boilers shall be furnished with an unconditional ten-year warranty for parts and labor to replace any tubes in the boiler. This ten-year warranty shall be over and above the specified two-year warranty. All of the costs for this ten-year warranty shall be included in the cost of the boiler. A letter from the manufacturer to the Capitol shall be furnished with the shop drawings."

HVAC Specification Revision – Section 235300 – CYCLE MINIMIZER

1. New specification section 235300 is a new section issued as part of Addendum #2.

HVAC Specification Revision – Section 2357000 – HEAT EXCHANGERS

1. Add the following paragraph under Section 3.1:

"B. Provide one spare tube bundle. Rack on wall for future quick change out."

HVAC Specification Revision – Section 237313 – AIR HANDLING UNITS

1. Add the following paragraph under Part 3:

"3.2 AUTOMATIC TEMPERATURE CONTROL INTERFACE

A. AHU/RTU: It is the intent of this project that all AHU/RTU DDC controls shall be field installed by the ATC contractor. Any factory furnished controls shall be required to exactly implement the sequences of operation and operator interface requirements established by the contract documents. Complete read/write delineation for all hardware and software points shall exactly match the requirements established by the contract documents. NO EXCEPTIONS. Any factory furnished controls shall be BACnet compatible. All information from the factory furnished controller shall be both readable and adjustable from the central workstation provide by the ATC contractor and appear seamless to the system operator. AHU/RTU manufacturer shall coordinate with the ATC Contractor to determine communication media requirements (BACnet MS/TP, Ethernet or IP) and carry the associated costs in AHU/RTU pricing given to the heating contractor. AHU/RTU manufacturer shall be responsible for supplying the interface format as required by the ATC Contractor without additional costs to the ATC Contractor. Standard "factory sequences" will not be acceptable and the AHU/RTU manufacturer shall be responsible all costs necessary to achieve the specified functionality and operator interface requirements."

HVAC Specification Revision – Section 237315 – ENERGY RECOVERY UNITS

1. Add the following paragraph under Part 3:

"C. AUTOMATIC TEMPERATURE CONTROL INTERFACE

AHU/RTU: It is the intent of this project that all AHU/RTU DDC controls shall be field installed by the ATC contractor. Any factory furnished controls shall be required to exactly implement the sequences of operation and operator interface requirements established by the contract documents. Complete read/write delineation for all hardware and software points shall exactly match the requirements established by the contract documents. NO EXCEPTIONS. Any factory furnished controls shall be BACnet compatible. All information from the factory furnished controller shall be both readable and adjustable from the central workstation provide."

HVAC Drawing Revision – M-001

1. Add "LPS – LOW PRESSURE STEAM" and revise "LPR – LOW PRESSURE RETURN" in Symbol & Abbreviation Schedule.

HVAC Drawing Revision – M-100

1. Add Fire Dampers in ducts as indicated.

HVAC Drawing Revision – M-101

1. Add Fire Dampers in ducts as indicated.
2. Revise CUH-2 in Main Entry Vestibule.

3. Revise intake and exhaust louvers for Emergency Generator as indicated.
4. Add exhaust pipe for generator as indicated.

HVAC Drawing Revision – M-102

1. Add Fire Dampers in ducts as indicated.

HVAC Drawing Revision – M-103

1. Add Fire Dampers in ducts as indicated.

HVAC Drawing Revision – M-104

1. Add Fire Dampers in ducts as indicated.

HVAC Drawing Revision – M-105

1. Add Fire Dampers in ducts as indicated.

HVAC Drawing Revision – M-106

1. Add Fire Dampers in ducts as indicated.

HVAC Drawing Revision – M-107

1. Add Fire Dampers in ducts as indicated.
2. Revise thermostat tags as indicated.

HVAC Drawing Revision – M-108

1. Add Fire Dampers in ducts as indicated.
2. Revise ceiling return grilles as indicated.

HVAC Drawing Revision – M-109

1. Add Fire Dampers in ducts as indicated.
2. Revise supply air ducts connected to AHU-5.
3. Add smoke dampers at all AHU-5 duct connections for Code required isolation.
4. Add backdraft damper in 60x46 relief air duct thru roof.
5. Revise notes as indicated.

HVAC Drawing Revision – M-200

1. Add condensate drains for CRAC units as indicated.
2. Add branch isolation valves in locations as indicated.
3. Revise notes as indicated.

HVAC Drawing Revision – M-201

1. Add branch isolation valves in locations as indicated.
2. Revise notes as indicated.

HVAC Drawing Revision – M-202

1. Add branch isolation valves in locations as indicated.
2. Revise notes as indicated.

HVAC Drawing Revision – M-203

1. Add branch isolation valves in locations as indicated.
2. Revise notes as indicated.

HVAC Drawing Revision – M-204

1. Add branch isolation valves in locations as indicated.
2. Revise notes as indicated.

HVAC Drawing Revision – M-205

1. Add branch isolation valves in locations as indicated.
2. Revise notes as indicated.

HVAC Drawing Revision – M-206

1. Add branch isolation valves in locations as indicated.
2. Revise notes as indicated.
3. Add chilled water supply & return piping to CRAC units in Server 606.

HVAC Drawing Revision – M-207

1. Add branch isolation valves in locations as indicated.

HVAC Drawing Revision – M-208

1. Add branch isolation valves in locations as indicated.

HVAC Drawing Revision – M-209

1. Add branch isolation valves in locations as indicated.
2. Revise equipment tags for Unit Heaters. Shall be tagged HUH's instead of HRU's. Typical of 4.
3. Revise chilled water piping size serving AHU-5.

HVAC Drawing Revision – M-301

1. Revise supply air duct symbol up from AHU-1 and AHU-2.
2. Revise chilled water piping size serving AHU-1 and AHU-2.
3. Add VFD locations for AHU-1 and AHU-2.
4. Revise note as indicated.

HVAC Drawing Revision – M-302

1. Revise chilled & hot water piping size serving AHU-3 and AHU-4.
2. Add VFD locations for AHU-3 and AHU-4.
3. Add smoke dampers at all AHU-5 duct connections for Code required isolation.

HVAC Drawing Revision – M-303

1. Pumps P-5 and P-6 to be mounted on Inertia Bases.
2. Revise set pressure for make-up water station and expansion tank to 5 psig.

HVAC Drawing Revision – M-501

1. Revised "Air Handling Unit Drain Trap" detail.
2. On "Radiant Ceiling Panel Piping Detail – Heating Only", delete check valve and strainer on HWS piping.

HVAC Drawing Revision – M-504

1. On "Blower Coil Unit Piping Detail – 4 Pipe", revise note to read "CONDENSATE PIPING BY H.C....", not P.C.

HVAC Drawing Revision – M-505

1. Clarification – All stair pressurization ductwork installed inside the building is to be in a 2 hour rated enclosure. This enclosure is shown on the Architectural plans and shall be coordinated with the final duct routings, sizes, etc. as required.

HVAC Drawing Revision – M-601

1. Add note regarding steam to hot water convertor station: "NOTE: PROVIDE A SPARE TUBE BUNDLE FOR THE STEAM TO HOT WATER CONVERTOR & HANG ON WALL OF EQUIPMENT ROOM FOR QUICK CHANGE OUT CAPACITY IN THE EVENT OF A FAILURE."

HVAC Drawing Revision – M-602

1. Add temperature control valve on return piping from Plate Frame Heat Exchanger as indicated.

HVAC Drawing Revision – M-701

1. Add the following note to the "PUMP SCHEDULE":
    a. "1. PUMPS P-5 & P-6 SHALL BE SET ON INERTIA BASES."

2. Add the following note to the "STEAM TO HOT WATER CONVERTOR SCHEDULE""
    a. "1. PROVIDE A SPARE TUBE BUNDLE & HANG ON WALL FOR QUICK CHANGE OUT."

3. Revise "RUNOUT PIPE SIZE" for HRU-2 cooling coil from 2" to 1-1/2"

HVAC Drawing Revision – M-702

1. Revise the drive for all supply fans for AHU-1 thru AHU-5 from "BELT" to "DIRECT".
2. In the "AIR HANDLING UNIT SCHEDULE", revise the following notes:
    a. "3. ALL UNITS ARE VARIABLE VOLUME & VFD'S ARE TO BE PROVIDED BY THE HVAC CONTRACTOR"
    b. "5. ALL SUPPLY FANS SHALL BE DIRECT DRIVE PLENUM TYPE W/ INTERNAL VIBRATION ISOLATORS"
    c. "7. AHU-5 HAS DUAL SUPPLY FANS, 25 HP EACH, FOR REDUNDANCY"

HVAC Drawing Revision – M-704

1. Revise CRAC-5 in "COMPUTER ROOM AIR CONDITIONING UNIT SCHEDULE" from "Duty" to "Standby" under "SERVES" column.

HVAC Drawing Revision – M-100, M-101, M-107 thru M-109, M-200 thru M-302, M-505

1. Replace previous Drawings M-100, M-101, M-107, M-108, M-109, M-200, M-201, M-202, M-203, M-204, M-205, M-206, M-207, M-208, M-209, M-301, M-302 and M-505 with updated attached drawings, dated 12/08/10 issued as part of Addendum #2.

Plumbing Items:

Plumbing Specification – Section 221413 - Storm Drainage Piping

1. Delete Subsection 2.6 - PRIMARY ROOF DRAINS WITH INTEGRAL OVERFLOW (RD-1) and Subsection 2.7 - STANDARD ROOF DRAINS (RD-2)

    a. Refer to drawing detail 6/A-502, "Roof Drains & SST Basket Detail" for roof drainage detail.

Plumbing Specification – Section 224002 - Plumbing Fixtures, Subsection 2.1 FIXTURES

A. Water Closet "WC-1"

    a. Replace Paragraph 1 for Water Closet "WC-1" with – "Vitreous china Zurn No. Z5650, 1.6 gallon per flush, low consumption, siphon jet, elongated bowl, floor mounted closet with 1-1/2" top spud and bolt caps."

    b. Delete Paragraphs 4 and 5.

B. Replace Water Closet "WC-2" – Disabled with the following:

    a. Vitreous china Zurn No. Z5660, 1.6 gallon per flush, low consumption, disabled height, siphon jet, elongated bowl, floor mounted closet with 1-1/2" top spud and bolt caps, ADA compliant.

    b. Sloan No. 81111-1.6/1.1 ECOS, battery-operated, dual flush valve, exposed, touchless, automatic, sensor-operated, low consumption, 1.6 /1.1 gallon per flush

unit, without handle. Provide factory wall operational placecards. Provide batteries.

c. Olsonite Model 10SSCAM, heavy duty, anti-microbial, commercial grade, open front, plastic seat less cover, with self-sustaining stainless steel concealed check hinges.

C. Add the following specification – Water Closet "WC-3"

a. Vitreous china Zurn No. Z5640, 1.6 gallon per flush, low consumption, disabled height, back outlet, siphon jet, elongated bowl, floor mounted closet with 1-1/2" top spud and bolt caps.

b. Seat and flushometer shall be the same as specified for "WC-1" water closet.

Plumbing Drawing Revision – P-101 – P-109

2. Delete all RD-1 combination roof drains on Drawing P-109. This roof drain is covered under the Architectural metal work; refer to drawing detail 6/A-502, "Roof Drains & SST Basket Detail". Delete all related secondary overflow roof drain piping.

3. Delete all secondary overflow roof drain piping throughout the plumbing drawings, including terminal downspout wall covers.

4. Make final rain water conductor connections to the detailed roof drain shown on 6/A-502 and extend piping as indicated for primary rain conductors.

Plumbing Drawing Revision – P-110

1. Delete all RD-1 combination roof drains on this drawing. This roof drain is covered under the Architectural metal work; refer to drawing detail 6/A-502, "Roof Drains & SST Basket Detail". Delete all related secondary overflow roof drain piping.

2. Delete all secondary overflow roof drain piping throughout the plumbing drawings, including terminal downspout wall covers.

3. Make final rain water conductor connections to the detailed roof drain shown on 6/A-502 and extend piping as indicated for primary rain conductors.

Plumbing Drawing Revision – P-109, P-402, P-403, P-600

2. Replace previous Drawings P-109, P-402, P403, and P-600 with updated attached drawings, dated 12/07/10.

Fire Protection Items:

Fire Protection Drawing Revision – F-001

1. Replace previous Drawing F-001 with updated attached drawing dated 12/07/10.

2. Fire Protection Riser Diagram was revised to include the locations of pressure reducing valves and pressure regulating fire hose valves.

Fire Protection Drawing Revision – F-100

1. Replace previous Drawing F-100 with updated attached drawing dated 12/07/10.
2. Revised location of riser for fire pump test header.
3. Revised location of fire department connection riser.
4. Added piping, check valve and riser location for second fire department connection.
5. Added pressure reducing valves and pressure regulating fire hose valves in stairs as indicated.

Fire Protection Drawing Revision – F-101

1. Replace previous Drawing F-101 with updated attached drawing dated 12/07/10.
2. Revised sprinkler head layout for many areas throughout the floor. New RCP was provided for this addendum.
3. Revised location of fire pump test header.
4. Revised drain line location.
5. Revised location of fire department connection and electric alarm bell.
6. Added second fire department connection and second electric alarm bell.
7. Added pressure reducing valves and pressure regulating fire hose valves in stairs as indicated.
8. Revised Numbered Notes 1 and 2.

Fire Protection Drawing Revision – F-102

1. Replace previous Drawing F-102 with updated attached drawing dated 12/07/10.
2. Added pressure reducing valves and pressure regulating fire hose valves in stairs as indicated.

Fire Protection Drawing Revision – F-103

1. Replace previous Drawing F-103 with updated attached drawing dated 12/07/10.
2. Added pressure reducing valves and pressure regulating fire hose valves in stairs as indicated.

3. Revised sprinkler head layout for several areas. New RCP was provided for this addendum.

Fire Protection Drawing Revision – F-104

1. Replace previous Drawing F-104 with updated attached drawing dated 12/07/10.

2. Added pressure reducing valves and pressure regulating fire hose valves in stairs as indicated.

Fire Protection Drawing Revision – F-500

1. Replace previous Drawing F-500 with updated attached drawing dated 12/07/10.

2. Revised "Typical Floor Control Valve Detail" to make drain riser size 3" rather than 2".

Electrical Items:

Electrical Specification Revision – Section 260210.5

2. Revise "Base Tank" to "Day Tank" in Paragraph D, e.

Electrical Specification Revision – Section 263213

2. Delete Paragraph 2.5, A and B for the generator base tank. A day tank has been specified in place of the base tank.

Electrical Specification Revision – Section 263213

2. Revised reference from outdoor to indoor in Paragraph 3.2, A, 1.

Electrical Specification Revision – Section 263213

1. Add the following paragraph at the end of the generator specifications:

3.5 FUEL OIL

A. This Contractor shall furnish all diesel fuel oil for testing. At the completion of final testing, the main tank shall be filled to 100% capacity.

Electrical Specification Revision – Section 263215

1. Section 263215 has been added to the electrical specifications. This section, "Generator Underground Fuel Tank and Day Tank," has been included as part of this addendum.

Electrical Specification Section 26 09 43 Network Lighting Controls has been added.

Electrical Specification Section 26 05 36 Cable Trays for Electrical Systems has been added.

Electrical Drawing Revision – SKE-001a

1. Descriptions of some symbols have been clarified.

Electrical Drawing Revision – ES-001

5. Revised site lighting.
6. Added circuits for event boxes.
7. Revised note on the utility feeds.
8. Added manhole for new Capitol Building #1 future power connection.
9. Added General Note #1 indicating the scope of work to be included as an allowance in the general contractor's bid.
10. Added power to the Pump Lift Station.

Electrical Drawing Revision – SKEL-100a

1. Revised lighting in the 15kV Switchgear room in the Loading Pavilion.

Electrical Drawing Revision – EL-101

1. Revised lighting and circuiting to match revised reflected ceiling plan.
2. Added branch power circuits for the present to remain lighting as well as the cove lighting.
3. Added low voltage control switches for control of the Main Lobby and Elevator Lobby lighting.
4. Deleted Fixture M from the North Lobby.
5. Revised lighting circuiting in the loading pavilion.
6. Added battery packs in the generator room.

Electrical Drawing Revision – SKEL-102a

2. Revised lighting in and around Conference Room 205 to match reflected ceiling plan.

Electrical Drawing Revision – SKEL-103a

5. Revised lighting in and around Conference Room 305 to match reflected ceiling plan.

Electrical Drawing Revision – EP-100

1. Added conduit and manhole locations for tie-in to new Building #1 feeders (by others).
2. Added duct bank location from Loading Pavilion to Building #3 for 480V building service.
3. Revised equipment layout for Fire Pump Room BM2.
4. Revised circuit numbers for receptacles in Switchgear Room BM3 and UPS Room B104.
5. Added Numbered Notes 46 through 52.
6. Added outline for existing 15kV gear and note indicating phasing.
7. Added additional fire alarm devices.
8. Added smoke detectors for preaction system.
9. Added junction boxes on conduits for bus duct feeds.
10. Revised layout for 15kV switchgear room in the Loading Pavilion.
11. Revised location for existing tele/data demarcation point.
12. Revised circuit numbers for receptacle circuits in main electrical rooms.

13. Added additional branch circuit power and fire alarm devices in the Treasurer's Office Area.
14. Reviewed and coordinated security systems for the floor.
15. Showed lighting control panels for the basement and first floors. All normal lighting circuits shall run through these panels.

Electrical Drawing Revision – EP-101

4. Added generator fuel tank installation detail.
5. Added Numbered Notes 3 through 18.
6. Revised layout of equipment in the Loading Pavilion.
7. Revised layout of Tech Office 109.
8. Revised layout of Vestibule 115A and Fire Command Center 116.
9. Revised layout of bus duct feeders.
10. Added additional fire alarm devices.
11. Revised layout of Prefunction 103 and Security 102.
12. Revised layout of Coats 125 and Directors Office 124.
13. Revised layout and circuiting for Generator Room, Utility Room, and Transformer Room in the Loading Pavilion.
14. Reviewed and coordinated security and audio visual systems for the floor.

Electrical Drawing Revision – EP-102

1. Added additional fire alarm devices.
2. Reviewed and coordinated security and audio visual systems for the floor.

Electrical Drawing Revision – EP-103

1. Added additional fire alarm devices.
2. Reviewed and coordinated security and audio visual systems for the floor.

Electrical Drawing Revision – EP-104

1. Added additional fire alarm devices.
2. Reviewed and coordinated security and audio visual systems for the floor.

Electrical Drawing Revision – EP-105

1. Added additional fire alarm devices.
2. Reviewed and coordinated security and audio visual systems for the floor.

Electrical Drawing Revision – EP-106

1. Added additional fire alarm devices.
2. Added smoke detectors for preaction system.
3. Reviewed and coordinated security and audio visual systems for the floor.

Electrical Drawing Revision – EP-107

1. Added additional fire alarm devices.
2. Reviewed and coordinated security and audio visual systems for the floor.

Electrical Drawing Revision – EP-108

1. Added additional fire alarm devices.
2. Reviewed and coordinated security and audio visual systems for the floor.

Electrical Drawing Revision – SKEP-109a

1. Added additional fire alarm devices.
2. Showed location for lighting control panel. All normal lighting circuits shall run through this panel.
3. Revised circuiting to pickup two receptacles in the elevator penthouse.

Electrical Drawing Addition – EP-110

1. Added Drawing EP-110 to show cable tray layout. Typical for all floors based on associated floor plan.

Electrical Drawing Revision – SKEM-100

1. Added Numbered Note 11.
2. Revised HVAC connection locations based on revised mechanical plans.
3. Added power for Gray Water Pumps and Pump Lift Station.

Electrical Drawing Revision – SKEM-101

1. Revised HVAC connection locations based on revised mechanical plans.
2. Added circuit for Cabinet Unit Heater in Exit Passage 107.
3. Added circuits for Motor Operated Dampers in the Generator Room at the Loading Pavilion.

Electrical Drawing Revision – SKEM-109

1. Revised HVAC connection locations based on revised mechanical plans.

Electrical Drawing Revision – E-504

2. Revised Lighting Control Diagram to clarify wiring.

Electrical Drawing Revision – E-600

3. Revised bus duct configuration.
4. Revised fire pump feeders and load break switch note.
5. Added control circuiting for Automatic Transfer Switches.
6. Revised notes for 1500kVA transformers.
7. Added emergency power off switches for the emergency generator.
8. Revised emergency lighting feeders.
9. Added empty conduit.
10. Added note on existing 15kV switchgear indicating necessary phasing.

Electrical Drawing Revision – E-601

1. Added short circuit ratings to panels.

2. Added Numbered Notes 16 through 21.
3. Added Panel LSLP, Transformer, and Fused Safety Switch.
4. Revised Numbered Note #10.
5. Added Numbered Notes #22, 23, and 24.
6. Revised Numbered Notes relating to circuiting at Treas UPS Panel.

Electrical Drawing Revision – E-700

1. Revised some fixture catalog numbers.
2. Added mounting heights for pendant mounted fixtures.
3. Added note regarding generator transfer device to allow for control of normal/emergency fixtures during normal operation and automatic transfer upon loss of normal power and activation of the emergency system.
4. Deleted Fixture Type M.

Electrical Drawing Revision – E-701

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-702

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-703

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-704

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-705

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-707

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-708

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-710

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-711

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-712

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-713

1. Revised Panel Schedules as indicated.

Electrical Drawing Revision – E-901

3. Showed locations for lighting control panels on each floor. All normal lighting circuits shall run through these panels.

Technology Items:

CHANGES TO SPECIFICATIONS:

ITEM #	SECTION	TITLE
S-A15	**281300**	**ACCESS CONTROL SYSTEM**
IV.	Article 2.2.C replaced with new section, "Control Panels".	
V.	Article 2.2.D replaced with new section, "Control Panel Interface Boards".	
VI.	Article 2.2.E replaced with new section, "Access Control Card Readers".	
VII.	Article 2.2.F replaced with new section, "Control Panel Capacities".	
VIII.	Insert new article 2.2.G, "Input/Output Controller"	
IX.	Article 2.2.G Power Supplies should be 2.2.H Power Supplies	
X.	Article 2.2.H Wire and Cable should be 2.2.I Wire and Cable	
XI.	Article 2.2.I Cable Protection should be 2.2.J Cable Protection	

CHANGES TO DRAWINGS:

ITEM #	DRAWING	TITLE
D-T1	**T-003**	**TECHNOLOGY SCHEDULES AND NOTES**
	Black Drop dimensions on Projection Screen/Display Type Schedule updated Throw Distance for Room No. 119 updated on Room Projection Screen/Display Schedule.	
D-T2	**T-201**	**TECHNOLOGY INFRASTRUCTURE FIRST FLOOR CEILING PLAN**
	Size and position of projector lifts updated. Conflict between projector and pendant lights at rooms 106, 111 highlighted.	
D-T3	**T-503**	**TECHNOLOGY INFRASTRUCTURE DETAILS**
	Dimensions of Motorized Projector Lift updated.	
D-T4	**T-700**	**AUDIOVISUAL ROOM ELEVATIONS**
	Elevation dimensions updated to reflect new 1st floor ceiling plans (Elevation Details 2-5).	
D-T5	**T-701**	**AUDIOVISUAL ROOM ELEVATIONS**
	Elevation dimensions updated to reflect new 1st floor ceiling plans (Elevation details 1 and 2).	
D-T6	**T-819**	**SECURITY SYSTEMS CAMERA DETAILS AND MATRIX**
I.	Updated Detail 2 – Security Camera Matrix. Changed mounting styles for multiple cameras.	

VOLUME ONE

Bidding Documents:

Request for Quotations
Instructions to Bidders
Proposal Form 12/08/2010
Purchasing Affidavit
Drug Free Workplace Affidavit
Bid Bond Preparation Instructions
Labor & Materials Bond
Performance Bond
Maintenance Bond
Certificate of Insurance - Instructions
Wage Rates

Index of Drawings

Conditions of the Contract:

Standard Form of Agreement between Owner and Contractor (AIA Document A101-2007)
General Conditions of the Contract for Construction (AIA A201-2007)
State of West Virginia Supplementary General Conditions to AIA A201-2007 Special Conditions

Contract Forms:

Change Order (AIA Document G701-2001)
Application and Certificate for Payment (AIA Document G702-1992)
Continuation Sheet (AIA Document G703-1992)
Certificate of Substantial Completion (AIA Document G704-2000)
Contractor's Affidavit of Payment of Debts and Claims (AIA Document G706-1994Contractor's Affidavit of Release of Liens (AIA Document G706A-1994)
Consent of Surety Company to Final Payment (AIA Document G707-1994)
Consent of Surety Company to Reduction in or Partial Release of Retainage (AIA Document G707A-1994)
Proposal Request (AIA Document G709–2001)
Architect's Supplemental Instructions (AIA Document G710-1992)

Reports: (are included in the Appendix of Volume One of the Project Manual)

1. Reports prepared by Professional Services Industries, Inc. (PSI) for locations where hazardous materials are present.
    a. *"Limited Asbestos, Lead Paint and Hazardous Material Survey Report, Building 3 Capitol Complex"* dated September 19, 2008.
    b. *"Asbestos Material Survey Supplemental Report, Building 3 Capitol Complex – Behind Room 528B Window Unit and Hallway Ceiling Plaster"* dated September 22, 2008.
2. *"Geotechnical Exploration and Analysis of Proposed Loading Pavilion"*, WV State Capital Complex – Building 3 (DMV), Charleston, West Virginia, prepared by American Geotech, Inc., dated April 3, 2009.
3. *"Masonry Testing"* Building 3, West Virginia Capitol Complex, Charleston, West Virginia prepared by Noble

Preservation Services, Inc., dated October 1, 2010. Report results and summary of recommendations to clean various exterior masonry types on Building 3.

END OF VOLUME TWO

END OF TABLE OF CONTENTS

Proposal Form

State of West Virginia – General Services Division
West Virginia State Capitol
West Virginia State Office Building No. 3 Renovations
Charleston, West Virginia

Project No. GSD 106450

Name of Bidder: _____

The undersigned, hereinafter called Bidder, being familiar with and understanding the Bidding Documents and also having examined the site and being familiar with all local conditions affecting the project hereby proposes to furnish all labor, material, equipment, supplies and transportation and to perform all Work in accordance with the Bidding Documents within the time set forth for the sum of:

Base Bid:

_____

_____ ($_____)
(Show amount in both words and numbers)

(In the event of a difference between the written amount and the number amount, the written amount shall govern.)

UNIT PRICE #1:	**7TH FLOOR PARAPET DEMOLITION AND RECONSTRUCTION** (REFER TO SECTION 012200 "UNIT PRICES")		
Unit Price No. 1A:	Parapet 'pier with vertical steel' section at 7th floor roof.	$ _____	Per section.
Unit Price No. 1B:	Parapet 'pier without vertical steel' section at 7th floor roof.	$ _____	Per section.
Unit Price No. 1C:	Parapet 'picket' section at 7th floor roof.	$ _____	Per section.
Unit Price No. 1D:	Parapet 'corner' section at 7th floor roof.	$ _____	Per section.

UNIT PRICE #2:	**MASONRY REPOINTING** (REFER TO SECTION 012200 "UNIT PRICES")		
Unit Price No. 2A:	Spot point masonry at exterior masonry	$ _____	Per linear/ft.
Unit Price No. 2B:	Spot point masonry at interior marble panels.	$ _____	Per linear/ft.

UNIT PRICE #3: **REPAIR AND RESTORE EXISTING BRONZE WINDOWS**
(REFER TO SECTION 012200 "UNIT PRICES")

Unit Price No. 3		Unit Cost to Repair	Unit Cost to Replace	
	Frame	$ _____	$ _____	Per window
	Sashes	$ _____	$ _____	Per window
	Mullions	$ _____	$ _____	Per window
	Hardware	$ _____	$ _____	Per window

ALTERNATES: (REFER TO SECTION 012300 "ALTERNATES")

Alternate No. 1:	Roof Tile	$ _____	(Add/Deduct)
Alternate No. 2:	Infill Below Typical Upper Floor Windows – Floors 2-8.	$ _____	(Add/Deduct)
Alternate No. 3:	**Lump sum allowance to cover electric utility company charges for their reconfiguration of electrical service entrance items, duct banks switches and equipment. (Refer to Section 012100 – Allowances) Includes Contractor O&P.**	$ _____	(Add/Deduct)

Note: Unit Prices shall be used solely for the formulation of any Change Orders requested subsequent to the award of the Contract. They shall not be calculated into the Base Bid in any manner when determining award of the Contract.

The Bidder, if successful and awarded the contract, agrees that all work is to be complete within the specified time period following issuance of the OWNER'S written notice to proceed. For each calendar day of delay in achieving Substantial completion, the Contractor shall be liable for, and shall pay the OWNER liquidated damages in the amount specified in the Contract Documents.
No work shall be performed prior to issuance of a signed Purchase Order issued by the State Purchasing Division and Notice to Proceed issued by the Owner. Any materials contracted for prior to the issuance of the OWNER'S written Notice to Proceed shall be at the Bidder's risk.

Signature of Bidder:

Name of Firm: _____

Address: _____

City/ State/ Zip _____

Phone No. (___) _____

Fax No. (___) _____

By: _____

Signature: _____
(In colored Ink)

Signed and Sealed this _____ day of _____, 20____

Addenda:

The undersigned acknowledges receipt of the following Addenda covering revisions to the Drawings, Specification and Bidding Documents. The cost, if any, of such revisions is included in the prices quoted.

Addendum No. _____, Dated_____
Addendum No. _____, Dated_____
Addendum No. _____, Dated_____
Addendum No. _____, Dated_____
Addendum No. _____, Dated_____
Addendum No. _____, Dated_____

Contractor's License:

West Virginia Contractor's License No. _____

References:

Reference No 1:

Reference Name: _____

Position: _____

Address: _____

Telephone Number: _____

Project Name & Owner: _____

Project Location: _____

Project Description: _____

Reference No 2:

Reference Name: _____

Position: _____

Address: _____

Telephone Number: _____

Project Name & Owner: _____

Project Location: _____

Project Description: _____

Reference No 3:

Reference Name: _____

Position: _____

Address: _____

Telephone Number: _____

Project Name & Owner: _____

Project Location: _____

Project Description: _____

INDEX OF DRAWINGS

1. The following two hundred eighty-four (284) drawings and thirty-three (33) sketches for clarification accompany this specification and are hereby made a part thereof.

DRAWING NO.	DATE	TITLE
VOLUME 1		
GENERAL		
G-0V1	10/08/2010	COVER SHEET – VOLUME 1
G-002	12/08/2010	GENERAL NOTES
G-003	10/08/2010	CODE SUMMARY
G-004	10/08/2010	CODE SUMMARY
CIVIL		
CD-001	12/08/2010	SITE DEMOLITION PLAN
C-001	12/08/2010	SITE PLAN
C-002	12/08/2010	STORMWATER POLLUTION PREVENTION PLAN (RENAMED)
C-003	12/08/2010	SITE UTILITY PLAN
C-004	12/08/2010	SITE GRADING PLAN
C-005	12/08/2010	CONSTRUCTION DETAILS
C-006	12/08/2010	CONSTRUCTION DETAILS
C-007	12/08/2010	CONSTRUCTION DETAILS
C-008	12/08/2010	E&S DETAILS (ADDED SHEET)
C-009	12/08/2010	E&S DETAILS (ADDED SHEET)
LANDSCAPE		
L-001	12/08/2010	TREE PROTECTION PLAN
L-002	12/08/2010	LANDSCAPE PLAN
L-003	12/08/2010	NOT USED (DELETED SHEET)
L-004	12/08/2010	LANDSCAPE PLANTING PLAN (ADDED SHEET)
L-501	12/08/2010	LANDSCAPE DETAILS
L-502	12/08/2010	LANDSCAPE DETAILS
L-503	12/08/2010	LANDSCAPE DETAILS
ABATEMENT		
AB-100	10/08/2010	ABATEMENT FLOOR PLANS – BASEMENT THRU THIRD
AB-101	10/08/2010	ABATEMENT FLOOR PLANS – FOURTH THRU SEVENTH
AB-102	10/08/2010	ABATEMENT FLOOR PLANS – EIGHTH THRU MACHINE ROOM
SELECTIVE DEMOLITION		
AD-100	10/08/2010	BASEMENT FLOOR DEMOLITION PLAN
AD-101	10/08/2010	FIRST FLOOR DEMOLITION PLAN
AD-102	10/08/2010	SECOND FLOOR DEMOLITION PLAN
AD-103	10/08/2010	THIRD FLOOR DEMOLITION PLAN

DRAWING NO.	DATE	TITLE
AD-104	10/08/2010	FOURTH FLOOR DEMOLITION PLAN
AD-105	10/08/2010	FIFTH FLOOR DEMOLITION PLAN
AD-106	10/08/2010	SIXTH FLOOR DEMOLITION PLAN
AD-107	10/08/2010	SEVENTH FLOOR DEMOLITION PLAN
AD-108	10/08/2010	EIGHTH FLOOR DEMOLITION PLAN
AD-109	10/08/2010	NINTH FLOOR DEMOLITION PLAN
AD-110	10/08/2010	MACHINE ROOM DEMOLITION FLOOR PLAN
AD-111	10/08/2010	UNDERDUCT DEMOLITION FLOOR PLANS
AD-201	10/08/2010	SOUTH DEMOLITION ELEVATION
AD-202	10/08/2010	NORTH DEMOLITION ELEVATION
AD-203	10/08/2010	WEST & EAST DEMOLITION ELEVATIONS
AD-501	10/08/2010	ENLARGED CORE FLOOR PLANS & PROTECTION DETAILS
ARCHITECTURAL		
AS-001	10/08/2010	TEMPORARY FACILITIES SITE PLAN
A-100	10/08/2010	BASEMENT FLOOR PLAN
A-101	10/08/2010	FIRST FLOOR PLAN
A-102	10/08/2010	SECOND FLOOR PLAN
A-103	10/08/2010	THIRD FLOOR PLAN
A-104	10/08/2010	FOURTH FLOOR PLAN
A-105	10/08/2010	FIFTH FLOOR PLAN
A-106	10/08/2010	SIXTH FLOOR PLAN
A-107	10/08/2010	SEVENTH FLOOR PLAN
A-108	10/08/2010	EIGHTH FLOOR PLAN
A-109	10/08/2010	MACHINE ROOM FLOOR PLAN
A-110	10/08/2010	ROOF PLAN
A-111	12/08/2010	LOADING PAVILION PLANS
AC-100	10/08/2010	REFLECTED CEILING PLAN – BASEMENT
AC-101	12/08/2010	REFLECTED CEILING PLAN – FIRST FLOOR
AC-102	10/08/2010	REFLECTED CEILING PLAN – SECOND FLOOR
AC-103	10/08/2010	REFLECTED CEILING PLAN – THIRD FLOOR
AC-104	10/08/2010	REFLECTED CEILING PLAN – FOURTH FLOOR
AC-105	10/08/2010	REFLECTED CEILING PLAN – FIFTH FLOOR
AC-106	10/08/2010	REFLECTED CEILING PLAN – SIXTH FLOOR
AC-107	10/08/2010	REFLECTED CEILING PLAN – SEVENTH FLOOR
AC-108	10/08/2010	REFLECTED CEILING PLAN – EIGHTH FLOOR
A-201	10/08/2010	SOUTH ELEVATION
A-202	10/08/2010	NORTH ELEVATION
A-203	10/08/2010	EAST & WEST ELEVATIONS
A-204	12/08/2010	LOADING PAVILION ELEVATIONS
A-301	10/08/2010	BUILDING SECTION
A-302	10/08/2010	BUILDING & STAIR SECTIONS
A-303	10/08/2010	SECTIONS
A-304	10/08/2010	LOADING PAVILION BUILDING SECTIONS
A-305	10/08/2010	LOADING PAVILION WALL SECTIONS
A-306	10/08/2010	LOADING PAVILION WALL SECTIONS

DRAWING NO.	DATE	TITLE
A-401	10/08/2010	ENLARGED FIRST FLOOR PLAN
A-402	10/08/2010	FIRST FLOOR LOBBY ELEVATIONS
A-403	10/08/2010	ENLARGED TYPICAL CORE PLAN & ELEVATIONS (FLRS 2-8)
A-404	10/08/2010	ENLARGED RESTROOM PLANS & ELEVATIONS
A-405	10/08/2010	ENLARGED RESTROOM PLANS & ELEVATIONS
A-406	10/08/2010	ENLARGED RESTROOM PLANS & ELEVATIONS
A-407	10/08/2010	INTERIOR ELEVATIONS
A-408	10/08/2010	INTERIOR ELEVATIONS
A-409	10/08/2010	INTERIOR ELEVATIONS
A-501	10/08/2010	EXTERIOR DETAILS
A-502	10/08/2010	EXTERIOR DETAILS
A-503	10/08/2010	EXTERIOR DETAILS
A-504	10/08/2010	EXTERIOR DETAILS
A-505	10/08/2010	EXTERIOR DETAILS
A-506	10/08/2010	EXTERIOR DETAILS
A-507	10/08/2010	INTERIOR DETAILS
A-508	10/08/2010	INTERIOR DETAILS
A-509	10/08/2010	INTERIOR DETAILS
A-510	10/08/2010	INTERIOR DETAILS
A-511	10/08/2010	INTERIOR DETAILS
A-512	10/08/2010	INTERIOR DETAILS
A-601	10/08/2010	WALL TYPES & FLOOR ASSEMBLIES
A-602	10/08/2010	FINISH SCHEDULE
A-603	10/08/2010	DOOR & WINDOWS TYPES
A-604	10/08/2010	DOOR SCHEDULE
A-605	10/08/2010	DOOR SCHEDULE & DOOR DETAILS
A-606	10/08/2010	DOOR SIGNAGE

ARCHITECTURAL CLARIFICATION SKETCHES

SK-01	12/08/2010	FIRST FLOOR DEMOLITION
SK-02	12/08/2010	BASEMENT FLOOR PLAN
SK-03	12/08/2010	BASEMENT FLOOR PLAN
SK-04	12/08/2010	BASEMENT FLOOR PLAN
SK-05	12/08/2010	BASEMENT FLOOR PLAN
SK-06	12/08/2010	FIRST FLOOR PLAN
SK-07	12/08/2010	FIRST FLOOR PLAN
SK-08	12/08/2010	TYPICAL CORRIDOR
SK-09	12/08/2010	SECOND FLOOR REFLECTED CEILING PLAN
SK-10	12/08/2010	INTERIOR DETAILS
SK-11	12/08/2010	INTERIOR DETAILS
SK-12	12/08/2010	EXTERIOR DETAILS
SK-13	12/08/2010	EXTERIOR DETAILS
SK-14	12/08/2010	SECTION
SK-15	12/08/2010	DETAIL
SK-16	12/08/2010	DOOR & WINDOW TYPES
SK-17	12/08/2010	LOADING PAVILION DOOR SCHEDULE
SK-18	12/08/2010	EXTERIOR DETAILS

STRUCTURAL

DRAWING NO.	DATE	TITLE
S-001	10/08/2010	GENERAL NOTES
S-002	10/08/2010	GENERAL NOTES
S-100	12/08/2010	GROUND FLOOR FRAMING PLAN
S-101	12/08/2010	FIRST FLOOR FRAMING PLAN
S-102	10/08/2010	TYPICAL FLOOR FRAMING PLAN
S-109	10/08/2010	MACHINE ROOM FRAMING PLAN
S-200	10/08/2010	LOADING PAVILION FRAMING PLANS
S-201	10/08/2010	LOADING PAVILION FRAMING PLANS
S-300	10/08/2010	TYPICAL DETAILS
S-301	10/08/2010	TYPICAL DETAILS
S-400	12/08/2010	SECTIONS & DETAILS
S-500	10/08/2010	SECTIONS & DETAILS
S-501	10/08/2010	SECTIONS & DETAILS

VOLUME 2

GENERAL		
G-0V2	10/08/2010	COVER SHEET – VOLUME 2
FIRE PROTECTION		
F-001	12/08/2010	FIRE PROTECTION LEGEND, SYMBOLS, NOTES, & ABBREVIATIONS
F-100	12/08/2010	BASEMENT FLOOR PLAN – FIRE PROTECTION
F-101	12/08/2010	FIRST FLOOR PLAN – FIRE PROTECTION
F-102	12/08/2010	SECOND FLOOR PLAN – FIRE PROTECTION
F-103	12/08/2010	THIRD FLOOR PLAN – FIRE PROTECTION
F-104	12/08/2010	FOURTH FLOOR PLAN – FIRE PROTECTION
F-105	10/08/2010	FIFTH FLOOR PLAN – FIRE PROTECTION
F-106	10/08/2010	SIXTH FLOOR PLAN – FIRE PROTECTION
F-107	10/08/2010	SEVENTH FLOOR PLAN – FIRE PROTECTION
F-108	10/08/2010	EIGHTH FLOOR PLAN – FIRE PROTECTION
F-109	10/08/2010	ATTIC FLOOR PLAN – FIRE PROTECTION
F-110	10/08/2010	ROOF PLAN – FIRE PROTECTION
F-500	12/08/2010	FIRE PROTECTION DETAILS
PLUMBING		
P-001	10/08/2010	PLUMBING LEGEND, SYMBOLS, NOTES & ABBREVIATIONS
P-002	10/08/2010	SITE PLAN PLUMBING
P-100.1	10/08/2010	BASEMENT & FOUNDATION PLAN – STORM PIPING

DRAWING NO.	DATE	TITLE
P-100	10/08/2010	BASEMENT FLOOR PLAN – PLUMBING
P-101	10/08/2010	FIRST FLOOR PLAN – PLUMBING
P-102	10/08/2010	SECOND FLOOR PLAN – PLUMBING
P-103	10/08/2010	THIRD FLOOR PLAN – PLUMBING
P-104	10/08/2010	FOURTH FLOOR PLAN – PLUMBING
P-105	10/08/2010	FIFTH FLOOR PLAN – PLUMBING
P-106	10/08/2010	SIXTH FLOOR PLAN – PLUMBING
P-107	10/08/2010	SEVENTH FLOOR PLAN – PLUMBING
P-108	10/08/2010	EIGHTH FLOOR PLAN – PLUMBING
P-109	12/08/2010	PENTHOUSE PLAN – PLUMBING
P-110	12/08/2010	ROOF PLAN – PLUMBING
P-300	10/08/2010	DOMESTIC WATER RISER DIAGRAM
P-401	10/08/2010	ENLARGED MECHANICAL ROOM FLOOR PLANS – PLUMBING
P-402	12/08/2010	ENLARGED TOILET ROOM PLANS – PLUMBING
P-403	12/08/2010	ENLARGED TOILET ROOM PLANS – PLUMBING
P-500	10/08/2010	PLUMBING DETAILS
P-600	12/08/2010	PLUMBING SCHEDULES
MECHANICAL		
M-001	10/08/2010	HVAC ABBREVIATIONS AND NOTES
M-100	12/08/2010	BASEMENT HVAC PLAN
M-101	12/08/2010	FIRST FLOOR HVAC PLAN
M-102	10/08/2010	SECOND FLOOR HVAC PLAN
M-103	10/08/2010	THIRD FLOOR HVAC PLAN
M-104	10/08/2010	FOURTH FLOOR HVAC PLAN
M-105	10/08/2010	FIFTH FLOOR HVAC PLAN
M-106	10/08/2010	SIXTH FLOOR HVAC PLAN
M-107	12/08/2010	SEVENTH FLOOR HVAC PLAN
M-108	12/08/2010	EIGHTH FLOOR HVAC PLAN
M-109	12/08/2010	MACHINE ROOM HVAC PLAN
M-110	12/08/2010	ROOF HVAC PLAN
M-200	12/08/2010	BASEMENT HVAC PLAN – PIPING
M-201	12/08/2010	FIRST FLOOR HVAC PLAN – PIPING
M-202	12/08/2010	SECOND FLOOR HVAC PLAN – PIPING
M-203	12/08/2010	THIRD FLOOR HVAC PLAN – PIPING
M-204	12/08/2010	FOURTH FLOOR HVAC PLAN – PIPING
M-205	12/08/2010	FIFTH FLOOR HVAC PLAN – PIPING
M-206	12/08/2010	SIXTH FLOOR HVAC PLAN – PIPING
M-207	12/08/2010	SEVENTH FLOOR HVAC PLAN – PIPING
M-208	12/08/2010	EIGHTH FLOOR HVAC PLAN – PIPING
M-209	12/08/2010	MACHINE ROOM HVAC PLAN – PIPING
M-301	12/08/2010	ENLARGED HVAC PLANS
M-302	12/08/2010	ENLARGED HVAC PLANS
M-303	10/08/2010	ENLARGED HVAC PLANS

DRAWING NO.	DATE	TITLE
M-501	10/08/2010	HVAC DETAILS
M-502	10/08/2010	HVAC DETAILS
M-503	10/08/2010	HVAC DETAILS
M-504	10/08/2010	HVAC DETAILS
M-505	10/08/2010	HVAC DETAILS
M-601	10/08/2010	HOT WATER FLOW DIAGRAM
M-602	10/08/2010	CHILLED WATER FLOW DIAGRAM
M-701	10/08/2010	HVAC SCHEDULES
M-702	10/08/2010	HVAC SCHEDULES
M-703	10/08/2010	HVAC SCHEDULES
M-704	10/08/2010	HVAC SCHEDULES
MECHANICAL CLARIFICATION SKETCHES		
SKM-01	12/08/2010	FIRE DAMPERS
SKM-02	12/08/2010	FIRE DAMPERS
SKM-03	12/08/2010	FIRE DAMPERS
SKM-04	12/08/2010	FIRE DAMPERS
SKM-05	12/08/2010	FIRE DAMPERS
SKM-06	12/08/2010	TRAP DETAIL
SKM-07	12/08/2010	PARTIAL CHILLED WATER FLOW DIAGRAM
ELECTRICAL		
E-001	10/08/2010	ELECTRICAL COVER SHEET
ES-001	12/08/2010	SITE PLAN
EL-100	10/08/2010	BASEMENT FLOOR PLAN – LIGHTING
EL-101	12/08/2010	FIRST FLOOR PLAN – LIGHTING
EL-102	10/08/2010	SECOND FLOOR PLAN – LIGHTING
EL-103	10/08/2010	THIRD FLOOR PLAN – LIGHTING
EL-104	10/08/2010	FOURTH FLOOR PLAN – LIGHTING
EL-105	10/08/2010	FIFTH FLOOR PLAN – LIGHTING
EL-106	10/08/2010	SIXTH FLOOR PLAN – LIGHTING
EL-107	10/08/2010	SEVENTH FLOOR PLAN – LIGHTING
EL-108	10/08/2010	EIGHTH FLOOR PLAN – LIGHTING
EL-109	10/08/2010	PENTHOUSE PLAN – LIGHTING
EP-100	12/08/2010	BASEMENT FLOOR PLAN – POWER & SYSTEMS
EP-101	12/08/2010	FIRST FLOOR PLAN – POWER & SYSTEMS
EP-102	12/08/2010	SECOND FLOOR PLAN – POWER & SYSTEMS
EP-103	12/08/2010	THIRD FLOOR PLAN – POWER & SYSTEMS
EP-104	12/08/2010	FOURTH FLOOR PLAN – POWER & SYSTEMS
EP-105	12/08/2010	FIFTH FLOOR PLAN – POWER & SYSTEMS
EP-106	12/08/2010	SIXTH FLOOR PLAN – POWER & SYSTEMS
EP-107	12/08/2010	SEVENTH FLOOR PLAN – POWER & SYSTEMS
EP-108	12/08/2010	EIGHTH FLOOR PLAN – POWER & SYSTEMS
EP-109	10/08/2010	PENTHOUSE PLAN – POWER & SYSTEMS
EP-110	12/08/2010	CABLE TRAY LAYOUT (ADDED SHEET)
EM-100	10/08/2010	BASEMENT FLOOR PLAN – MECHANICAL POWER
EM-101	10/08/2010	FIRST FLOOR PLAN – MECHANICAL POWER

DRAWING NO.	DATE	TITLE
EM-102	10/08/2010	SECOND FLOOR PLAN – MECHANICAL POWER
EM-103	10/08/2010	THIRD FLOOR PLAN – MECHANICAL POWER
EM-104	10/08/2010	FOURTH FLOOR PLAN – MECHANICAL POWER
EM-105	10/08/2010	FIFTH FLOOR PLAN – MECHANICAL POWER
EM-106	10/08/2010	SIXTH FLOOR PLAN – MECHANICAL POWER
EM-107	10/08/2010	SEVENTH FLOOR PLAN – MECHANICAL POWER
EM-108	10/08/2010	EIGHTH FLOOR PLAN – MECHANICAL POWER
EM-109	10/08/2010	PENTHOUSE PLAN – MECHANICAL POWER
E-500	10/08/2010	DETAILS I
E-501	10/08/2010	DETAILS II
E-502	10/08/2010	DETAILS III
E-503	10/08/2010	DETAILS IV
E-504	12/08/2010	DETAILS V
E-600	12/08/2010	SINGLE LINE RISER DIAGRAM POWER DISTRIBUTION SYSTEM
E-601	12/08/2010	RISER DIAGRAM II
E-602	10/08/2010	FIRE ALARM RISER DIAGRAM
E-700	12/08/2010	FIXTURE SCHEDULE
E-701	12/08/2010	PANEL SCHEDULES
E-702	12/08/2010	PANEL SCHEDULES
E-703	12/08/2010	PANEL SCHEDULES
E-704	12/08/2010	PANEL SCHEDULES
E-705	12/08/2010	PANEL SCHEDULES
E-706	10/08/2010	PANEL SCHEDULES
E-707	12/08/2010	PANEL SCHEDULES
E-708	12/08/2010	PANEL SCHEDULES
E-709	10/08/2010	PANEL SCHEDULES
E-710	12/08/2010	PANEL SCHEDULES
E-711	12/08/2010	PANEL SCHEDULES
E-712	12/08/2010	PANEL SCHEDULES
E-713	12/08/2010	PANEL SCHEDULES
E-900	10/08/2010	ENLARGED TYPICAL ELECTRICAL ROOM – LOWER LEVEL
E-901	12/08/2010	ENLARGED TYPICAL ELECTRICAL ROOM – UPPER LEVEL

ELECTRICAL CLARIFICATION SKETCHES

SKE-001a	12/08/2010	ELECTRICAL COVER SHEET
SKEL-100a	12/08/2010	BASEMENT FLOOR PLAN – LIGHTING
SKEL-102a	12/08/2010	SECOND FLOOR PLAN - LIGHTING
SKEL-103a	12/08/2010	THIRD FLOOR PLAN - LIGHTING
SKEM-100	12/08/2010	BASEMENT FLOOR PLAN – MECHANICAL POWER
SKEM-101	12/08/2010	FIRST FLOOR PLAN – MECHANICAL POWER
SKEM-109	12/08/2010	PENTHOUSE PLAN – MECHANICAL POWER
SKEM-109a	12/08/2010	PENTHOUSE PLAN – POWER & SYSTEMS

TECHNOLOGY & SECURITY

T-001	10/08/2010	TECHNOLOGY SYMBOLS AND LEGENDS

DRAWING NO.	DATE	TITLE
T-002	10/08/2010	TECHNOLOGY SYMBOLS AND LEGENDS
T-003	12/08/2010	TECHNOLOGY SYMBOLS AND NOTES
T-101	10/08/2010	TECHNOLOGY INFRASTRUCTURE - FIRST FLOOR PLAN
T-102	10/08/2010	TECHNOLOGY INFRASTRUCTURE - SECOND FLOOR PLAN
T-108	10/08/2010	TECHNOLOGY INFRASTRUCTURE - EIGHTH FLOOR PLAN
T-201	12/08/2010	TECHNOLOGY INFRASTRUCTURE - FIRST FLOOR CEILING PLAN
T-202	10/08/2010	TECHNOLOGY INFRASTRUCTURE - SECOND FLOOR CEILING PLAN
T-208	10/08/2010	TECHNOLOGY INFRASTRUCTURE - EIGHTH FLOOR CEILING
T-401	10/08/2010	TECHNOLOGY INFRASTRUCTURE - PARTIAL PLANS
T-501	10/08/2010	TECHNOLOGY INFRASTRUCTURE - DETAILS
T-502	10/08/2010	TECHNOLOGY INFRASTRUCTURE - DETAILS
T-503	12/08/2010	TECHNOLOGY INFRASTRUCTURE - DETAILS
T-601	10/08/2010	TECHNOLOGY INFRASTRUCTURE - RISER DIAGRAMS
T-602	10/08/2010	TECHNOLOGY INFRASTRUCTURE - RISER DIAGRAMS
T-603	10/08/2010	TECHNOLOGY INFRASTRUCTURE - RISER DIAGRAMS
T-604	10/08/2010	TECHNOLOGY INFRASTURCTURE - RISER DIAGRAMS
T-605	10/08/2010	TECHNOLOGY INFRASTRUCTURE - RISER DIAGRAMS
T-606	10/08/2010	TECHNOLOGY INFRASTRUCTURE - RISER DIAGRAMS
T-607	10/08/2010	TECHNOLOGY INFRASTRUCTURE - RISER DIAGRAMS
T-608	10/08/2010	TECHNOLOGY INFRASTRUCUTRE - RISER DIAGRAMS
T-609	12/08/2010	TECHNOLOGY INFRASTRUCTURE - RISER DIAGRAMS
T-700	12/08/2010	AUDIOVISUAL ROOM ELEVATIONS
T-701	12/08/2010	AUDIOVISUAL ROOM ELEVATIONS
T-702	10/08/2010	AUDIOVISUAL ROOM ELEVATIONS
T-800	10/08/2010	SECURITY SYSTEMS - BASEMENT PLAN
T-801	10/08/2010	SECURITY SYSTEMS - FIRST FLOOR PLAN
T-802	10/08/2010	SECURITY SYSTEMS - SECOND FLOOR PLAN
T-803	10/08/2010	SECURITY SYSTEMS - THIRD FLOOR PLAN
T-804	10/08/2010	SECURITY SYSTEMS - FOURTH FLOOR PLAN
T-805	10/08/2010	SECURITY SYSTEMS - FIFTH FLOOR PLAN
T-806	10/08/2010	SECURITY SYSTEMS - SIXTH FLOOR PLAN
T-807	10/08/2010	SECURITY SYSTEMS - SEVENTH FLOOR PLAN
T-808	10/08/2010	SECURITY SYSTEMS - EIGHTH FLOOR PLAN
T-809	10/08/2010	SECURITY SYSTEMS - NINTH FLOOR PLAN
T-810	10/08/2010	SECURITY SYSTEMS - ROOF PLAN
T-811	10/08/2010	SECURITY SYSTEMS - DETAILS
T-812	10/08/2010	SECURITY SYSTEMS - DETAILS
T-813	10/08/2010	SECURITY SYSTEMS - DETAILS
T-814	10/08/2010	SECURITY SYSTEMS - DETAILS
T-815	10/08/2010	SECURITY SYSTEMS - DETAILS

DRAWING NO.	DATE	TITLE
T-816	10/08/2010	SECURITY SYSTEMS - DETAILS
T-817	10/08/2010	SECURITY SYSTEMS - SECURITY DOOR MATRIX
T-818	10/08/2010	SECURITY SYSYEMS - SECURITY DOOR MATRIX
T-819	12/08/2010	SECURITY SYSTEMS - SECURITY CAMERA DETAILS & MATRIX

SECTION 012100 - ALLOWANCES

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 administrative and procedural requirements governing allowances.

1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and provide a uniform basis of costs for bidding purposes. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:

1. Lump-sum allowances.
2. Quantity allowances.

C. Related Requirements:

1. Division 01 Section "Unit Prices" for procedures for using unit prices.
2. Division 01 Section "Alternates" for lump-sum allowance for Alternate No.3: Electric Site Utility Reconfiguration
3. Divisions 02 through 33 Sections for items of Work covered by allowances.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.4 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.7 LUMP-SUM ALLOWANCES

A. Refer to Division One "Alternates" for Alternate No.3, for the electric utility company reconfiguration of electrical service entrance items, duct banks switches and equipment which includes a $450,000 lump-sum allowance to pay the electric utility company charges..

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, facilitating utility work, overhead and profit, and similar costs related to products and materials ordered by Utility under allowance shall be included as part of the Alternate Price and not part of the allowance.

C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

D. At Project closeout, credit unused amounts remaining in the lump-sum allowance (Alternate No.3) to Owner by Change Order.

E. Costs of services required for documentation or verification of LEED Points are not included in the allowance. The cost for documentation or verification of LEED Points shall be included in the Contract Sum.

1.8 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.

3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Refer to Division One "Alternates" for Alternate No. 3: Electric Site Utility Reconfiguration.

END OF SECTION 012100

SECTION 012300 - ALTERNATES

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 administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Roof Tile.

1. Base Bid: Replace existing tile and install new tile with Ludowici (manufacturer of original roof tiles) 'Classic' stock field tiles, stock under eave tiles, custom greek batten covers, custom top fixture, custom ridge tile and custom hip 1 & 2 ridge tile. All custom tile to match shape and profile of the existing tile as indicated on Sheet A-110 and as specified in Division 073213 Section "Clay Roof Tiles".
2. Alternate: Replace existing tile and install new tile with Ludowici 'Classic' stock field tiles, stock under eave tiles, stock greek batten covers, custom top fixture, custom ridge tile and custom hip 1 & 2 ridge tile. All custom tile to match shape and profile of the existing tile as indicated on Sheet A-110 and as specified in Division 073213 Section "Clay Roof Tiles".

B. Alternate No. 2: Infill Below Typical Upper Floor Windows – Floors 2-8.

1. Base Bid: Manufactured casework cabinets with adjustable shelves as indicated on Sheet A-508 and as specified in Division 064023 Section "Interior Architectural Woodwork."
2. Alternate: Gypsum Board infill as indicated on Sheet A-508 and as specified in Division 092900 Section "Gypsum Board."

C. Alternate No. 3: Electric Site Utility Reconfiguration

1. Base Bid: N/A

2. Alternate: Alternate price includes $450,000 lump sum allowance to cover electric utility company charges for their reconfiguration of electrical service entrance items, duct banks, switches and other utility provided equipment, plus the contractors related costs to facilitate, coordinate and administer the utility work, including related overhead and profit.

END OF SECTION 012300

SECTION 044310 - LANDSCAPE STONE 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 the following applications of stone masonry:
   1. Stone (Granite) Seat Wall along Axial Walk Planter
   2. Stone (Granite) Retaining Wall at Veterans Memorial and Building No. 5

B. Related Sections:
   1. Division 03 Section "Cast-in-Place Concrete" Civil for concrete wall support.
   2. Division 03 Section " Stone Paving & Edging, Maintenance Strip & Gravel Strip
   3. Division 04 Section "Stone Cladding" for compliance with requirements required by this Section.
   4. Division 07 Section "Joint Sealants" for sealing joints in dimensions stone

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.
   1. For stone varieties proposed for use on Project, include test data indicating compliance with physical properties required by referenced ASTM standards.

B. Samples for Initial Selection: For colored mortar and other items involving color selection.

C. Shop Drawings: Show fabrication and installation details for dimension stone assembly, including dimensions and profiles of stone units. All stone work including and not limited to elevations and cap stones to be included.
   1. Show locations and details of joints both within dimension stone assembly and between dimension stone cladding assembly and other construction.
   2. Include details of mortar joints, sealants and mortar joints pointed with sealant.
   3. Show locations and details of anchors and back up structure

D. Samples for Verification:
   1. For each stone type indicated. Include at least three samples in each set for each type of stone, exhibiting extremes of the full range of color and other visual characteristics expected in completed Work.
   2. For each color of mortar required. Label Samples to indicate types and amounts of pigments used.

1.4 INFORMATIONAL SUBMITTALS

A. List of Materials and products Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, sources of supply, and other information as required to identify materials used. Include mix proportions for mortar and source of aggregates.

B. Qualification Data: For qualified Installer.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs experienced stonemasons and stone fitters.

B. Source Limitations for Stone: Obtain stone, from one quarry, whether specified in this Section or in another Section of the Specifications,]with resources to provide materials of consistent quality in appearance and physical properties.

C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

D. Mockups: Build mockups to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Build mockup of typical wall area as shown on Drawings.
2. Build mockups for each type of stone masonry in sizes approximately **72 inches (1800 mm)** long by high by full thickness, including face and backup wythes and accessories.
   a. Include stone coping at top of mockup.
   b. Include a sealant-filled joint at least 16 inches (400 mm) long in mockup.
3. Protect accepted mockups from the elements with weather-resistant membrane.
4. Approval of mockups is for color, texture, and blending of stone; relationship of mortar and sealant colors to stone colors; tooling of joints; and aesthetic qualities of workmanship.
   a. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Owners Representative specifically approves such deviations in writing.
5. Approved mockups may not become part of the completed.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

1. Store stone on wood skid or pallets with non-staining waterproof covers. Arranged to distribute weight evenly and to prevent damage to stone, Ventilate under covers to prevent condensation.

B. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

C. Deliver preblended, dry mortar mix in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in a metal dispensing silo with weatherproof cover.

D. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.7 PROJECT CONDITIONS

A. Protection of Stone Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed stone masonry when construction is not in progress.
1. Extend cover a minimum of 24 inches (600 mm) down both sides and hold cover securely in place.

B. Stain Prevention: Immediately remove mortar and soil to prevent them from staining the face of stone masonry.

1. Protect base of walls from rain-splashed mud and mortar splatter by coverings spread on the ground and over the wall surface.

C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace stone masonry damaged by frost or freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.

D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1.8 COORDINATION

A. Advise installers of other work about specific requirements for placement of reinforcement, veneer anchors, flashing, and similar items to be built into stone masonry.

PART 2 - PRODUCTS

2.1 STONE

A. Varieties and Sources: Subject to compliance with requirements, provide stone of varieties and from sources complying with Division 04 Section "Exterior Stone Cladding."

2.2 GRANITE FOR EXTERIOR STONE SEAT AND RETAINING WALLS

A. Granite: Comply with ASTM C 615.

1. Provide granite pieces to match quality, grade, color, texture, finish and appearance of the Owners' Representatives approved sample.
2. Provide granite pieces as detailed on the contract drawings and as specified.
3. See contract drawings for granite type designations and granite schedule this section.

B. Granite: For the following varieties and sources:
1. Stone Seat and Retaining Walls
   a. Thermal finish on exposed surfaces

2. Granite Samples, provide the following samples for review and selection of the following granite types:
   Stone Type C: Englishmans Bay
   Stone Type C: Mt. Green

3. Sources
   a. Luck Stone 2975 Ivy Road, Charlottesville, VA 22903. 434-295-0849.
   b. Cold Spring 2002 South 3rd Avenue, Cold Spring MN 56320
   c. Or approved equal.

C. Fabricate or cut stone accurately to shape and dimensions as indicated on the contact drawings and as previewed shop drawings. Exposed faces dressed true, beds and joints at right angles to face unless otherwise required for assembly; comply with acceptable fabricating tolerances.

2.3 MORTAR MATERIALS

A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
1. Low-Alkali Cement: Not more than 0.60 percent total alkali when tested according to ASTM C 114.

B. Hydrated Lime: ASTM C 207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C 150, Type I or III, and hydrated lime complying with ASTM C 207.
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. Holcim (US) Inc.; Rainbow Mortamix Custom Color Cement/Lime.
   b. Lafarge North America; Eaglebond.
   c. Lehigh Cement Company; Lehigh Custom Color Portland/Lime Cement.

D. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with a record of satisfactory performance in stone masonry mortar.
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. Davis Colors; True Tone Mortar Colors.
   b. Lanxess Corporation; Bayferrox Iron Oxide Pigments.
   c. Solomon Colors; SGS Mortar Colors.

E. Colored Cement Product: Packaged blend made from portland cement and lime mortar pigments, all complying with specified requirements, and containing no other ingredients.

1. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
2. Pigments shall not exceed 10 percent of portland cement by weight.
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. Colored Portland Cement-Lime Mix:

        1) Holcim (US) Inc.; Rainbow Mortamix Custom Color Cement/Lime.
        2) Lafarge North America; Eaglebond.
        3) Lehigh Cement Company; Lehigh Custom Color Portland/Lime Cement.

F. Aggregate: ASTM C 144 and as follows:
1. For pointing mortar, use aggregate graded with 100 percent passing No. 16 (1.18-mm) sieve.
2. White Aggregates: Natural white sand or ground white stone.
3. Colored Aggregates: Natural-colored sand or ground marble, granite, or other sound stone; of color necessary to produce required mortar color.

G. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
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. Euclid Chemical Company (The); Accelguard 80.
    b. Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Morset.
    c. Sonneborn, Div. of Degussa Building Systems; Trimix-NCA.

H. Water: Potable.

2.4 VENEER ANCHORS

A. Wire Veneer Anchors: Wire ties formed stainless steel, ASTM A 276, Type 304 - 3/16 inch diameter with barrel screw.
1. Posi-I-Tie Stone Anchor system for intended use
2. Or approved equivalent.

2.5 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene urethane or PVC.

B. Asphalt Dampproofing: Cut-back asphalt complying with ASTM D 4479, Type I or asphalt emulsion complying with ASTM D 1227, Type III or IV.

C. Vertical Prefabricated Drainage System Board: Drainage Panels to be supported by test from an independent laboratory, documenting the specified flow rate in the plane of the core and creep performance of the polymer core. meeting ASTM D-4716 for the following, hydraulic gradient: 1.0

vertical installations, Pressure imposed perpendicular to the core of plane of the core Equal to 3600 psf. Flow shall be measured on only one side of the core.

1. Prefabricated drainage Composite- 3 dimensional dimpled core and geotextile fabric for vertical drainage below grade along determined structures. Available project that may be incorporated into the Work shall include:
   a. CCW MiraDRAIN 2000 as available at Carlisle Coatings & Waterproofing incorporated, Wylie, Texas
   b. Or approved Equivalent

D. Weep Hole/Vent Products: Use the following unless otherwise indicated:

1. Round Plastic Tubing: Medium-density polyethylene, 3/8-inch (10-mm) OD by thickness of stone masonry.

   a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

      1) CavClear/Archovations, Inc.; CavClear Weep Vents.
      2) Mortar Net USA, Ltd.; Mortar Net Weep Vents.

2.6 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar and grout stains, efflorescence, and other new construction stains from stone masonry surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by cleaner manufacturer and stone producer.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   a. EaCo Chem, Inc.
   b. Hydrochemical Techniques, Inc.
   c. Prosoco, Inc.

2.7 MORTAR MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride.
2. Limit cementitious materials in mortar to portland cement[, and lime.
3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
4. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding 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 one to two hours. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in the form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Stone Masonry: Comply with ASTM C 270, Proportion Specification.
   1. Mortar for Setting Stone: Type S or Type N.
   2. Mortar for Pointing Stone: Type N or Type O.

D. Cement-Paste Bond Coat: Mix either neat cement and water or cement, sand, and water to a consistency similar to that of thick cream.
   1. For latex-modified portland cement setting-bed mortar, substitute latex admixture for part or all of water, according to latex-additive manufacturer's written instructions.

E. Pigmented Mortar: Use colored cement product or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products.
   1. Pigments shall not exceed 10 percent of portland cement by weight.
   2. Mix to match Owners Representatives Approved sample.

2.8 FABRICATION

A. Fabricate stone to comply with sizes, shapes, and tolerances recommended by applicable stone association or, if none, by stone source, for faces, edges, beds, and backs.
   1. For granite, comply with recommendations in NBGQA's "Specifications for Architectural Granite."

B. Cut stone to produce pieces of thickness, size, and shape indicated, including details on Drawings. Dress joints (bed and vertical) straight and at right angle to face unless otherwise indicated.

C. Cut and drill sinkages and holes in stone for anchors and supports.

D. Carefully inspect stone at quarry or fabrication plant for compliance with requirements for appearance, material, and fabrication. Replace defective units before shipment.
   1. Clean sawed backs of stone to remove rust stains and iron particles.

E. Gage backs of stones for adhered veneer if more than 81 sq. in. (522 sq. cm) in area.

F. Thickness of Stone: Provide thickness indicated, but not less than the following:

G. Finish exposed faces and edges of stone to comply with requirements indicated for finish and to match approved samples and mockups.
   1. Finish: Thermal.
      a. Finish exposed ends of copings same as front and back faces.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces indicated to receive stone masonry, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Examine substrate to verify that dovetail slots, inserts, reinforcement, veneer anchors, flashing, expansion joints and other items installed in substrates and required for or extending into stone masonry are correctly installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean dirty or stained stone surfaces by removing soil, stains, and foreign materials before setting. Clean stone by thoroughly scrubbing with fiber brushes and then drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh materials or abrasives.

3.3 SETTING OF STONE MASONRY, GENERAL

A. Perform necessary field cutting and trimming as stone is set.
   1. Use power saws to cut stone that is fabricated with saw-cut surfaces. Cut lines straight and true, with edges eased slightly to prevent snipping.

B. Sort stone before it is placed in wall to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication, or that is otherwise unsuitable for intended use.

C. Arrange stones with color and size variations uniformly dispersed for an evenly blended appearance.

D. Set stone to comply with requirements indicated on Drawings. Install supports, fasteners, and other attachments indicated or necessary to secure stone masonry in place. Set stone accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.

E. Maintain uniform joint widths except for variations due to different stone sizes and where minor variations are required to maintain bond alignment if any. Lay walls with joints **3/8 inch (10 mm)** unless otherwise indicated on drawings and approved but Owners Representative.

F. Provide sealant joints of widths and at locations indicated.
   1. Keep sealant joints free of mortar and other rigid materials.
   2. Sealing joints is specified in Division 07 Section "Joint Sealants."

G. Place weep holes and vents in joints where moisture may accumulate, including at base of cavity walls, above shelf angles, and at flashing.
   1. Use round plastic tubing to form weep holes, color grey.
   2. Space weep holes 72 inches (1800 mm) o.c.
   3. Hold face of tubing back from visible wall elevation

3.4 CONSTRUCTION TOLERANCES

A. Variation from Plumb: For vertical lines and surfaces, do not exceed 3/8 inch in 20 feet (10 mm in 6 m) or more. For expansion joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 6 m) or more.

B. Variation from Level: For bed joints and horizontal grooves, and other conspicuous lines, do not exceed or 1/2 inch in 40 feet (13 mm in 12 m) or more.

C. Measure variation from level, plumb, and position shown in plan as variation of the average plane of the face of each stone from level, plumb, or dimensioned plane.

D. Variation in Mortar-Joint Thickness: Do not vary from joint size range indicated.

E. Variation in Plane between Adjacent Stones: Do not exceed one-half of tolerance specified for thickness of stone.

3.5 INSTALLATION OF ANCHORED STONE MASONRY

A. Anchor stone masonry to unit masonry with corrugated-metal or individual wire veneer anchors unless otherwise indicated. Embed anchors in unit masonry mortar joints or grouted cells for distance at least one-half of unit masonry thickness.

B. Embed veneer anchors in mortar joints of stone masonry at least halfway, but not less than 1/4 inches (through stone masonry and with at least 1/4-inch cover on outside face.

C. Space anchors not more than 14 inches (350 mm) o.c. vertically and 24 inches (600 mm) o.c. horizontally. Install additional anchors within 12 inches (300 mm) of openings, sealant joints, and perimeter at intervals not exceeding 12 inches (300 mm).

D. Set stone in full bed of mortar with full head joints unless otherwise indicated. Build anchors into mortar joints as stone is set.

E. Coat backs of stone units and face of masonry backup with cement-paste bond coat, then butter both surfaces with setting mortar. Use sufficient setting mortar so a slight excess will be forced out the edges of stone units as they are set. Tap units into place, completely filling space between units and masonry backup

F. Rake out joints for pointing with mortar to depth of not less than 1/2 inch (13 mm) before setting mortar has hardened. Rake joints to uniform depths with square bottoms and clean sides.

3.6 POINTING

A. Prepare stone-joint surfaces for pointing with mortar by removing dust and mortar particles. Where setting mortar was removed to depths greater than surrounding areas, apply pointing mortar in layers not more than 3/8 inch (10 mm) deep until a uniform depth is formed.

B. Point stone joints by placing and compacting pointing mortar in layers not more than 3/8 inch (10 mm) deep. Compact each layer thoroughly and allow to become thumbprint hard before applying next layer.

C. Tool joints, when pointing mortar is thumbprint hard, with a smooth jointing tool to produce the following joint profile:
1. Joint Profile: Concave

3.7 ADJUSTING AND CLEANING

A. Remove and replace stone masonry of the following description:

1. Broken, chipped, stained, or otherwise damaged stone. Stone may be repaired if methods and results are approved by Architect.
2. Defective joints.
3. Stone masonry not matching approved samples and mockups.
4. Stone masonry not complying with other requirements indicated.

B. Replace in a manner that results in stone masonry matching approved samples and mockups, complying with other requirements, and showing no evidence of replacement.

C. Final Cleaning: After mortar is thoroughly set and cured, clean stone masonry as follows:
1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on mockup; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before cleaning stone masonry.
3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
4. Wet wall surfaces with water before applying cleaner; remove cleaner promptly by rinsing thoroughly with clear water.
5. Clean stone masonry by bucket and brush hand-cleaning method described in BIA Technical Note No. 20 Revised II, using job-mixed detergent solution.
6. Clean stone masonry with proprietary acidic cleaner applied according to manufacturer's written instructions.

3.8 EXCESS MATERIALS AND WASTE

A. Excess Stone: Stack excess stone where directed by Owner for Owner's use.

B. Disposal as Fill Material: Dispose of clean masonry waste, including mortar and excess or soil-contaminated sand, by crushing and mixing with fill material as fill is placed.
1. Crush masonry waste to less than 4 inches (100 mm) in greatest dimension.
2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Division 31 Section "Earth Moving."
3. Do not dispose of masonry waste as fill within excavation, removed from site.

C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other waste, and legally dispose of off Owner's property.

END OF SECTION 044310

SECTION 084229 - SLIDING AUTOMATIC ENTRANCES

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. WORK INCLUDED:

1. Furnish complete automatic aluminum door system, as specified, that has been manufactured, fabricated and installed to maintain performance criteria stated by manufacturer without defects, damage or failure. Contractor to coordinate acquisition of glass in thickness and type in accordance with manufacturer's recommendations for prescribed design.

B. RELATED WORK:

1. Division 03 Section "Concrete" for concrete fill over structural slab.
2. Division 07 Section "Metal Wall Panels" for adjacent exterior finish and flashing.
3. Division 08 Section "Glazing" for all-glass automatic door panels and sidelights.
4. Division 28 Section "Access Control System" for card reader system tie-in.

1.3 DEFINITIONS

A. AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA) 101: Appendix Dissimilar Materials.

B. AMERICAN ASSOCIATION OF AUTOMATIC DOOR MANUFACTURERS (AAADM).

C. AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA) 1303.5: Voluntary Specifications for Forced-Entry Resistant Aluminum Sliding Glass Doors

D. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI):

1. ANSI Z97.1: Safety Glazing Materials Used in Buildings - Methods of Test.
2. ANSI A156.10: For Power Operated Pedestrian Doors; Sliding Doors section.
3. ANSI A156.5: Standard for Auxiliary Locks and Associated Products

E. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM);

1. ASTM B221: Aluminum-Alloy Extruded Bars, Rods, Shapes and Tubes.

F. BUILDING OFFICIALS AND CODE ADMINISTRATORS INTERNATIONAL (BOCA)

G. INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS / UNIFORM BUILDING CODE (ICBO/UBC)

H. INTERNATIONAL CODE COUNCIL / INTERNATIONAL BUILDING CODE (ICC/IBC)

I. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101:

1. NFPA 101: Code for Safety to Life from Fire in Buildings & Structures.
2. NFPA 70: National Electrical Code (NEC).

J. THE ALUMINUM ASSOCIATION (AA) Aluminum Finishes Manual.

K. UNDERWRITERS LABORATORY, INC. (USA & CANADA) UL 325: Electrical Door, Drapery, Gate, Louver, and Window Operators and Systems.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for sliding glass door.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Shop Drawings:

1. Include plans, elevations, sections, and mounting attachment details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Detail fabrication and assembly of head, jamb and sill of door and adjacent finishes.
4. Include diagrams for power, signal, and control wiring.

C. Samples: For the exposed metal finish.

1.5 INFORMATIONAL SUBMITTALS

A. INSTALLERS QUALIFICATIONS: Installer shall be factory trained, certified by AAADM, and experienced to perform work of this section.

B. MANUFACTURER'S QUALIFICATIONS: Manufacturer to have minimum (5) five years successful experience in the fabrication of automatic doors of the type required for this project. Manufacturer capable of providing field service representation during installation, approving acceptable installer and approving application method.

C. CERTIFICATIONS: Automatic sliding door systems and options shall be factory certified to meet performance design criteria in accordance with the following standards:

1. ANSI A156.10: For Power Operated Pedestrian Doors; Sliding Doors section.
2. NFPA 101: Code for Safety to Life from Fire in Buildings & Structures.
3. UL 325: Electrical Door, Drapery, Gate, Louver, and Window Operators and Systems.
4. BOCA: Means of Egress, Power Operated Doors
5. ICBO/UBC: Egress Through Lobbies
6. ICC/IBC: Egress Section

D. FORCED ENTRY RESISTANCE: Sliding doors shall meet requirement of AAMA 1303.5.

E. OPERATING RANGE: -30° F to 130° F (-34° C to 54° C)

F. OPENING FORCE REQUIREMENTS FOR EMERGENCY EGRESS:

1. Slide-swing panels shall require no more than 50 lbf. (222 N) of force to swing open. Slide-swing panels shall be capable of swinging out 90° from any position of slide movement.
2. Slide-swing panels and swing-out sidelites shall have torsion spring designed to re-close panel if pushed open in the direction of egress.
3. If power fails, slide panels can be manually slid open with no more than 15 lbf (222 N) of force.
4. Units are UL listed as an exit way and are compliant with NFPA 101.

G. CLOSING FORCE REQUIREMENTS: Maximum force required to prevent sliding panel from closing = 28 lbf. (124.5 N) Adjustable Reversing Circuit will reopen door unit if closing path is obstructed.

H. HEADER CAPACITY: Header shall be capable of supporting:

1. Biparting: Up to 300 lbs. (136 kg) per slide panel over spans up to 14'-0" (4280mm) without intermediate supports.
2. Single Slide: Up to 500 lbs. (227 kg) per slide panel over spans up to 9'-0" (2743mm) without intermediate supports

1.6 WARRANTIES

A. MANUFACTURER'S WARRANTY: Units to be warranted against defect in material and workmanship for a period of one year from the Date of Substantial Completion. Manufacturer's warranty is in addition to, and not a limitation of, other rights owner may have under Contract Documents.

B. DISTRIBUTOR'S WARRANTY: One year warranty: Labor & transportation charges for defective parts replacement.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions/openings by field measurements before fabrication and record on shop drawings. Coordinate with fabrication and construction schedule to avoid construction delays.

1.8 DELIVERY, STORAGE AND HANDLING

A. ORDERING AND DELIVERY: Comply with factory's ordering instructions and lead time requirements. Delivery shall be in factory's original, unopened, undamaged containers with identification labels intact.

B. STORAGE AND PROTECTION: Provide protection from exposure to harmful weather conditions and vandalism.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Horton Automatics, or comparable product by one of the following:

1. Gildor, Inc.
2. Dorma Automatics, Division of DORMA Group North America
3. Nabco Entrances Inc.

2.2 EQUIPMENT

A. MANUFACTURED DOOR UNITS: Shall include operator, header with roller track, carrier assemblies, framing jambs, sliding door panel(s), sidelite(s), activation, safety devices and accessories required for complete installation.

1. Configuration: Biparting
2. Mounting Type: Perimeter mounted within rough opening with sliding panel(s) sliding along sidelite.
3. Door Type:

a. Type 110: Slide-swing panel(s) 'SX' shall slide along exterior side.

B. OPERATOR: The Electric Operating Mechanism shall be HD-Slide® Series 2001 Belt Drive. Maximum current draw shall not exceed 3.15 amps. The heavy duty operator shall be mounted and concealed within the header.

1. Operating force shall be accomplished through a 1/8 HP DC permanent magnet motor with heavy duty worm gear transmission and 1800 RPM working with reinforced drive belt, attached 1/4" thick steel door hangers, and idler pulley (1/4 HP motor required for door panels weighing 500 lbs). Drive belt to be steel reinforced nylon, 1" (25.4 mm) wide. Idler pulley to be reinforced, metallic material.
2. Master Control shall be 16 bit microprocessor controller with dual on-board seven-segment alphanumeric diagnostic display and position encoder. The encoder shall monitor revolutions of the operator shaft and send signals to microprocessor controller to define door position and speed. The control shall have minimum of 28 programmable parameters including the following functions as required by ANSI A156.10:

a. Adjustable opening and closing speeds.
b. Adjustable back-check and latching.
c. Adjustable braking.
d. Adjustable hold-open time between 1 to 30 seconds.
e. Adjustable Reversing Circuit will reopen door unit if closing path is obstructed.
f. Separate day and night modes of operation with security over-ride.

3. Finger Safety: When unit slides open, strike rail of sliding panel will stop short of adjacent sidelite; resulting opening is net slide.
4. On/Off Switch shall be supplied. When switched OFF, unit reverts to free manual operation (likewise during electrical power failure).

C. Security and Safety Power Fail Options:

1. Automatic lock: Automatically locks slide function of door when in closed position. Additional power supply for autolock not acceptable.

   a. Autolock Fail Safe: If power fails the lock disengages.

2. Monitored Power Fail Options (battery back-up):

   a. Software Selectable Power Fail Open: If power fails the door slides open.
   b. Software Selectable Power Fail Close: If power fails the door slides closed.

D. HD-Slide® HEADER: Shall be 6" (152 mm) deep by 8" (203 mm) high, heavy duty aluminum construction with removable face plate and extruded support brackets for dead load and lateral strength.

E. CARRIER ASSEMBLIES AND HEADER ROLLER TRACK: Carrier assemblies shall support door panels with minimum four rollers per panel. Rollers will be non-metallic high quality ball bearing wheels 2" (51 mm) diameter. Anti-Derailing shall be accomplished by means of a continuous aluminum extrusion full length of slide panel travel. Overhead header roller track shall be continuous aluminum and replaceable.

F. SLIDING PANEL(S) AND SIDELITE(S): Shall be 1/2" (13 mm) thick tempered glass with polished vertical edges mounted in top and bottom horizontal aluminum rails. Weather-stripping retained in top and bottom rails and in clear acrylic extrusions mounted along vertical edges of sliding glass panel.

G. BREAKOUT PANELS: Slide-swing panels can swing out 90° from any position of slide movement and require no more than 50 lbf. (222 N) of force applied at the lock stile to open. Slide-swing panels shall utilize spring loaded ball detent.

1. Slide-swing panels and swing-out sidelites shall have torsion spring designed to re-close panel if pushed open in the direction of egress.
2. Breakout mechanism shall provide support across full width of the door, in normal operating mode. In breakout mode, torsion assembly shall support weight of the door to minimize drop during emergency egress.
3. Units with breakout feature are UL listed as an exit away and are compliant with NFPA 101.

H. JAMBS/FRAME: Shall be aluminum. Jamb dimensions to be 1 3/4" (44mm) deep by 4 1/2" (114mm) wide. Optional 6" (152mm) wide with maximum height: 8'-8. Optional transom of size and type indicated, mounted on header.

I. THRESHOLD: Shall be aluminum, 1/2" (25 mm) tall by 4" (102 mm) wide. Optional 7" (178 mm) wide.

J. HARDWARE: Provided and installed in bottom rail shall be Maximum Security Lock with 31/32" (25 mm) backset and Two-point keyed 1 5/32" (29 mm) standard size cylinder. Deadlock dropbolt into threshold.

2.3 RELATED EQUIPMENT

A. BASIC SENSOR SYSTEM: Shall be 24 VDC, class ll circuit and shall be adjusted and installed in compliance with ANSI A156.10. System shall include the following:

1. Activation sensors: Microwave or active infrared sensor shall be header-mounted each side of door unit for detection of traffic from each direction.
2. Threshold presence sensors:

a. Header mounted sensors shall provide active infrared presence detection on each side of the door unit and shall remain active throughout the entire door opening and closing cycle.
b. Hold-open beams: Two pulsed infrared photoelectric beams to be mounted in vertical rails of sidelite or in jambs. Sender/receiver arrangement parallels door opening.

2.4 RELATED WORK REQUIREMENTS

A. ELECTRICAL: 120 VAC, 50/60 cycle, single phase, dedicated 20 amp circuit per operator. Non-North American voltages can be 240 VAC 50/60 cycle (operator must have 240 volt power supply).

B. GLASS AND GLAZING: Glass stops, glazing vinyl and setting blocks for field glazing as per Safety Glazing standard ANSI Z97.1.2. Contractor to coordinate acquisition of glass in thickness and type in accordance with manufacturer's recommendations for prescribed design.

2.5 MATERIALS, FINISHES AND FABRICATION

A. EXTRUDED ALUMINUM: ASTM B221, 6063-T5 alloy and temper, anodized:

1. Structural Header Sections: Minimum 3/16" (5 mm) thickness.
2. Structural Frame Sections: Minimum 1/8" (3 mm) thickness.
3. Structural Panel Sections: Commercial grade.

B. FINISHES (for all exposed aluminum surfaces): Shall be one of the following:

1. Arch. Class 1 Anodized Coating to match adjacent Zinc metal panels:, AA-MI2C22A44.

C. FRAME CONSTRUCTION: Butt joints, mechanically secured with screws and formed alum. corner brackets.

D. OPERATOR CONSTRUCTION: Electromechanical, modular type construction.

PART 3 - EXECUTION

3.1 EXAMINATION

A. SITE VERIFICATION OF CONDITIONS: Installer must verify that base conditions previously installed under other sections are acceptable for product installation according to with manufacturer's instructions. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of work. Do not start work until all negative conditions are corrected in a manner acceptable to the installer and manufacturer.

3.2 INSTALLATION

A. GENERAL: Installer shall be factory trained, certified by AAADM, and experienced to perform work of this section. Install door units plumb, level and true to line, without warp or rack of frames or sash with manufacturer's prescribed tolerances. Provide support and anchor in place.

B. DISSIMILAR MATERIALS: Comply with AAMA 101, Appendix Dissimilar Materials by separating aluminum materials and other corrodible surfaces from sources of corrosion or electrolytic action contact points.

C. WEATHER-TIGHT CONSTRUCTION: Install header and framing members in a bed of sealant or with joint filler or gaskets. Coordinate installation with wall flashings and other components of construction.

D. ELECTRICAL: General or electrical contractor to install all wiring to operator on a separate circuit breaker routed into header. General or electrical contractor also to install all necessary power and low voltage wiring for proper operation of associated security systems.

3.3 CLEANING, ADJUSTMENT AND PROTECTION

A. CLEANING: After installation, installer to take following steps:
1. Remove temporary coverings and protection of adjacent work areas.
2. Remove construction debris from construction site and legally dispose of debris.
3. Repair or replace damaged installed products.
4. Clean product surfaces and lubricate operating equipment for optimum condition and safety.

B. ADJUSTMENT: AAADM certified technician to inspect and adjust installation. Comply with ANSI A156.10.

C. ADVISE CONTRACTOR: Of precautions required through the remainder of the construction period, to ensure that doors will be without damage or deterioration (other than normal weathering) at the time of acceptance.

END OF SECTION 084229

SECTION 085145 – BRONZE WINDOW, DOOR, AND MISCELLANEOUS RESTORATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. General: Refer to "Bidding Requirements", "Contract Forms", "General Conditions", "Supplementary General Conditions", "General Conduct of the Work", "Special Conditions" and "Division 1" as they form a part of this section where applicable.

B. Furnish tools, equipment, labor and materials and perform operations necessary for complete construction of work of this section in strict accordance with these Specifications and Requirements of Drawings.

1.2 SUMMARY

A. This Section includes:

1. Removal of oxidation, corrosion and soiling from bronze windows, doors, and miscellaneous bronze items and surfaces (within the historic core on all floors of the building). Miscellaneous bronze items and/or surfaces include, but not limited to, the following items:

    a. Decorative diffuser grilles within marble panel walls on the first floor.
    b. Elevator doors, jambs, sills, signaling devices and components.
    c. Light fixtures to be relamped in main lobby.
    d. Directory frame, clock and signs on the first floor.
    e. Mail chute on all floors.
    f. Existing divider walls in the original DMV teller space (122).
    g. Existing teller frames on marble counters in the original DMV teller space (122).
    h. Existing divider walls in the original DMV teller space (122).
    i. Existing wall desk frame in the original DMV teller space (122).
    j. Interior of elevator cabs.

2. Disassembly and removal of bronze windows, doors, and miscellaneous bronze items (within the historic core on all floors of the building) for repair.
3. Removal and disposal of plastic interior plastic storm frames and plexi storm windows.
4. Removal of existing deteriorated joint sealers between bronze windows and door frames assembly.
5. Removal of all weatherstripping.
6. Removal of all non-original ferrous screws or ferrous appendages.
7. Repair of the existing bronze window, door and sidelight assemblies.
8. Repair or replacement of damaged and missing window and door hardware.
9. Replacement of damaged and missing window sash chains to match existing.
10. Provide patination and protective coating for all window components.
11. Replacement of deteriorated glazing compound and glazing per Division 08 Section "Glazing".
12. Reinstallation of all items removed for repair.

B. Intent: It is the specific intent of this Section to provide for the restoration of the bronze windows, doors and other bronze miscellaneous items in a manner in keeping with the building's historic character without damaging or deteriorating original material. All windows and doors shall be operable and weathertight. All work required to achieve this intent shall be included.

1.3 SUBMITTALS

A. Manufacturer's technical data for each product indicated. Include product description, application procedures, precautions, limitations in use of products, and test reports and certification substantiating that products comply with requirements.

B. Written Restoration Program for each phase of restoration process including protection of surrounding mafenals and site during operations. Describe in detail materials, methods and equipment to be used in each phase of restoration work.

C. If alternative methods and materials to those indicated are proposed for any phase of the restoration work, provide written description, including evidence of successful use on other comparable projects, and program testing to demonstrate effectiveness for use on this project.

D. Samples, for verification purposes, prior to mock up erection, of the following:

1. Surface Preparation

a. Methods and samples of materials and systems used to strip and prepare all metals.

2. For new bronze components. where required, full size samples indicating actual profile and thickness.

a. Color Selection

1) For all work to be bright metal finish, submit metal finish samples.
2) For any work to be chemically patinated and coated, submit samples on bronze of similar alloy showing chemical patination to match existing original finish.

3. Coatings

a. Submit bronze sample showing fully patinated and coated example.

4. Glazing compound.
5. Glazing sealant.
6. Exterior sealant.
7. Sash Chain.
8. Bronze fasteners.

E. Treatment Program: Include protection of surrounding materials on and in the building and Project site during operarions. Describe in detail the materials, methods, equipment, and sequence of operations to be used for each phase of the treatment work.

1. Sequencing and Scheduling: Submit sequence and scheduling of all restoration work.

F. Cleaning Program: Describe cleaning process, including protection of surrounding materials on building and Project site, and control of runoff during operations. Describe in detail the materials, methods, and equipment to be used.

1. If materials and methods other than those indicated are proposed for cleaning work, provide a written description, including evidence of successful use on other comparable projects, and a testing program to demonstrate their effectiveness for this Project.

G. Qualification Data: Provide data for firms and persons specified in "Quality Assurance" Section to demonstrate capabilities and experience. Include lists of completed projects

1.4 RESTORED WINDOW PERFORMANCE

A. Restore metal window sash, hardware, frame, and sill to an acceptable level of structural soundness, visual appearance, and weather and air tightness.

1.5 QUALITY ASSURANCE

A. Standards: Comply with the recommended specifications of the Bronze Window Institute (BWI), except to the extent more stringent requirements are indicated.

B. Restoration Specialist Qualifications: Engage an experienced, preapproved window 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 windows or new windows is not sufficient experience for stone 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 window restoration and cleaning work is in progress. Supervisors shall not be changed during Project except for causes beyond control of restoration specialist firm.
3. Restoration Worker Qualifications: Persons who are experienced and specialize in restoration work of types they will be performing.

C. 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. Provide one mockup for all existing double hung and triple hung bronze windows. This mockup shall be located on the first floor, south elevation. The mockup shall be accessible from the interior and exterior side for the Owner's and architect's review.

    a. A review of the mockup shall be at the following each phase of work:

        1) Cleaning: To review cleaning methods and chemicals for the removal of lacquers and patina.
        2) Repairing: To review reconstructing methods of window components (welding and joining) complete with restored hardware, replacement glazing and in operating condition.
        3) Finishing: To review final cleaning of bronze metal and application of chemical finishes (chemical patina)
        4) Reglazing: To review installation of glazing specified in Division 08 Section 'Glazing'.

2. Provide one mockup for all existing bronze doors. This mockup shall be located on the first floor. The mockup shall be accessible from the interior and exterior side for the Owner's and architect's review.

    a. A review of the mockup shall be at the following each phase of work:

1) Cleaning: To review cleaning methods and chemicals for the removal of lacquers and patina, if necessary.
2) Repairing: To review reconstructing methods of door components (welding and joining) complete with restored hardware, replacement glazing and in operating condition.
3) Finishing: To review final cleaning of bronze metal and application of chemical finishes (chemical patina) and comparing it to door hardware finishes specified in Division 08 Section 'Door Hardware'.
4) Reglazing: To review installation of glazing specified in Division 08 Section 'Glazing'.

3. Provide one mockup for all light fixtures. The mockup shall be accessible for the Owner's and architect's review.

4. Provide one mockup for all bronze surfaces (such as an elevator door). The mockup shall be accessible for the Owner's and architect's review.

5. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
6. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

D. Glazing Standards: Comply with recommendations of Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual" except where more stringent requirements are set forth in the Contract Documents.

1. Safety Glazing: Comply with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for category II materials.
2. Single Source Responsibility: Obtain materials from one source for each type of glass and glazing product.

E. Preinstallation Conference: Conduct conference at Project site.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review and discuss removal and restoring of existing bronze windows that is required to be coordinated with finishing of other bronze work for color and finish matching.
3. Review, discuss, and coordinate the interrelationship of bronze windows with other exterior wall components. Include provisions for structural anchorage, glazing, flashing, weeping, air barriers, sealants, and protection of finishes.
4. Review and discuss the sequence of work required to construct a watertight and weathertight exterior building envelope.
5. Inspect and discuss the condition of substrate and other preparatory work performed by other trades.

a. Cleaning methods.
b. Repairing methods.
c. Finishing methods.
d. Mockup locations and reviews.

1.6 WARRANTY

A. Special Warranty: Contractor's standard form in which contractor agrees to repair or replace components of bronze windows and doors, including frames, those fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including excessive deflection.
b. Water leakage or air infiltration.
c. Faulty operation of operable sash and hardware.
d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: Two years from date of Substantial Completion.
3. Warranty Period for Metal Finishes: Five years from date of Substantial Completion.

1.7 REFERENCED STANDARDS

A. Comply with the applicable provisions of all codes, standards and specifications referenced in this section, including, but not limited to the following:

1. AAMA (American Architectural Manufacturers Association)
2. The National Association f Architectural Metal Manufacturers (NAAMM) Metal Finishes Manual.
3. ALI - "Certified Products Directory - Fenestration Products".
4. ASTM Standard Specifications:

a. C 920: Elastomeric Joint Sealants.
b. C 964: Lock-Strip Gasket Glazing.
c. C 1036: Flat Glass.
d. C 1048: Heat-Treated Flat Glass - Kind HS, Kind FT, Coated and Uncoated Glass.

5. ASTM STP 638: Sealant Technology in Glazing Systems.
6. Flat Glass Marketing Association:

a. "Glazing Manual".
b. "Sealant Manual".

7. 16 CFR Part 1201 - Safety Standard for Architectural Glazing Material.
8. SGCC: Certified Products Directory - Safety Glazing Material Used in Buildings.
9. ANSI 297.1.
10. Occupational Safety and Health Administration (OSHA).

1.8 JOB CONDITIONS

A. Existing Conditions: The Contractor shall determine all restraints imposed due to existing surfaces, spaces, clearances, and equipment.

B. Environmental Conditions: Work during inclement weather may be performed only if "adequate protection" from elements is provided such that the building interior and its contents are not exposed to the elements and subject to damage.

C. Cleaning and coating removal operations shall comply with all EPA and OSHA requirements and with all standards and requirements applicable to this project. Contractor shall take precautions to protect workers and the public from exposure to lead including dust and vapors.

D. Equipment: All equipment, material and appliances required for the completion of the work shall be so located and operated as to provide for maximum efficiency, safety of the public and all persons employed at the site, and to prevent damage to existing construction and landscaping.

E. The Contractor shall provide the Owner and Architect will access to all work for review.

F. Sash restoration operations will require temporary removal of sash and removal of glass to thoroughly remove corrosion and coatings. Openings shall be sealed immediately with plywood in order to maintain building security throughout project.

G. Many interior spaces will be occupied throughout construction, so maintenance of a weather seal throughout construction is required.

1.9 DELIVERY, STORAGE AND HANDLLNG

A. Store materials off the ground in clean, dry and restricted locations; protect from accidental opening and damage. Remove materials that are damaged or otherwise not suitable for use from the jobsite.

B. Deliver materials to jobsite in manufacturer's original and unopened containers and packaging bearing labels as type of material, brand name and manufacturer. Employ specialized storage containers when directed by manufacture. Delivered materials shall be identical to tested and accepted materials.

C. Protect adjacent and underlying surfaces from damage.

D. Observe manufacturer's label precautions.

1.10 COORDINATION

A. Coordination with Occupants: Contractor shall work closely with Owner's representative to schedule and coordinate restoration work with owner to cause minimal disruptions to the interior work area. Contractor to schedule repairs in logical sequence to maximize efficiency of repairs.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Bronze: ASTM B36B36M plate, sheet, strip, and bars

B. Hardware: Operators, locks and pulls; material, profile, and finish to match existing.

C. Fasteners: Bronze to match existing.

D. Brass Sash Chains: To match existing.

E. Patching Compound: Tnemec 63-1500 Filler and Surfacer by Tnemec Inc.. Kansas City, Missouri 64120, Tel.: (800) 863-6321, or equal.

F. Chemicals For Patination

1. Birchwood Casey ANTIQUE BLACK® M24 BRUSH-ON
2. Birchwood Casey ANTIQUE BLACK® GEL
3. Water for rinsing chemicals - distilled

G. Coatings for Bronze

1. Water based Incralac by StanChem (formula 69X0049)
2. Flattening agent to achieve desired gloss

H. Sealant: Unless otherwise indicated for sealants required within the fabricated window units, provide type recommended by window manufacturer of new bronze windows, specified in another section, for the joint size and movement, to remain permanently elastic, non-shrinking and non migrating. See Division 07 sections for installation of sealants. For joints between masonry and bronze window frames use multi-component polyurethane sealant.

1. Provide Tremco "Dymeric" polyurethane sealant, complying with ASTM C 920-79, Type M, grade NS and FS Tt-S-0227E, Class A, type 2 (non sag) unless type 1 (self-leveling) is recommended by the manufacturer for the application shown. Other products offered by the manufacturers listed to comply with the requirements include the following:

   a. W. R. Meadows "Sealtight Dualthane"
   b. Sonneborn "Sonolastic NPII"

2. Expanded Polyethylene Joint Filler: Provide flexible, compressible, closed-cell, polyethylene of not less than 10 psi compression deflection (25%); except provide higher compression deflection strength as may be necessary to withstand installation forces and provide proper support for sealants; surface water absorption of not more than 0.1 lbs. per sq. ft.
3. Glazing sealants.

   a. Type: Silicone

      1) Dow Corning ® 1199 Silicone Glazing Compound

4. Preformed Butyl-Polyisobutylene Glazing Tape:

   a. PT1 303; Protective Treatments, Inc.
   b. Tremco 440 Tape and Pre-Shimmed Tremco 440 Tape; Tremco.
   c. Extru-Seal and Shim-Seal; Pecora Corp.
   d. Chem-Tape 40 and Chem-Tape 60, Bostik Construction Products Div.
5. Preformed Gaskets:

   a. Cadillac Rubber & Plastic, Inc.
   b. Maloney Precision Products Co.
   c. Tremco.

2.2 GLASS PRODUCTS, GENERAL

A. Refer to Division 08 Section 'Glazing' for reglazing the refinished bronze windows

2.3 COATING REMOVAL MATERIALS

A. Controlled Air Abrasive Cleaning: Sponge Jet Mineral Powder Based Removal System).

1. 375 cfrn or larger air conlpressor delivering not less than 110-12- psi clean dry air (refer to ASTM 04285-83).
2. Media Feedunit as manufactured by Spongelet, Inc., Portsmouth, NH 03801. Tel: 800.776.6435,
3. Media Classifier as manufactured by Sponge-Jet, Inc.
4. Minimum 2-inch inside diameter bull hose. 1-114" J.D blast hose and accompanying deadman controls and connection lines.
5. #8 (112" inch) blast nozzle.
6. Media as manufactured by Sponge-Jet, Inc.

a. Abrasive Media for Bronze Sash and Frames: SPPOC -White Spherical Precipate of Calcium Carbonate.

B. Supply all stripping agents such as ProSoCo Enviro Strip or acceptable equivalent.

2.4 MISCELLANEOUS GLAZING MATERIALS

A. Compatibility: Provide materials with proven record of compatibility with surfaces contacted in each application.

B. Cleaners, Primers and Sealers: Type recommended by gasket manufacturer for each application.

C. Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.

D. Spacers: Neoprene, EPDM or silicone blocks or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for each application.

E. Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.

F. Compressible Filler Rods: Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, flexible and resilient, with 5-10psi compression strength for 25% deflection.

2.5 PROTECTION MATERIALS

A. Polyethylene sheets: 4 mil., conlplying with FS L-P-370C.

B. Fiber-reinforced polyethylene sheets.

C. Lumber: Species to be selected by Contractor, sizes to fit field conditions. All lumber to be fire retardant.

D. Plywood: %-inch and 214-inch fire retardant.

E. Soft Fiberboard: Homasote Co., P.O. Box 7240, West Trenton, NJ 08828, (609) 883-3300, or equal.

F. Neoprene: %-inch or %-inch, stock sizes.

G. Polyurethane foam sheets: 2-inch thick and 4-inch thick.

H. "Preservation" Tape: 3M Scotch brand no. 4811 or accepted equal.

I. Plastic Film Tape: 3M Scotch brand no. 472 or accepted equal.

J. Accessories: Provide necessary and related parts, fasteners, devices and anchors required for complete installation.

PART 3 - EXECUTION

3.1 RESTORATION, GENERAL

A. The repair of windows and doors frames, and other miscellaneous items shall be executed in accordance with the requirements of this section.

B. Contractor is to inspect windows and doors frames, and other miscellaneous items to verify and record additional deficiencies. It is the Contractor's responsibility to bring any discrepancies with the Construction Documents to the attention of the Architect.

C. The Contractor responsible to protect all surrounding surfaces from damage and etching caused by cleaning processes.

D. Commencement of repair work means acceptance of existing conditions.

E. Per report "Limited Asbestos, Lead Paint and Hazardous Material Survey Report, Building 3 Capitol Complex" dated September 19, 2008", all window components including interior casings and sashes and exterior casings, sashes and sills were positive for lead-based paint and require abatement procedures. Follow proper procedures for removal and disposal of lead based coating in accordance with local, state and federal guidelines. The exterior caulking tested negative for ACM.

3.2 FIELD CONDITIONS

A. Contractor shall coordinate window access for restoration. Contractor is responsible to provide protection as required around windows so that adjacent items and interior occupants are not impacted during restoration process.

B. Contractor shall take all necessary field measurements and verify all conditions prior to ordering and fabricating of material.

3.3 TEST EVALUATION

A. Perform the following test evaluation of the Sponge-Jet System prior to full-scale commencement of bronze window restoration:

1. One Bronze Window.

B. The test evaluations shall be a true example of the treatment that will be used for actual construction, using specified equipment and media. The test evaluation shall be performed by the same personnel who shall perform the overall work.

C. A test evaluation at each location shall be performed for each specified media type and grit.

D. More than one rest of each media type may be required to achieve an acceptable result.

3.4 CLEANING METHODS: PROTECTION

A. Contractor shall obtain prior written approval from the Department of Licenses and Inspections, the Water and Sewer Department and/or other appropriate government agencies for use of and disposal of proposed stripping and patination chemicals. Contractor shall comply with governing laws and requirements set by such agencies.

B. Contractor shall be responsible for protection of the general public and workers with tarps, drop cloths, masks, goggles, gloves and other devices as required for the procedures used.

C. Contractor shall be responsible for preventing any solids from entering and clogging drain lines and for cleaning drains as required after completion of metal cleaning. Paint remover residue and other non-soluble residual materials shall be disposed in containers and removed from the property.

D. Wherever acidic or caustic cleaning materials are used, mask off all affected areas of limestone and glass before start of work.

3.5 REMOVAL AND REPAIR

A. Carefully remove, repair, and clean items for reuse as indicated and reinstall where indicated within this section or drawings.

B. Establish a catalog to systematically record the location and position of each individual element to assure that all parts and assemblies will be returned to their original locations. Each element shall be identified by a unique catalog designation number, with matching indications made on the drawings, and on each actual element. Elements shall be marked in an unobtrusive, non-damaging, and reversible (removable) manner.

C. Completely remove all coatings and corrosion on sashes, doors and frames by micro abrasive blasting (Sponge-Jet method) of all bronze elements following accepted results of mockup test evaluation.. Prior to micro abrasive blasting, hand scrape and where required, strip with non-methylene chloride based paint stripper such as ProSoCo Enviro Strip or other acceptable commercial paint remover. Dispose of all paint and stripper as required by all applicable laws governing potential hazardous waists including lead-based paint. After coatings removal, clean with appropriate solvents to completely remove films and contaminants.

D. Contractor shall take precautions to protect workers and the public from exposure to lead including dust and vapors. See Anicle 3.7 for detailed description of application method.

E. Protective sheathing shall be installed to protect surrounding materials and tents or other enclosures shall be erected to contain all airborne particles from escaping to the interior and exterior. Ventilation must be supplied to the tents and all applicable laws regarding exposure to and recovery of hazardous materials including lead and silica must be strictly adhered to.

F. All severely corroded and structurally unsound elements are to be replaced to match the material, size and profile of the existing original elements. Superficial damage can be repaired with fillers or welds ground flush with the surrounding material. All repairs are to be ground and sanded flush and square to the surrounding material.

3.6 RESTORATION SEQUENCE OF EXISTING WINDOW FRAME AND SASH

A. For Repair of Bronze Windows only, proceed with required restoration work.

1. Remove any deteriorated perimeter window frame sealant, if it exists.
2. Remove window shades and related hardware.
3. Remove miscellaneous added hardware.
4. Remove sashes for rehabilitation in shop. Remove all glazing and all traces of glazing compound.
5. Frames are to remain, and be rehabilitated on site
6. Straighten bent or bowed bronze members where possible, rather than replace.
7. Replace severely corroded or missing segments of existing bronze by removing deteriorated section and installing new matching replacement piece. Replacement piece to match original in size, profile and finish.
8. Resecure all loose trim elements.
9. Refasten and repair all deteriorated joints. All joints to be tight, flush and 'watertight.
10. Patch holes, indentations, gouges, etc. with epoxy bider or the equivalent. Restore to original profile. After proper curing, sand smooth.
11. Rehabilitate and reinstall hardware, or replace hardware with components identical to original in material, profile and finish; subject to approval by the Architect.

3.7 RESTORATION SEQUENCE OF EXISTING BRONZE DOOR

A. For Repair of Bronze Doors only, proceed with required restoration work.

1. Remove any deteriorated perimeter door frame sealant, if it exists.
2. Remove door panel and frame existing, if they are to be relocated, as indicated on drawings for rehabilitation in shop. Doors that are not to be relocated, doors can be removed for rehabilitation in shop, but frames are to be rehabilitated on site. Provide temporary protection at removed door opening.
3. Original doors 100A.1 through 100A.6 are stored on the Machine Room Floor. Door frames to be fabricated per detail profile, 5/A-605 and remaining components found where the doors were originally located.
4. Remove all glazing and all traces of glazing compound.
5. Straighten bent or bowed bronze members where possible, rather than replace.
6. Replace severely corroded or missing segments of existing bronze by removing deteriorated section and installing new matching replacement piece. Replacement piece to match original in size, profile and finish.
7. Resecure all loose trim elements.

8. Refasten and repair all deteriorated joints. All joints to be tight, flush and 'watertight.
9. Patch holes, indentations, gouges, etc. with epoxy bider or the equivalent. Restore to original profile. After proper curing, sand smooth.
10. Rehabilitate and reinstall hardware, or replace hardware, per Division 08 Section "Finish Hardware", with components to match original in material, profile and finish; subject to approval by the Architect. Hardware includes, but are not limited to, the following:

    a. Recessed floor recessed door closers, where indicated.
    b. Hinges, where indicated.
    c. Panic hardware, where indicated.
    d. Door operators, where indicated.
    e. Access control systems, where indicated.

3.8 RESTORATION SEQUENCE OF EXISTING MISCELLANEOUS BRONZE ITEMS AND SURFACES

A. For Repair of these items and surfaces, proceed with required restoration work.

1. Remove existing item, if they are to be relocated, as indicated on drawings for rehabilitation in shop. For items that are not to be relocated, provide protection to adjacent surfaces and rehabilitated on site.
2. Straighten bent or bowed bronze members where possible, rather than replace.
3. Replace severely corroded or missing segments of existing bronze by removing deteriorated section and installing new matching replacement piece. Replacement piece to match original in size, profile and finish.
4. Resecure all loose trim elements.
5. Refasten and repair all deteriorated joints.
6. Patch holes, indentations, gouges, etc. with epoxy bider or the equivalent. Restore to original profile. After proper curing, sand smooth.
7. Rehabilitate and reinstall, if removed.

3.9 REPAIR AND REPLACEMENT OF HARDWARE

A. Restore existing operable items to working condition.

B. Replace damaged and missing hardware and sash chains to match existing in material, design and finish.

C. Replace missing fasteners with new to match existing. Tighten existing fasteners.

D. Lubricate operable parts.

E. Adjust for smooth operation.

3.10 CONTROLLED AIR ABRASIVE CLEANING - SPONGE-JET (MICRO ABRASIVE BLASTING)

A. Protection: Mask all sumounding surfaces as necessary to prevent damage from abrasive media. Seal interior offices with plastic sheeting to prevent infiltration of blast media and dust. Protect all glazing from blast media.

B. Remove existing soiling and corrosion products to expose the original patina with controlled air abrasive cleaning system according to manufacturer's written instructions.

1. Treat surfaces with Sponge Jet system in accordance with system supplier recommendations.
2. All media application shall be at pressures approved during test evaluation:

    a. Pressure for cleaning of bronze sash and frames is not to.exceed 35 psi at 40 pounds of pressure.

3. Nozzle pressuces, nozzle distances from surface, and abrasive media are to be as determined in approved Mockups.
4. Media shall be contained and collected.
5. Media shall be recycled.

3.11 PATINATION AND COATING OF BRONZE ELEMENTS

A. Follow manufacturer's recommendations utilizing a cold chemical brush technique.

B. Metals must be solvent cleaned with appropriate surface preparation chemicals immediately prior to application of chemicals.

C. Dwell time of chemical must be controlled to achieve the desired coloration of the bronze to exactly match the original bronze finish. Thoroughly wash with distilled water to stop and neutralize chemical process to achieve specified color.

D. After curing as recommended by manufacturer, spray apply specified lacquer coating to achieve a uniform blemish free surface of a minimum thickness of 1.5 mils. Drips, sags, blushing or other imperfections must be removed and elements recoated.

3.12 GLAZING

A. After re-patination and coating, reglaze all sashes with type GL-2 glass as specified in Section 088000.. Set glazing in bed of glazing compound following industry standards.

B. Install setting blocks of proper size in sill rabbet, located 1/4 of glass width from each corner. Set blocks in thin course of heel-bead compound.

C. Provide spacers inside and out of proper size and spacing, for glass sizes bigger than 50 united inches. Provide 1/8" minimum bite of spacers on glass and use thickness equal to sealant width except with sealant tape use thickness slightly less than final compressed thickness of tape.

D. Set units of glass in each series with uniformity of pattern, draw, bow, and similar characteristics.

E. Voids and Filler Rods: Prevent exudation of sealant or compound by forming voids or installing filler rods in channel at heel of jambs and head, except as otherwise indicated and depending on light size, thickness and type of glass and complying with manufacturer's recommendations. Without exception, do not leave voids in sill channels.

F. Force glazing compound into channel to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.

G. Tool exposed surfaces of glazing liquids and compounds to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.

H. Clean and trim excess glazing materials from glass and stops or frames promptly after installation, and eliminate stains and discolorations.

3.13 REINSTALLATION OF SASH

A. Set units plumb, level and true to line, without warp or rack of frames or sash. Anchor securely in place. Separate corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

B. Refurbish all operating hardware, including cleaning, tightening, and straightening to allow correct operation.

C. Adjust operating sash and hardware to provide a tight fit at contact points and at weatherstripping (if any), for smooth operation and weathertight closure. Hardware may be removed from sash shown to become inoperable in order to replace damaged hardware with existing originals. Patch holes left by hardware attachments and smooth to blend in with existing metal.

D. Complete patination and coating prior to installation of new glass except where units have been preglazed (before installation), and except for the painting of exposed face glazing compound, if any.

E. Clean surfaces promptly after restoration of windows, door and frames, and all other miscellaneous items, exercising care to avoid damage of the coating. Remove excess glazing and sealant compounds, dirt and other substances. Lubricate hardware and other moving parts.

F. Advise Contractor of protective treatment and other precautions required through the remainder of the construction period, to ensure that window units will be without damage or deterioration (other than normal weathering) at the time of acceptance.

3.14 PROTECTION AND CLEANING

A. Cure glazing sealants and compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability.

B. Adjust operating window and door hardware to provide smooth operation with tight weatherproof closure.

C. Protect exterior glass from breakage as required.

D. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during the construction period, including natural causes, accidents and vandalism.

E. Maintain glass in a reasonably clean condition during construction, so that it will not be damaged by corrosive action and will not contribute (by wash-off) to the deterioration of glazing materials and other work.

F. Wash and polish glass on both faces not more than 4 days prior to Owner's acceptance of the work in each area. Comply with glass manufacturer's recommendations.

END OF SECTION 085000

SECTION 087400 - IN-GROUND SWING DOOR OPERATOR

PART 1 - GENERAL

1.1 SUMMARY

A. This section describes the requirements for furnishing and installing the in-ground converter for the following automatic swing door operators.
   1. Barrier free, handicap speed, swing door operators meeting ANSI A156.19. Electro-mechanical and electro-hydraulic types.
   2. Full speed, swing door operators meeting ANSI A156.10. Electro-mechanical and electro-hydraulic types requiring full safety systems.

B. Related Requirements:
   1. Division 08 Section "Bronze Window, Door, and Miscellaneous Restoration" for existing bronze door at south vestibule.
   2. Division 08 Section "Bronze Doors and Frames" for metal doors and frames manufactured from bronze.
   3. Division 08 Section "Interior Window and Door Steel Frames" for custom hollow metal frames for interior borrowed lites.
   4. Division 08 Section "Door Hardware" for door hardware for hollow metal doors.
   5. Division 26 Sections for electrical connections including conduit and wiring for door controls and operators.
   6. Division 28 Section "Access Control System" for card reader system tie-in.

1.2 ACTION SUBMITTALS

A. Product Data: Furnish manufacturer's product data and standard details including fabrication, finishing, hardware, operators (specific to manufactured unit being converted), accessories, and other components of the work. Include rough-in diagrams, wiring diagrams, parts lists, and maintenance instructions.

   1. Shop Drawings: Furnish shop drawings for fabrication and installation. Show anchors, cement casings, hardware, and other components not shown in manufacturer's instructions.

      a. Include plans, elevations, sections, and attachment details.
      b. Include diagrams for power, signal, and control wiring.

B. Templates and Diagrams: Furnish templates, diagrams, block-out dimensions, and other data to fabricators and installers of related work for coordination of operators with doors, frames, hardware, electrical, and other work.

C. LEED Submittals:

   1. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
   2. Product Certificates for Credit MR 5.1 and Credit MR 5.2: For products and materials required to comply with requirements for regional materials, certificates indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include

statement indicating distance to Project, cost for each regional material, and fraction by weight that is considered regional.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data.

B. Operation and maintenance data.

1.4 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Provide converters produced by OPCON Manufacturing Systems holding United States Patent number US6,176,044 B1, or by authorized and licensed OPCON manufacturer.

B. Installer's Qualifications: An authorized OPCON technician that is also authorized by the automatic door operator manufacturer. Installer shall have not less than 3 years automatic door installation experience.

C. Automatic Door Operator Converter shall not impede door operator compliance with ANSI A156.19 (low energy type) or ANSI A156.10 (full speed type).

1.5 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of closer that fail(s) in materials or workmanship within specified warranty period.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide OPCON Manufacturing Systems, Inc. or a comparable product by one of the following:

1. Dorma
2. Tormax Automatic.

2.2 OPERATOR CONVERTER FOR AUTOMATIC SWING DOORS

A. Converter: Manufacturer's specialized unit to adapt specified automatic swing door operator to underground use. The converter shall be mounted beneath the door leaf and jamb area utilizing a standard 2 ¾" or 3 ¾" pivot setback on center hung doors; and ¾" setback on offset hung doors. Reference shop drawings and templates for specific pivot location. Heavy-duty pivot shall incorporate 1200 pound rated, sealed tapered bearings in 1" thick bearing plate. Bottom door arm (push or pull type) shall mount within bottom rail of swing door. Drive transfer between converter and operator shall be manufacturer's standard chain drive with tensioner. Direct shaft drive and belt drive available for some operator models.

1. Converter shall not impede manual operation of swing door.
2. Converter shall not impede ANSI compliance of operator.
3. Converter shall not impede operation of automatic door operator.

B. Converter Cement Case shall be sheet steel (ASTM-A-570 Grade A) formed and riveted type with galvanized coating (A568/A568M). Cement case shall incorporate a vinyl gasket at the perimeter of the cement case cover, and a dual shaft seal as a water and moisture seal. Cement case end plates and connecting conduit shall be silicone sealed with RTV type silicone (formulated for galvanized metal) and underground rated, rubber pipe tape. Unit accommodates threshold floors, stone floors, and other floor conditions.

1. Cement case shall be encased below grade as detailed on shop drawings, utilizing (quick-set or pour-stone or equal) setting cement. A minimum 3/8" of setting cement shall be placed at all exterior vertical surfaces and ¼" at the entire bottom surface. Allow setting cement to cure as required by cement product manufacturer prior to installing door leaf.
2. Cement case shall be field bored to accept liquid-tight conduit connections for electric power service and signal wires. Conduit, conduit connections, electric power service and signal wire to unit is furnished and installed by others as specified in electrical specification section.

C. Operator Manufacturer shall be:

1. KM Systems, Record USA; Monroe, NC (800) 438-1937, www.record-usa.com, Series 2100; ADA Handicap, Electro-Hydraulic Swing Door
2. Considering the size and weight of these doors, no substitution will be accepted.

D. Local Converter and Operator Representative:

1. Contact Opcon for local authorized operator dealer

2.3 HARDWARE REQUIREMENTS

A. Hardware on the door panels is furnished and installed by the door supplier or hardware supplier. The hardware must be pre-installed on the door panels. The following hardware (detailed in related sections) is required for this project:
1. Bottom Pivot: Rixson #H27 (bottom arm only) for offset hung doors (for heavy duty application) located per Rixson template and instructions.
2. Intermediate Pivots: Rixson #M190 for offset hung doors (heavy duty application) located per Rixson template and instructions. Note: intermediate pivots are recommended placed not more than 30" apart.
3. Top Pivot: Rixson #H180 for offset hung doors (heavy duty application) located per Rixson template and instructions.

B. Threshold shall be 10" wide across entire width of door. Thresholds are to be removable and have a silicone seal at the entire perimeter after placement. Opcon furnished spindle gasket to be installed over threshold per drawings.
1. Pre-fabricated thresholds are available from National Guard Products (NGP) in many sizes and material finishes. www.ngp.com.
2. Pre-fabricated terrazzo pans are available for many stone or tile thicknesses by custom order.

C. Safety sensors are compatible with all automatic door operators converted to underground use. Opcon recommends safety sensors be installed on all swinging doors and especially on oversized/overweight doors.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine <**Insert products or materials**> before installation. Reject <**Insert products or materials**> that are wet, moisture damaged, or mold damaged.

3.2 INSTALLATION

A. Install operator converter using factory authorized technicians. Technicians shall also be authorized to install and tune automatic door operator. Install converter in accordance with manufacturer's instructions and reviewed shop drawings.

B. Adjust converter drive transfer system (chain tensioner, direct shaft, or belt) to achieve smooth operation including back-check, latch, and proper limit stops.

C. Water-test electrical conduit penetrations (high volt and low volt connections) in cement case to assure leak-free system.

D. Certify that door operation complies with ANSI A156.19 (ADA, Low Energy) or A156.10 (Full Speed, Full Power) as specified.

3.01 CLEANING AND PROTECTION

A. Clean exposed operating components as recommended by manufacturer.

B. Protect converter and automatic door operator equipment from damage and deterioration during construction.

END OF SECTION 087400