



ADDENDUM NO. 3
DTCC OFFICE OF THE PRESIDENT
BID PACKAGE B
Dover, Delaware 19904

March 14, 2013

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

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

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

General Clarifications:

- The bid opening location has been changed to the Terry Campus ETB, Room 741 on March 21, 2013 at 2pm.
- Architect's Digital Data Files: Electronic copies of digital data files of the Contract Drawings will be provided by the Design Professionals for Contractor's use in preparing submittals for a fee of \$200 per drawing file, and the execution of a Digital Media Release Form.

Questions and Answers:

1. Q. Our scope calls for demonstration and training. Mobile storage shelving, residential appliances and vertical louver blinds are the items in our contract that are impacted by this requirement. Section 017900 mentions the need for a factory representative to conduct a training session, as well as a professional videographer to film the event. This seems excessive, especially for the blinds and appliances. Can this requirement be waived?
A. Adequate training and the video of this training is a project requirement. The training that is customary for all installations will need to be videoed. More complex systems such a MEP systems will need to be more defined, with editing of training being requested.
2. Q. Also, 017900/1.2.C mentions that there is an allowance for demonstration and training, but I can find no such allowance in the specs - please advise.
A. The allowance section indicates that there will be a separate line item in the schedule of values that will be carried out for certain items such as training. This sum will be agreed upon and tracked in the schedule of values.



3. Q. Is there a required or preferred format to apply when addressing the Alternates if they are not applicable to our scope? Such as N/A -or- Zero and 00/100 Dollars..... -\$0.00.
- A. N/A or \$0 is acceptable.
4. Q. Also, please confirm that Contracts # B-15 - Testing, Adjusting and Balancing, and B-16 - Automatic Temperature Control, are bidding directly to EDIS, not through Contract B-14.
- A. Yes, TAB & ATC Contractors are bidding to EDIS through separate contracts.
5. Q. Per your scope of work in Bid Package A you have the demo contractor demoing the concrete in the bathroom and mechanical room.
- A. Correct, the Demolition contractor will be performing the large areas of concrete floor demolition and removal at the Bathrooms and the Mechanical Rooms. The Concrete Contractor shall provide Stone, Concrete & Rebar for these slabs. All mechanical and plumbing installations, including backfill and compaction requirements will be the responsibility of the Mechanical and Plumbing Contractor. Any additional trenching and replacement of mechanical or plumbing installations, including the demolition and concrete replacement shall be completed by the Mechanical & Plumbing or Electrical Contractors as needed and all costs included in base bid.
6. Q. Communications Distribution Designer, but he is not on staff. Could this be acceptable?
- A. Yes, this is acceptable. Provide BICSI RCDD Certificate and Registration number in bid response as required by section 271000 article 1.2.C.2.c.
7. Q. Can you please issue a housekeeping pad detail? There is no detail on the M,P and S drawings.
- A. Detail is on Sheet M603 issued in Addendum #2
8. Q. Note on plan A101 calls for blocking for the AV equipment in room 145 - what is the extent of this blocking?
- A. "A101; First Floor Plan:
- First Floor Plan No. 1:
 - o Delete note "Provide blocking for AV equipment in Conference Room 145, Substitute "Provide 36" wide x 18" high wood blocking for AV equipment, centered on the width of the room and centered at 5'6" AFF, field verify location before installation for coordination with Owner furnished equipment".
 - o Delete note "Provide blocking for AV equipment in Conference Room 150, Substitute "Provide 36" wide x 18" high wood blocking for AV equipment, centered on the width of the room and centered at 5'6" AFF, field verify location before installation for coordination with Owner furnished equipment"."
9. Q. Spec sections 061053 (rough carpentry), 061600 (sheathing) & 062023 (finish carpentry) all mention "chain of custody" and FSC accreditation. Is this intended to be a LEEDS project? If not, these requirements will only serve to drive the cost of the project up. If, on the other hand, this is a requirement, please note that there are currently no suppliers on the



peninsula who are able to provide chain of custody certificates. However, there are local lumber yards that stock materials that were purchased from FSC approved mills. Would FSC stamped lumber products be acceptable in lieu of chain of custody certificates? We have a \$15,000 allowance in our scope to furnish and install temporary weather protection. Will the lumber utilized for this construction be required to meet this criteria as well?

A. Keep FSC and accept the stamped lumber in lieu of certification, since we are not going for actual LEED certification. We would also say that the wood for the temp protection would NOT need to be FSC.

10. Q. Please provide a basis of design for the appliances: range, microwave, & refrigerator. I am unable to locate any appliances that meet all the criteria outlined in the specifications.

A. "Section 113100 – Residential Appliances:

- Delete 2.1.B as written, Substitute as follows:
B. Electric Range: Basis-of-Design GE JB680DTWW, or comparable product.
- Delete 2.2.B as written, Substitute as follows:
B. Microwave Oven: Basis-of-Design GE PSA2200RWW, or comparable product.
- Delete 2.3.B as written, Substitute as follows:
B. Refrigerator/Freezer: Basis-of-Design GE GTH16BBXRWW, with ice maker IM4A, or comparable product."

11. Q. Plans indicate (10) new red oak columns. The height can be established by the RCP, but there are no details or elevations that would indicate what type of base or capital is desired, or the diameter - please advise

A. See new sheet A502

12. Q. Roofing: Gauge of metal (panels, trims); width of panels, manufacture of existing spec says match.

A. See question 14.

13. Q. Roofing: Spec read 2 coat kynar and 3 coats Kynar, which one?

A. See question 14.

14. Q. "We have a couple questions:

1. Gauge of metal (panels, trims).
2. Width of Panels
3. Manufacture of existing spec says match.
4. Spec read 2 coat kynar and 3 coat kynar which one?"

A. Section 074113 – Metal Roof Panels:

- Delete 2.6.B.1 as written, Substitute as follows:
"1. Basis-of-Design Product: It is the intent of this specification to provide metal roof panels that match, as close as possible, the existing standing seam metal roof system. There is no information of documents available for the existing roof system. The only



information known is that it is a an American Buildings Company (ABC) product and it appears to be their Loc Seam system. The existing system is installed over a pre-engineered metal support system which is supported by the original flat roof structure. The new roof system it ts match the existing roof system in material and appearance. If an ABC product is not used, other manufacturer's that can provide a comparable product in material and appearance could include the following:"

- Delete the words "nominal thickness to match existing, Substitute "22 gage".
- Delete the number "2" from 2.6.2.a, Substitute "3".
- Delete 2.6.B.4 as written, Substitute "4. Joint Type: Standing seam, match existing roof system."
- Delete 2.6.B.5 as written, Substitute "5. Panel Coverage: 16", match existing roof system."
- Delete 2.6.B.6 as written, Substitute "6. Panel Height: 2", match existing roof system."

15. Q. We would also would like to bid the voice / data also. We have a person we use for Registered Communications Distribution Designer, but he is not on staff. Could this be acceptable? (same question as #6)
- A. Yes, this is acceptable. Provide BICSI RCDD Certificate and Registration number in bid response as required by section 271000 article 1.2.C.2.c.
16. Q. Plans indicate (10) new red oak columns. The height can be established by the RCP, but there are no details or elevations that would indicate what type of base or capital is desired, or the diameter - please advise.
- A. See new sheet A502
17. Q. Section 062023 / 2.1.A.1 calls for interior trim, which I assume is addressing the wood cap at wall type #5. Will this trim be painted or stained?
- A. A602; Wall Types, Details & Schedules: • Wall Type 8, add the word "Stained" between the "1x8" and "wood" in note that reads "1x8 wood cap". • Wall Type 8, add the word "Stained" between the
18. Q. The wood door spec 081416 page 5 states veneer to be selected by architect. We need to know the wood door veneer in order to quote the doors.
- A. Section 081416 – Flush Wood Doors: Delete 2.3.B.2.a as written, Substitute "Plain Sliced Red Oak."
19. Q. Addendum No 1 states they want some paint removal but unclear what they want stripped and where. Please confirm.
- A. Section 04-12 – Maintenance of Unit Masonry (Addendum 1):
- Delete 1.11.C.3 in its entirety.
 - Delete 1.11.C.11 in its entirety.
 - Delete 3.6.B.2 in its entirety.
 - Delete 3.7 in its entirety.



20. Q. Dwg C-101 Noe R-11 calls for a new 2" double-check valve back flow preventer. Will a vault be required?
A. No.
21. Q. Is lightning protection system required on this project? None mentioned or shown.
A. There is no lightning protection system for this building.
22. Q. Is there a lightning protection system on the existing building?
A. No, there is no lightning protection system for this building.
23. Q. The Amendment to Contract for Construction (see right after 005200-1 Agreement), page 1 of 4, numeral 3 contains a blank to insert liquidated damages. There is no other mention of liquidated damages that we can find in the front end of the Project Manual. Please advise if LDs are going to be a part of the contract and what the dollar amount per day will be.
A. There are no liquidated damages.
24. Q. Is it your intent to cover the concealed ductwork scheduled for insulation 20" wide or greater to receive board insulation in lieu of blanket insulation which is scheduled for ducts 18" wide or under? The board insulation is much more expensive and offers little benefit for concealed applications.
A. No. Ductboard is only to be used in the Mechanical Room.
25. Q. Is it the engineer's intent to install all duct in cavity above ceiling yet below attic trusses?
A. Yes
26. Q. Dwg. E102 – There are receptacle symbols in dark and light ink, please identify the scope of work for each. There appear to be inconsistencies for each.
A. The dark symbols are new receptacles and the light symbols are existing receptacles to remain.
27. Q. Outdoor CU-1 on Dwg. E102 is missing circuit information; please provide.
A. The unit selected for this project has one electrical feed to the Indoor Unit. The Outdoor Unit is then powered from the Indoor Unit. Alternate manufacturers may require two separate feeds.
28. Q. Mechanical Equipment schedules state that there is an electric unit heater in the mechanical room, but nothing shown on the electrical plans. Please advise.



- A. The Electric Unit Heater has been located on Sheet M101. A revised Sheet M101; dated 3/13/13, is included in this addendum.
29. Q. B-1 is shown in a different location on the mechanical plans then shown on the electrical plans. Please advise which is correct.
- A. The correct location of the boiler is shown on Mechanical Drawing M101.
30. Q. Cooling Tower Section 23650: BAC is not a listed manufacturer. We request BAC is added to the list of acceptable manufacturers.
- A. Baltimore Air Coil (BAC) has been added to the list of acceptable manufacturers under Addendum #3.
31. Q. Cooling Tower Section 23650: Is dry operation required? Please provide dry load and dry bulb temperature.
- A. Cooler shall be provided with finned coils to provide 100% capacity in the dry mode of operation at or below the dry bulb switchover temperature of 50.2 degrees. Refer to Addendum #3.
32. Q. Cooling Tower Section: Section 2.1.G asks for a mechanical water level control Section 2.1H asks for electronic water level control; which is required.
- A. Delete Section 2.1.G in its entirety. Provide electronic water level control as specified in Section 2.1.H per Addendum #3.
33. Q. Cooling Tower, Section 236500: Section 2.1.J,K,L each ask for a different type of basin heater. Please clarify type and ambient temperature requirement.
- A. Delete Sections 2.1.J, 2.1.K and 2.1.L in their entirety per Addendum #3.
34. Q. Cooling Tower Section 236500: Section 2.1.Q.1 & 2 Stainless steel construction with removable cover plate. Please confirm both these options are required.
- A. Collection Basin, Electric Basin Heater and Heat Exchanger Coils only have been specified as Stainless Steel.
35. Q. WSHP-Section 238146: Section 2.E.2; please confirm a water side economizer is required. Required performance is not scheduled.
- A. Water-side economizers are not required for this project. Refer to Addendum #3.
36. Q. We would also like to bid the voice / data also. We have a person we use for Registered Communications Distribution Designer, but he is not on staff. Could this be acceptable?



- A. Yes, this is acceptable. Provide BICSI RCDD Certificate and Registration number in bid response as required by section 271000 article 1.2.C.2.c.
37. Q. Please provide me with a specification on the 4" CWS and CWR piping to outside cooling tower.
- A. Specification Section 232113.13 Underground Hydronic Piping is included in Addendum No. 3.
38. Q. Who owns the outside housekeeping pad for the cooling tower?
- A. The Mechanical Contractor owns all housekeeping pads.
39. Q. On the bid form Alternate # 4 reads "DDC/ATC Controls" not fire alarm.
- A. Addendum No. 1 - Alternate No. 5 is DDC/ATC Controls.
40. Q. Are the controls for the WSHP to be furnished, installed and wired by the ATC contractor?
- A. LonTalk or BACnet Open Communication Protocol is specified. Controls are factory furnished, installed and wired by ATC.
41. Q. Are the isolation valves for the WSHP to be furnished and wired by the ATC contractor?
- A. Furnished by factory. Wired by ATC Contractor.
42. Q. OA dampers are shown on the control diagrams for the WSHP but indicated as manual dampers on the floor plans, which is correct? If they are automatic dampers am I to assume that the dampers and motors are to be by the ATC contractor?
- A. There are no motor operated dampers on the WSHP's.
43. Q. There are no space temperature, humidity or CO2 sensors shown on the plans. If CO2 sensors are required, who is to furnish?
- A. Field locate thermostats. Field locate four (4) Humidistats and four (4) CO2 Sensors.
44. Q. I will assume that no matter who furnishes the controls, the ATC contractor will install and wire all remote items for the project, is this correct?
- A. Yes.
45. Q. For the mechanical room intake and exhaust damper and exhaust fan, there is a combustion damper shown on the base bid but no exhaust fan or exhaust damper and



even the combustion damper is removed on the Alternate #1. Is there to be an exhaust fan and intake system?

- A. The Energy Recovery Ventilator (ERV) has two (2) fans - supply and exhaust. Under the Base Bid there are three (3) Louver/Damper assemblies - Outside Air and Exhaust Air for the ERV and the third is for Boiler Combustion Air. Alternate #1 deletes the Boiler and Cooling Tower units, therefore the Combustion Air Damper is not required.

46. Q. Please clarify is factory or shop applied anti-microbial coating necessary for the interior of unlined duct? Spec section 233100-5

- A. Not required. Deleted by this Addendum.

47. Q. Section 084113 2.5 A Specifications call for 2" Thick doors, 3 1/2" Medium Stile, Thermally broken. Drawings call for 6" stiles with 10" Bottom rails? Do you want doors to be 2" Thick and be thermally broken? Please advise what door and model # you are looking for. Is this the same spec for the one pair of interior doors? Please advise.

- A. See addendum 1 & 2, Doors to be 2" with standard 5" wide style rail, with ADA approved 10" bottom rail, same spec for ALL storefront doors.

48. Q. Section 084113 2.6 Door hardware - Should this whole section be eliminated and we just refer to the Hdw specification in 08700?

- A. Section 084113 - Aluminum-Framed Entrances and Storefront:

- Delete 2.6.A as written, Substitute "A. See section 078100 for door hardware."
- Delete 2.6.B - 2.6. in their entirety.

49. Q. Section 0841131.8 L Mock ups - will these be required? If so please show drawing with size as what is required.

- A. See addendum 1.

50. Q. Section 085113 2.8 B Finish to be class II Anodized. In the aluminum storefront section you say you want class 1 Anodized. Should this not be the same?

- A. · Delete the number "20" in 1.7.A.2.c, Substitute "10".
· Delete 2.8.B as written, Substitute as follows:

B. Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.

1. Color: Match Existing.

- Add ", to match existing" to the end of 2.2.A.1.



- Add 2.2.B.1.a to read "a. Frame and sash style to match existing."
 - Delete 2.4 in its entirety.
51. Q. Section 085113 1.7 Warranty calls for 20 Year Finish. 10 years is the maximum for Class 1 Anodizing from Kawneer Co. Please advise.
- A. · Delete the number "20" in 1.7.A.2.c, Substitute "10".
- Delete 2.8.B as written, Substitute as follows:
28.B Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.
1. Color: Match Existing.
- Add ", to match existing" to the end of 2.2.A.1.
 - Add 2.2.B.1.a to read "a. Frame and sash style to match existing."
 - Delete 2.4 in its entirety.
52. Q. Section 085113 - I assume this Project out window you are looking for is similar to Kawneer 8225TL Project out . Yes or No. There are no details of this vent shown on the drawings.
- A. · Delete the number "20" in 1.7.A.2.c, Substitute "10".
- Delete 2.8.B as written, Substitute as follows:
B. Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.
1. Color: Match Existing.
- Add ", to match existing" to the end of 2.2.A.1.
 - Add 2.2.B.1.a to read "a. Frame and sash style to match existing."
 - Delete 2.4 in its entirety.
53. Q. Section 085113 - 2.2 I Windborne Debris Resistance - This is a hurricane Test. Do these windows require this? If so you must change your glazing types also.
- A. See addendum 1.
54. Q. Section 085113 - Window Hdw - Roto Operators cannot be used in a small 12" High window Vents. I believe you will have to use cam handles with screen wickets to open window. Is this ok?
- A. See addendum 1.



55. Q. Section 085113 - 2.4 Accessories A. Integral ventilating device ? B. Subsills C. Column Covers. D Interior Trim E. Panning Trim Why are these in these specs ? Do these apply to this project ?. Please clean up the specifications for the individual specific job.
- A.
- Delete the number "20" in 1.7.A.2.c, Substitute "10".
 - Delete 2.8.B as written, Substitute as follows:
B. Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.
1. Color: Match Existing.
- Add ", to match existing" to the end of 2.2.A.1.
 - Add 2.2.B.1.a to read "a. Frame and sash style to match existing."
 - Delete 2.4 in its entirety.
56. Q. Section 088000 2.10 A & B Your looking for tinted Insulated glass with low E on # 2 surface. Due to lower volume of glass for this project can the low E be put on # 3 surface if it is not available in the tinted glass Lite?
- A. Section 088000 – Glazing:
- Delete 2.10.A.6 as written, Substitute "6. Low-E Coating: Sputtered on second or third surface."
 - Delete 2.10.B.6 as written, Substitute "6. Low-E Coating: Sputtered on second or third surface."
57. Q. Where does detail 9 / A504 occur?
- A. A504; Section Details:
- Delete Detail 9 in its entirety.
58. Q. Section 062023 mentions shelving, cleats, brackets, standards & supports. I am unable to locate any of these items on the plan. Are they required, and if so, where are they located?
- A. Section 062023 – Interior Finish Carpentry:
- Delete 1.2.A.2 in its entirety.
 - Delete 2.1.A.2 in its entirety.
 - Delete 2.1.B.2 in its entirety.
 - Delete 2.4 in its entirety.
 - Delete 2.7.A.2 in its entirety.
 - Delete 3.3.B.4 in its entirety.
 - Delete 3.5 in its entirety.



59. Q. Section 081416 mentions new wood frames - schedule on A601 does not show any new wood door frames being installed. Please clarify.
A. Section 081416 – Flush Wood Doors:
· Delete 1.2.A.3 in its entirety.
· Delete 2.3.B.2.a as written, Substitute “Plain Sliced Red Oak.”
· Delete 2.5 in its entirety.
60. Q. Where will the closed circuit cooling tower be located for the base bid?
A. See addendum 1.
61. Q. Who owns supplying and installing the kitchen hood?
A. B-6, Carpentry & General Works Contractor.
62. Q. What windows will receive curtains and drapes.
A. See specification 122200-3.1. This was issued in Addendum #2.
63. Q. Where are the louver blinds are located.
A. Section 122116 – Vertical Louver Blinds:
· Add 3.6 as follows:
3.6 Locations
A. Provide blinds at all exterior windows and/or storefront, except for rooms: 101 President’s Office, 110 Vestibule 124 Board Room and 150 Conference Room.
64. Q. Access Control Spec Section 281300- 1.7-A. This states the DTCC currently uses electronic access control systems with proximity card readers and electronic lock sets furnished and integrated by Advantech. Is it the intent of this bid to only allow equipment and services provided Advantech for the Access Control System?
A. References to Advantech are included for coordination purposes only.
65. Q. Video Surveillance Systems Spec Section 282300- 1.7-A. This states the DTCC currently uses Honeywell IP based surveillance cameras with network video recording equipment integrated by Advantech. Is it the intent of this bid to only allow equipment and services provided Advantech for the Video Surveillance System?
A. References to Advantech are included for coordination purposes only.
66. Q. Dwg E601 Panel schedule for MDP states there is two transformers (1) @ 75kva and (1) at 30 kva; however, dwg E501 and E102 show (1) transformer @ 112.5kva. Please advise.



- A. Sheet E601: DELETE 30kva Transformer T-2 from Schedule and REPLACE with spare. CHANGE Transformer T-1 from 75 kva to 112.5 kva.
67. Q. Panel RP2 is missing CB to feed existing panel LPB.
A. PROVIDE 100 amp/3P Breaker in Panel RP2.
68. Q. Panel RP2 circuit for BWP-1 is missing size of circuit breaker needed, please provide.
A. PROVIDE 20 amp/3P Breaker in Panel RP2.
69. Q. Is type MC (Metal Clad) cabling allowed for the branch circuit wiring?
A. Yes, MC may be used.
70. Q. ERV-1 is not shown on the electrical plans, please advise.
A. Refer to Mechanical Drawings for actual location of ERV-1.
71. Q. BWP-1 is not shown on the electrical plans, please advise.
A. Refer to Mechanical Drawings for actual location of BWP-1.
72. Q. No condensate pumps, exhaust fans or hot water heaters are shown on the electrical drawings, please verify that there are not.
A. Refer to Mechanical Drawings for actual location of Exhaust Fans. Refer to Plumbing Drawings for actual location of Condensate Pumps and a Hot Water Heater.
73. Q. Dwg E501 New Work Note #1 contradicts with the amount of 4" conduits to provide as shown on Dwg MEPRP001 and Dwg C-301. Please advise which is correct?
A. Delete New Work #1 and replace it with "1. Furnish and install secondary concrete incased duct bank and wiring for the main service. Provide all conduit, fittings hand holes, pull boxes for a complete installation with (2) 4" PVC active conduits and (2) 4" spare PVC conduit.
74. Q. Cooling Tower Section 23650: BAC is not a listed manufacturer. We request BAC is added to the list of acceptable manufacturers.
A. Baltimore Air Coil (BAC) has been added to the list of acceptable manufacturers under Addendum #3.
75. Q. Spec Section 260533-3.1A Raceway Application: line item 1 states exposed conduit not subject to physical damage can be installed in EMT. Line item 3 states conduit subject to severe physical damage is to be rigid steel and list the mechanical room. Do you want all exposed conduit in the mechanical room to be rigid steel or can EMT to used?



- A. All Exposed conduit to be installed in Rigid Steel Conduit.
76. Q. Drawing E101: President Office 101: the type A fixtures in this room are bold compared to the rest of the A fixtures which are existing. Are these fixtures existing or new?
A. Fixtures in Office 101 are new fixtures. Fixture identification should be changed from 'A' to 'A1'.
77. Q. Drawing E101: There is a 2x4 fixture to the right of storage room 139 that is not marked with a designation. Is this a type A1 like the others in the area?
A. Yes, All 2x4 fixtures that are "Dark in Color" are new and are to be identified as a Type A1 fixture.
78. Q. Drawing E101: The fixtures in file storage 139 do not have a designation. Please advise.
A. Yes, All 2x2 fixtures that are "Dark in Color" are new and are to be identified as a Type C1 fixture.
79. Q. Drawing E101: When the existing fixtures are reinstalled are they required to be cleaned and relamped?
A. Yes. All fixtures that are being removed and store shall be checked, cleaned and relamped prior to re-installations.
80. Q. Drawing E101: In conference room 145 there are 2 recessed lights that are not identified. Please advise.
A. The 2 round fixtures located in Conf. Room 145 shall be identified as Type F1.
81. Q. Drawing E101: the fixture in MDF Closet 146 is not identified. Please advise.
A. The round fixtures located in MDF. Room 146 shall be New and identified as Type F1.
82. Q. Drawing E101: In Board Room 124 there are arrows pointing to cove lighting but no fixtures shown. Please advise.
A. Cove lighting is a large square pendant box attached to ceiling and lamps are within the edges creating the cove. The lamps shall be replaced but cove is to remain. Refer to Architectural drawings.
83. Q. Drawing E101: How are the type G and G1 exterior fixtures controlled and what circuit are they on?
A. Both fixtures G and G1 are photo controlled and fed from Panel LP.



84. Q. Drawing E102: What is the circuit size and panel designation for CU-1?
A. CU-1 is fed from indoor unit. Fed from Panel RP-2, Circuit #1.
85. Q. Drawing E102: In the mechanical room CWP-1 is shown being fed by circuit DP-7-9-11. On the DP1 panel schedule on drawing E601 circuit 7-9-11 is shown feeding ERV-1. Also where is ERV-1 located?
A. Circuit Feeding ERV-1, 7,9,11 is correct. CWP-1 is being fed by circuit 2,4,6 and CWP-2 is being fed by circuit 8,10,12. Refer to the Mechanical drawings for the location of ERV-1.
86. Q. Drawing E602: What is the breaker size for BWP-1 in Panel RP2?
A. BWP-1 is being fed by a 3p/20amp breaker.
87. Q. Specs call for fire rated plywood backing panels; unable to determine quantity or locate on architectural drawings - please advise.
A. See TA020.
88. Q. Door Schedule on A601 calls for a few existing wood doors and wood frames to be refinished. Will these be refinished in place under contract B-11? If not, will the doors be removed by Contract B-02, refinished by Contract B-11, and reinstalled by Contract B-06? Please verify.
A. All existing wood doors and finishes shall be completed by Contract B-06, Carpentry & General Works.

Changes to Specifications:

- Section 01 23 00 Alternates: DELETE this section in its entirety and ADD new section attached.
- Section 00 41 00 Bid Forms and Attachments – DELETE this section in its entirety and INSERT new sections attached.
- Section 01 51 13 Temporary Electricity: CHANGE the following:
 - 1.1.2.1.1 Suppliers: Delete Delmarva Power, Insert City of Dover.
 - 1.1.2.3.1 Change first part of sentence to "All electrical power supply, **transformer**, and"
 - 1.1.3.2 Change National Electric Code year from 1990 to 2011.
 - 3.3.1.5 Add "5. The 480V Temporary Power may be installed in the New Duct Bank spare conduit and should be removed when no longer needed."

PROJECT MANUAL CHANGES:

Item	Description
1	<p>Addendum No. 1:</p> <ul style="list-style-type: none"> • Project Manual Changes Item 7; Delete “2.2” from first and second bullet item, Substitute “2.3”. • Project Manual Changes Item 7; Insert the words “from 2.5.A” between permitted” and “,”, in third bullet item. • Project Manual Changes Item 14; Delete “2.5” from fifth bullet item, Substitute “2.6”.
2	<p>Section 040120 – Maintenance of Unit Masonry (Addendum 1):</p> <ul style="list-style-type: none"> • Delete 1.11.C.3 in its entirety. • Delete 1.11.C.11 in its entirety. • Delete 3.6.B.2 in its entirety. • Delete 3.7 in its entirety.
3	<p>Section 062023 – Interior Finish Carpentry:</p> <ul style="list-style-type: none"> • Delete 1.2.A.2 in its entirety. • Delete 2.1.A.2 in its entirety. • Delete 2.1.B.2 in its entirety. • Delete 2.4 in its entirety. • Delete 2.7.A.2 in its entirety. • Delete 3.3.B.4 in its entirety. • Delete 3.5 in its entirety.
4	<p>Section 081416 – Flush Wood Doors:</p> <ul style="list-style-type: none"> • Delete 1.2.A.3 in its entirety. • Delete 2.3.B.2.a as written, Substitute “Plain Sliced Red Oak.” • Delete 2.5 in its entirety.
5	<p>Section 084113 – Aluminum-Framed Entrances and Storefront:</p> <ul style="list-style-type: none"> • Delete 2.6.A as written, Substitute “A. See section 078100 for door hardware.” • Delete 2.6.B – 2.6.V in their entirety.
6	<p>Section 085113 – Aluminum Windows:</p> <ul style="list-style-type: none"> • Delete the number “20” in 1.7.A.2.c, Substitute “10”. • Delete 2.8.B as written, Substitute as follows: B. Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611. <ul style="list-style-type: none"> 1. Color: Match Existing. • Add “, to match existing” to the end of 2.2.A.1. • Add 2.2.B.1.a to read “a. Frame and sash style to match existing.” • Delete 2.4 in its entirety.
7	<p>Section 087100 - Door Hardware:</p> <ul style="list-style-type: none"> • Hardware Schedule: <ul style="list-style-type: none"> ○ Delete Set 1.0 in its entirety, Substitute as follows: 2; Continuous Hinge; MCK-14HD SER-12 x LAR; CL; MK

1; Exit Device (concealed vertical rod, storeroom); ED4800M O859 M94 M92; 630; RU
1; Exit Device (concealed vertical rod, exit only); ED4800 M92 M94; 630; RU
1; Cylinder; 1E-72/ 74; 626; BE
2; Pull; RM3050-12; US32-316; RO
2; Concealed Overhead Holder/Stop; 6-336; 630; RF
1; Door Closer; PR7500H 7788 2018D; 689; NO
2; Door Switch; 692; NO
1; Automatic Operator; 5930-RF1; 689; NO
1; Threshold; 171A MS10SS; PE
1; Weatherstrip; By door Manufacturer; 00
2; ElectroLynx Harness; QC-C*** (Length as Required); MK
1; Controller; 781N-120; RU

Notes: CARD READER BY OTHERS.

BUSINESS HOURS OPERATIONS:

OUTSIDE OPERATION: DOORS UNLOCKED, PUSHING OUTSIDE PUSH BUTTON ACTIVATES OPERATOR ON ACTIVE DOOR.

INSIDE OPERATION: DOORS UNLOCKED, EGRESS IS BY EXIT DEVICE OR PUSHING BUTTON WHICH ACTIVATES OPERATOR.

AFTER HOURS OPERATION:

OUTSIDE OPERATION: DOORS LOCKED, OUTSIDE PUSH BUTTON IS NOT ACTIVE, PRESENTING AUTHORIZED CREDENTIAL TO CARD READER WILL UNLOCK EXIT DEVICE AND ACTIVATE OPERATOR PUSH BUTTON.

EMERGENCY ACCESS IS BY KEY.

INSIDE OPERATION: DOORS LOCKED, EGRESS IS BY EXIT DEVICE, PUSHING PUSH BUTTON WILL UNLOCK EXIT AND ACTIVATE OPERATOR.

- o Delete Set 2.0 in its entirety, Substitute as follows:

2; Continuous Hinge; MCK-14HD SER-12 x LAR; CL; MK
1; Exit Device (concealed vertical rod, storeroom); ED4800M O859 M94 M92; 630; RU
1; Exit Device (concealed vertical rod, exit only); ED4800 M92 M94; 630; RU
1; Cylinder; 1E-72/ 74; 626; BE
2; Pull; RM3050-12; US32-316; RO
2; Concealed Overhead Holder/Stop; 6-336; 630; RF
1; Door Closer; PR7500H 7788 2018D; 689; NO
2; Door Switch; 692; NO
1; Automatic Operator; 5930-RF1; 689; NO
1; Threshold; 171A MS10SS; PE
1; Weatherstrip; By door Manufacturer; 00
2; Sweep; 307APK; PE
2; ElectroLynx Harness; QC-C*** (Length as Required); MK
1; Controller; 781N-120; RU

Notes: CARD READER AND REMOTE RELEASE BUTTON BY OTHERS.

BUSINESS AND AFTER HOURS OPERATION:

OUTSIDE OPERATION: DOORS LOCKED, OUTSIDE PUSH BUTTON IS NOT ACTIVE UNTIL REMOTE RELEASE BUTTON IS PUSHED, PUSHING OUTSIDE OPERATOR PUSH BUTTON ACTIVATES OPERATOR, PRESENTING AUTHORIZED CREDENTIAL TO CARD READER WILL UNLOCK EXIT DEVICE AND ACTIVATE OPERATOR PUSH BUTTON. EMERGENCY ACCESS IS BY KEY.

INSIDE OPERATION: DOORS LOCKED, EGRESS IS BY EXIT DEVICE, PUSHING INTERIOR DOOR SWITCH WILL UNLOCK EXIT DEVICE AND ACTIVATE OPERATOR

- o Delete Set 5.0 in its entirety, Substitute as follows:

2; Magnetic Lock; SAMBD; SU
2; Cylinder; 1E-72/ 74; 626; BE

	<p>2; Locking Pull; LP3401DBD LC; US32; RO 2; Floor Closer; 28S 90; 626; RF 1; Motion Sensor; XMS; SU 1; Push Button; EEB2; SU 1; Power Supply; BPS-24 (Size as Required); SU Notes: DURING BUSINESS HOURS BOTH LOCKING PULLS ARE UNLOCKED. EXTERIOR KEY OR INTERIOR THUMBURN THROWS DEADBOLT. LOCK DOWN PROCEEDURE WILL LOCK MAGNETIC SHEAR LOCKS. ACTIVATION OF MOTION DETECTOR OR PUSHING EMERGENCY PUSH BUTTON WILL RELEASE MAGNETIC SHEAR LOCKS</p> <ul style="list-style-type: none"> ○ Hardware set 6.0, Add: <ul style="list-style-type: none"> ▪ “1 Power supply, by Security Contractor” ▪ “1 Mag lock, by Security Contractor” ▪ “1 Push to Exit button, by Security Contractor” ▪ “1 Motion sensor, by Security Contractor” ▪ “1 Panic button, by Security Contractor” ○ Delete 15.0 in its entirety, Substitute as follows: 4; Hinge; TA2714 x NRP 4-1/2" x 4-1/2"; US26D; MK 1; Storeroom Lock; 45H7D 15H; 626; BE 1; Electric Strike; 1006-12/24-LBM 2004M 2005M; 630; HS 1; Door Closer; CLP7500; 689; NO 1; Kickplate; K1050 10" x 2 " LDW 4BE; US32D; RO 3; Silencer; 608; RO 1; ElectroLynx Harness; QC-C1500P; MK 1; Power Supply; BPS-24 (Size as Required); SU Notes: CARD READER BY OTHERS. BUSINESS HOUR OPERATION: ELECTRIC STRIKE IS UNLOCKED ALLOWING FREE ACESS/EGRESS. LOCK DOWN SIGNAL LOCKS ELECTRIC STRIKE AND RESTICTS CREDENTIAL ACCESS BASED ON SECURITY PROTOCOLS. AFTER HOURS: PRESENTING AUTHORIZED CREDENTIAL TO CARD READER WILL UNLOCK ELECTRIC STRIKE ALLOWING ACCESS. FREE EGRESS BY LEVER
8	<p>Section 088000 – Glazing:</p> <ul style="list-style-type: none"> • Delete 2.10.A.6 as written, Substitute “6. Low-E Coating: Sputtered on second or third surface.” • Delete 2.10.B.6 as written, Substitute “6. Low-E Coating: Sputtered on second or third surface.”
9	<p>Section 113100 – Residential Appliances:</p> <ul style="list-style-type: none"> • Delete 2.1.B as written, Substitute as follows: B. Electric Range: Basis-of-Design GE JB680DTWW, or comparable product. • Delete 2.2.B as written, Substitute as follows: B. Microwave Oven: Basis-of-Design GE PSA2200RWW, or comparable product. • Delete 2.3.B as written, Substitute as follows: B. Refrigerator/Freezer: Basis-of-Design GE GTH16BBXRWW, with ice maker IM4A, or comparable product.
10	<p>Section 122116 – Vertical Louver Blinds:</p> <ul style="list-style-type: none"> • Add 3.6 as follows: 3.6 Locations A. Provide blinds at all exterior windows and/or storefront, except for rooms: 101 President’s Office, 110 Vestibule 124 Board Room and 150 Conference Room.
11	<p>Section 130660 – Bullet Resistant Aluminum Doors:</p> <ul style="list-style-type: none"> • Add Specification Section 130660 – Bullet Resistant Aluminum Doors, dated 03/13/13.

12	<p>Section 211313 – Wet Sprinkler System:</p> <ul style="list-style-type: none"> • Delete 2.7.A.3 as written, Substitute “3. Type: Free-Standing Fire Department connection, with two-way inlet.”. • Delete 2.7.A.11 as written, Substitute “11. Number of inlets: Two (2).”. • Delete 2.7.A.12 as written, Substitute “12. Finish: Polished Chrome Plated.”.
13	<p>Section 230958 – BAS Sequence of Operation:</p> <ul style="list-style-type: none"> • Delete 3.01.B as written, Substitute “B. For Sequence of Operations for all HVAC equipment, Refer to sheet M601.” • Delete subparagraphs C, D, E, F, G, H, I, J, K, L, and M in their entirety. • Delete 3.03 in its entirety. • Delete 3.04 in its entirety.
14	<p>Section 232113.13 – Underground Hydronic Piping:</p> <ul style="list-style-type: none"> • Add Specification Section 232113.13 – Underground Hydronic Piping, dated 03/13/13:
15	<p>Section 233100 – Air Ducts:</p> <ul style="list-style-type: none"> • Delete 2.3.F in its entirety.
16	<p>Section 236500 – Cooling Tower:</p> <ul style="list-style-type: none"> • Add 2.1.A.3 to read “3. Baltimore Air Coil”. • Delete 2.1.G in its entirety. • Delete 2.1.J in its entirety. • Delete 2.1.K in its entirety. • Delete 2.1.L in its entirety. • Delete 2.1.V.7 in its entirety. • Delete first sentence of 2.1.Z as written, Substitute “Z. Control Panel: Field installed or wired. Panel to be provided by M. Davis & Sons or approved manufacturer.” • Delete 2.1.Z.5 as written, Substitute “5. VFD drive control fan speed based on leaving water temperature. VFD to include electronic by-pass and service disconnect switch.” • Delete the word “Factory” in 2.1.Z.10, Substitute the word “Field”. • Delete all reference to “FRP” and “Stainless Steel” in 2.1.AA. • Add 2.1.BB to read “BB. Cooler shall be provided with finned coils to provide 100% capacity in the dry mode of operation at or below the dry bulb switchover temperature of 50.2 degrees”.
17	<p>Section 238146 – Water Source Unitary Heat Pumps:</p> <ul style="list-style-type: none"> • Delete 2.1.E.2 in its entirety. • Delete 2.1.G.10 in its entirety.
18	<p>Section 260533 – Raceway and Boxes for Electrical Systems:</p> <ul style="list-style-type: none"> • Delete reference to “EMT and ENT” in 3.1.1 & 3.1.2, All exposed conduits to be installed in rigid steel conduit.
19	<p>Section 260923 – Lighting Control Devices:</p> <ul style="list-style-type: none"> • Add Specification Section 260923 – Lighting Control Devices, dated 03/13/13.
20	<p>Section 281300 – Access Control Systems:</p> <ul style="list-style-type: none"> • Add 2.6 as follows: 2.6 PANIC BUTTON <ul style="list-style-type: none"> A. Provide Honeywell model 269R Panic Buttons at locations identified on drawing sheet TA101. B. Panic buttons to be mounted underneath desk, coordinate exact location with owner representative. C. Activation of panic button shall immediately signal the locking mechanism on the associated access control door to lock. Doors with panic buttons shall also be capable of locking automatically during nighttime hours. D. Provide all cabling, programming, and licensing required for integration of panic buttons.
21	<p>Section 283111 – Digital, Addressable Fire Alarm System:</p>

- Delete the words “but are not limited to” in 2.1.A.

DRAWING CHANGES:

Item	Description
1	<p>Addendum No. 1:</p> <ul style="list-style-type: none"> • Delete SKP-104-1, dated 03/01/13 in its entirety. • SKE-102-1, Add the words “ADDENDUM 2” to the Sheet Title. • SKE-102-2, Add the words “ADDENDUM 2” to the Sheet Title. • SKE-102-3, Add the words “ADDENDUM 2” to the Sheet Title. • Changes to Drawings Item 9; SKA401-1; Interior Elevation – Lounge 126 #15; Delete dimension “3’-0””, countertop height, Substitute “2’-10””.
2	<p>Addendum No. 2:</p> <ul style="list-style-type: none"> • Drawing Changes Item 19; Add issue information to MD103, as follows: Mark 6, Date 03/01/13, Issue Addendum 2. • Drawing Changes Item 20; Delete “M101” that was issued with Addendum 2. • Drawing Changes Item 26; Add issue information to M603, as follows: Mark 6, Date 03/01/13, Issue Addendum 2. • Drawing Changes Item 33; Delete “SKP-104-1 that was issued with Addendum 2. • Drawing Changes Item 38; Delete “E101”, Substitute “E102”.
3	<p>G001; Cover Sheet:</p> <ul style="list-style-type: none"> • List of Drawing: <ul style="list-style-type: none"> ○ Add drawing A502 – Interior Elevations & Details
4	<p>A101; First Floor Plan:</p> <ul style="list-style-type: none"> • First Floor Plan No. 1: <ul style="list-style-type: none"> ○ Delete note “Provide blocking for AV equipment in Conference Room 145, Substitute “Provide 16”wide stud space (chase) center on wall, and provide 48” wide x 18” high wood blocking for AV equipment, centered on the width of the room and centered at 6’6” AFF, field verify location before installation for coordination with Owner furnished equipment”. ○ Delete note “Provide blocking for AV equipment in Conference Room 150, Substitute “Provide 16”wide stud space (chase) center on wall, and provide 48” wide x 18” high wood blocking for AV equipment, centered on the width of the room and centered at 6’6” AFF, field verify location before installation for coordination with Owner furnished equipment”. ○ Delete note “Wood wall paneling to remain and be cleaned when construction is complete” in President’s Office 101, Substitute “All existing wood paneling to remain, protect as required, clean and treat with oil based wood finish restorer, Howards Restore-A-Finish, or equal.” ○ Delete note “Wood wall paneling to remain and be cleaned when construction is complete” in Board Room 124, Substitute “All existing wood paneling to remain, protect as required, clean and treat with oil based wood finish restorer, Howards Restore-A-Finish, or equal.”
5	<p>A104; Finish Plan:</p> <ul style="list-style-type: none"> • Delete Lobby 106 as shown, Substitute as shown in revised plan as indicated in SKA104-1, date 03/13/13.
6	<p>A401; Enlarged Plans & Section:</p> <ul style="list-style-type: none"> • Interior Elevation – Lounge 126 #2; Delete dimension “3’-0””, countertop height, Substitute “2’-10””.
7	<p>A502; Interior Elevations & Details:</p> <ul style="list-style-type: none"> • Add new drawing A502, Interior Elevations & Details, dated 03/09/13.
8	<p>A601; Door & Window Types and Schedule:</p> <ul style="list-style-type: none"> • Door Schedule: <ul style="list-style-type: none"> ○ Delete door height “ 7’-10” ” for doors 110/1 & 110/2, Substitute “ 7’-8” ”. • Window/Storefront Types:

	<ul style="list-style-type: none"> ○ Delete door frame head dimension “ 2” ” for SF-10, Substitute “ 4” ”. ○ Delete door frame head dimension “ 2” ” for SF-7, Substitute “ 4” ”. This is only for the head frame over the doors, the sidelite head frames remain 2”. ○ Add the following note to SF-10: Door, frame and glazing to be specialty ballistic level 2 assembly, see Specification Section 130660.
9	<p>A602; Wall Types, Details & Schedules:</p> <ul style="list-style-type: none"> • Wall Type 8, add the word “Stained” between the “1x8” and “wood” in note that reads “1x8 wood cap”. • Wall Type 8, add the word “Stained” between the “1x2” and “wood” in note that reads “1x2 wood trim”. • Finish Schedule legend: <ul style="list-style-type: none"> ○ Add WD-1 to read: WD-1 – Stained wood base – N/A – N/A – To be selected by Architect - 062023. • Finish Schedule: <ul style="list-style-type: none"> ○ Receipt/Waiting area 102A, delete and substitute the following: <ul style="list-style-type: none"> ▪ Delete Base Mat.; RWB-1, Substitute WD-1. ○ General Office area 102B, delete and substitute the following: <ul style="list-style-type: none"> ▪ Delete Base Mat.; RWB-1, Substitute WD-1. ○ Waiting area 102C, delete and substitute the following: <ul style="list-style-type: none"> ▪ Delete Base Mat.; RWB-1, Substitute WD-1. ○ Lobby 106, delete and substitute the following: <ul style="list-style-type: none"> ▪ Delete Base Mat.; RWB-1, Substitute RWB-1/WD-1
10	<p>M001; Mechanical Legend, Abbreviations, Removal & New Work Notes:</p> <ul style="list-style-type: none"> • Legend – ADD a dashed line to the “Existing to be Removed”.
11	<p>MD103; Mechanical Removal Work Roof Plan:</p> <ul style="list-style-type: none"> • Delete MD103 in its entirety, Substitute revised MD103, dated 03/13/13.
12	<p>M101; Mechanical New Work Plan:</p> <ul style="list-style-type: none"> • Delete M101 issued in Addendum 2 in its entirety, Substitute revised M101, dated 03/13/13.
13	<p>M102; Mechanical Energy Recovery Unit Ventilator New Work Plan:</p> <ul style="list-style-type: none"> • DELETE extra pieces of duct that are not attached to anything between HP-23 and HP-29. • CHANGE branch duct serving HP17 and HP-26 from main to tap to HP-17 from 5” to 6” round. • DELETE the concentric circles along Column lines 2, 4 and 10. • DELETE section of 10 x 10 duct that starts in Office 121 and ends at Corridor wall. • INSERT 8” diameter for the branch duct serving HP-7. • CHANGE the CFM in Conf. Room 150 from 650 to 65.
14	<p>M103; Mechanical Piping Plan New Work:</p> <ul style="list-style-type: none"> • ADD the following GPM’s to the Heat Pumps: <ul style="list-style-type: none"> ○ HP-4 = 4.0 GPM ○ HP-16 = 3.0 GPM ○ HP-35 = 3.0 GPM ○ HP-36 = 4.0 GPM • ADD “HP-36” tag to Heat Pump located outside of Office 121. • CHANGE piping tags from “HWS” to “CWS” and “HWR” to “CWR” on pipes located in Office 143 and File/Storage 142. • DELETE “L” shaped line located between Mechanical Room 140 and Conference Room 146. • ADD numbers “1, 2 and 3” to the Sheet Notes. • ADD Ball Valves in the 2” and 2-1/2” CWR/CWS piping outside the Women’s Toilet Room. • Sheet Note No. 3 – CHANGE “Removal” to “New”. • Change GPM for HP-7 from 7.0 to 6.0.

	<ul style="list-style-type: none"> • Change GPM for HP-1 from 4.5 to 6.0. • Change GPM for HP-24 from 7.0 to 3.0. • Change GPM for HP-19 from 4.0 to 7.0.
15	<p>M104; Mechanical Roof Plan New Work:</p> <ul style="list-style-type: none"> • Delete M104 in its entirety, Substitute revised M104, dated 03/13/13.
16	<p>M601; Schedules & Details:</p> <ul style="list-style-type: none"> • Delete M601 in its entirety, Substitute revised M601, dated 03/13/13. • REPLACE Sheet in its entirety with Sheet dated, March 13, 2013. Sequence of Operation for Typical Boiler & Combustion Air Control and Conventional Condenser/Heat Pump Water plant have been ADDED. The Sequences for Miscellaneous Controls, 1. Exterior Lighting Controls and 2. Utility Metering for Boiler have been DELETED from this Sheet.
17	<p>M602; Schedules & Details:</p> <ul style="list-style-type: none"> • CHANGE note pointing to BWP-1 in Detail #8 from “Water Boiler Pump” to “Boiler Water Pump”.
18	<p>M604; Schedules & Details:</p> <ul style="list-style-type: none"> • Closed Circuit Cooler Schedule (Base Bid): <ul style="list-style-type: none"> ○ Delete Model Number as written, Substitute “eco-ATW 4-3F12-Z”. ○ Delete Cooling Capacity, Tons: as written, Substitute “44.5”. ○ Delete Press Drop FT. HD.: As written, Substitute “5.3”. ○ Delete Motor, Qty.: as written, Substitute “2”. ○ Delete Pump Motor, HP: as written, Substitute “1.5”. ○ Add new columns titled Electric Basin Heater, with value “5.0 kW”. ○ Add new column titled Dry Mode Operation: Capacity, with value “100%”. ○ Add new column titled Dry bulb Switchover temperature, with value “50.2 deg F”. ○ Add “Unit shall have single point power connection” to Remarks column.
19	<p>M605; Schedules & Details:</p> <ul style="list-style-type: none"> • Water Source Heat Pump Unit Schedule: <ul style="list-style-type: none"> ○ HP-1; Delete Model No. NB 024, Substitute Model No. NB 030, with the same values as HP-2. ○ Switch the column headings for Sens. MBH and Total MBH.
20	<p>P101; Administration Building Plumbing Domestic Water System – 1st Floor Plan – New Work:</p> <ul style="list-style-type: none"> • Plumbing Domestic Water System – 1st Floor Plan – New Work No. 1: <ul style="list-style-type: none"> ○ In Lounge 126; Provide a water line and in-line filter off of the ¾” line to the FWH to serve the Coffee Unit to be located on the Counter. Coordinate with the Architectural Plans for placement of Coffee unit. Water line to be sized in accordance with the Manufacturer’s requirements.
21	<p>P103; Administration Building Plumbing Domestic Water & Sanitary System – 1st Floor Plan – New Work:</p> <ul style="list-style-type: none"> • ADD Sketch SKP 103-2 to the drawing which updates the location of the Mechanical Equipment in the Mechanical Room with reference to the Plumbing System.:
22	<p>FP101; Administration Building Automatic Fire Suppression System – 1st Floor Plan – New Work:</p> <ul style="list-style-type: none"> • Coordinate the location of the Remote Fire Department Connection with C-301 Utilities and Grading Plan. • Disconnect the sprinkler heads in Vestibule 110 from the systems serving the 1st Floor. Connect these heads to Dry System serving the Attic
23	<p>FP103; Administration Building Automatic Fire Suppression System – Dry Pipe System Attic Plan – New Work:</p> <ul style="list-style-type: none"> • Connect the vestibule sprinkler branch to dry pipe system in the Attic.
24	<p>FP104; Administration Building Automatic Fire Suppression System – Schedules, Details and Partial Plan – New Work:</p>

	<ul style="list-style-type: none"> • ADD Sketch SKFP 104-1 to the drawing which updates the location of the Mechanical Equipment in the Mechanical Room with reference to the Fire Protection Riser.
25	<p>E101; Administration Building Electrical System – 1st Floor Lighting Plan – New Work:</p> <ul style="list-style-type: none"> • ADD the following Sheet Note: <ul style="list-style-type: none"> “5. Existing lighting with one (1) switch shall be bid under the Base Bid. In areas with two (2) switches, first switch shall be included under the Base Bid. (See Alternate Number 7 for further direction.) • ADD the following Notes for Alternate No. 7 for Inboard / Outboard switching of existing light fixtures:: <ul style="list-style-type: none"> Alternate No. 7 (Inboard / Outboard Switching for Existing Light Fixtures) <ol style="list-style-type: none"> 1. Rooms with existing lighting and two (2) switches, the second switch shall be bid under Alternate No. 7. The first switch shall be included in the Base Bid. 2. Rooms with existing lighting and two (2) switches, the Installer shall include the cost for the second ballast under Alternate No. 7 in order to achieve Inboard / Outboard lighting operation. 3. Existing lighting with one (1) switch shall be bid under the Base Bid. • CLARIFICATION for re-installation of the existing 2x4 lighting fixtures: Approximately forty-three (43) of the existing light fixtures have parabolic lenses and forty-six (46) prismatic lenses. Contractor shall re-install similar fixtures in a given room or office. A revised lighting plan identifying which offices / rooms get prismatic fixtures and which offices / rooms get parabolic fixtures will be issued to the successful Electrical Installer during construction: • CLARIFICATION for Meeting Room 123: Existing lighting fixtures in Meeting Room 123 are not 2x4 lighting fixtures. There are four (4) down lights and one (1) four (4) foot round fluorescent fixture. These fixtures are to be removed and turned over to the Owner. Contractor shall provide two (2) additional A1 fixtures for installation under new work including wire & labor:
26	<p>E102; Administration Building Electrical System – 1st Floor Power Plan – New Work:</p> <ul style="list-style-type: none"> • CLARIFICATION: The dark symbols are new receptacles and the light symbols are existing receptacles to remain. • CLARIFICATION: The Condensing Unit selected for this project has one electrical feed that goes to the Indoor Unit. The Outdoor Unit is then powered from the Indoor Unit. Alternate manufacturers may require two separate feeds. • CLARIFICATION: Refer to Mechanical Drawing M101 for actual location of Energy Recovery Unit ERV-1. • CLARIFICATION: Refer to Mechanical Drawing M101 for actual location of Boiler B-1. • CLARIFICATION: Refer to Mechanical Drawing M101 for actual location of Boiler Water Pump BWP-1. • CLARIFICATION: Refer to Mechanical Drawing M101 for actual location of Exhaust Fans. • CLARIFICATION: Refer to Plumbing Drawing P104 for actual location of Condensate Pumps. • CLARIFICATION: Refer to Plumbing Drawing P104 and Sketch SKP103-2 for location of Domestic Water Heater.
27	<p>E103; Administration Building Electrical System – 1st Floor Power Plan – New Work:</p> <ul style="list-style-type: none"> • ADD Sketches SKE 103-1 and SKE 103-2 MODIFYING the Fire Alarm System to the Sheet.
28	<p>E501; Electrical – Single Lone Diagrams & Lighting Fixture Schedule:</p> <ul style="list-style-type: none"> • New Work Notes; CHANGE “...and (1) 4” Spare Conduit” to read “...and two (2) Spare 4: Conduits.”
29	<p>E601; Schedules:</p> <ul style="list-style-type: none"> • Panel MDP; DELETE 30kva Transformer T-2 from Schedule and REPLACE with Spare. • CHANGE Transformer T-1 from 75kva to read 112.5kva”.
30	<p>E602; Schedules:</p> <ul style="list-style-type: none"> • Panel RP2: <ul style="list-style-type: none"> ○ PROVIDE 100 amp/3P Circuit Breaker in Panel RP2 in order to feed Panel LPB. ○ PROVIDE 20 amp/3P Circuit Breaker in Panel RP2 in order to feed the BWP-1

31	TA030; Telecom and Security Systems Typical Infrastructure Details: <ul style="list-style-type: none">• Add new Detail 5 as indicated in drawing SKTA-030-1, dated 03/14/13.• Add new Detail 6 as indicated in drawing SKTA-030-2, dated 03/14/13.
32	TA101; Telecom and Security Systems Floor Plan: <ul style="list-style-type: none">• Delete TA101 in its entirety, Substitute revised TA1-1, dated 03/14/13.

END OF ADDENDUM NO. 3

SECTION 130660 - BULLET RESISTANT ALUMINUM DOOR & FRAME ASSEMBLY

PART 1 GENERAL

1.1 REFERENCE

- A. Underwriters Laboratory UL 752-Standard for Bullet Resisting Equipment, ASTM C 1172 - Standard Specification for Laminated Architectural Flat Glass, NIJ Standard 0108.01 - (National Institute of Justice) Standard for Ballistic Resistant Protective Materials (September, 1985). ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate, ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

1.2 SUBMITTALS

- A. The following shall be submitted by the manufacturer in accordance with any Special Contract Requirements: Submit for approval prior to fabrication: samples, product data (including preparation, storage and installation methods), cuts & anchor spacing, reinforcement & location, product specifications, shop drawings, test reports (current UL Listing Verification & UL 752 Test Results as provided by Underwriters Laboratories), and printed data in sufficient detail to indicate compliance with the contract documents.
- B. Provide manufacturer's instructions for installation and cleaning of Bullet Resistant Aluminum Door Assemblies. All required submittals shall be approved prior to installation.

1.3 DESIGN PERFORMANCE

- A. Through the design, manufacturing techniques and material application the Bullet Resistant Aluminum Door shall be constructed of an extruded aluminum in 6061-T6 alloy/tempered. With a UL Standard 752 Level 3 protection rating. Door and frame to have no exposed fasteners, corner joints shall consist of extruded and keyed aluminum spline with continuous 3/8" diameter steel tie rod at door top and bottom rails. All joints and connections shall be tight, providing hairline points and true alignment of adjacent members. Panels shall not be removable from threat side. Door system to be available in Right hand, left hand and reverse swings.
- B. Door to defeat ballistic assaults from a .44 magnum superpower small arms handgun as tested with UL Standard 752 at Underwriters Laboratories.

1.4 QUALITY ASSURANCE

- A. Manufacturer shall be a Company that specializes in manufacturing products of the specified type with a minimum of five years experience. Installer shall be a Company that specializes in product type specified. Manufacturer shall provide a sample with color/finish to the Architect for approval prior to start of work.

1.5 DELIVERY, STORAGE & HANDLING

- A. Delivery the materials to the project with the manufacturer's UL Listed Labels intact and legible. Handle the materials with care to prevent damage. Store materials inside and under

cover, stack flat and off floor. Project conditions (temperature, humidity, and ventilation) shall be within the maximum limit recommendations set by manufacturer. Do not install products that are under conditions outside these limits.

1.6 WARRANTY

- A. All materials shall be warranted against defects for a period of 1 year for the date of receipt at the project site. Certificates of manufacturer's standard limited warranty shall be provided at project completion.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Products shall be manufactured by: Total Security Solutions, Inc, 170 National Park Drive, Fowlerville, MI 48836, or comparable product.

2.2 PRODUCT: BULLET RESISTANT STOREFRONT FRAMING LEVEL 2

- A. Bullet Resistant Door System: Total Security Solutions Bullet Resistant Aluminum TSS-BL2-DR Bullet Resistant Door System. All joints and connections shall be tight, providing hairline joints and true alignment of adjacent members. Corner joinery shall consist of heavy duty extruded and keyed aluminum corner splines with continuous 3/8 inch diameter tie rod construction. Glazing must not be removable from the threat side of the door. Provide to dimension heights and widths indicated on the Drawings.

1. System shall be designed to defeat ballistic assaults from a .44 magnum handgun in accordance with UL 752, Level 2.
 - a. Aluminum Doors: Top rail and stile 5", Bottom rail 10" including glass stops.
 - b. Aluminum Door and Sidelight Frames and Extrusions: 1 3/4" (44mm) x 4" (102mm), Structural section .125" thickness
 - c. Glazing: LP-1250 Polycarbonate/Acrylic Laminate, 1-1/4" thick, 7.7lbs/sf. UL 752, UL=3, 44 mag.
 - d. Hardware: Select SL-11HD continuous aluminum gear hinge, Adams Rite MS1850 deadlock, with Adams Rite 4510 Series mortise thumb turn and or Keyed mortise cylinder, 9" aluminum pull handle and door width push bar as selected by architect. LCN 400 series heavy duty door closer.

2. Door Frame Construction: Frames shall provide equal UL protection level as door, non-ricochet type, Aluminum ballistic extruded aluminum in 6061-T6 alloy, aluminum finish. Door hardware includes: HD continuous hinge, push/pull handle, mortised lock, overhead closer. Optional hardware: exit devices, electric strike plate, and custom security hardware. Shipped fabricated and ready for field installation.

- 1) Style: 5" wide style door system

B. Finish: Anodized Aluminum, Dark Bronze Anodized Aluminum, match existing

PART 3 EXECUTION

BULLET RESISTANT ALUMINUM DOOR & FRAME ASSEMBLY

3.1 PREPARATION

A. Prior to installing the bullet resistive material, the contractor shall verify that all supports have been installed as required by the contract documents and architectural drawings, and approved shop drawings, if required. Installer shall notify architect of any unsatisfactory preparation that is responsibility of another installer.

B. Clean and prepare all surfaces per manufacturers recommendations for achieving the best results for the substrate under the project conditions.

3.2 INSTALLATION

A. Do not begin installation until openings have been verified and surfaces properly prepared in accordance with Drawings. Install in accordance with manufacturer's instructions and UL 752. Set all equipment plumb.

B. TSS Bullet Resistant Aluminum Door shall be installed in accordance with manufacturer's instructions. Install plumb, level, square, true to line, and without warp or rack. Provide all fasteners required for installation. Anchor frames securely in place to supports. Use attachment methods permitting adjustment for construction tolerances, irregularities, alignment, and expansion and contraction. Separate aluminum from other metal surfaces with bituminous coatings or other means approved by Architect.

3.3 POST APPLICATION

A. TSS Bullet Resistant Aluminum Door shall be installed in accordance with manufacturer's printed recommendations, including adhering to anchoring and finishing details. Method of application shall maintain the bullet resistive rating at junctures with concrete floor slabs, the concrete roof slabs, the bullet resistive door frames, the bullet resistive window frames and all required penetrations.

B. Inspection and Cleaning: Verify installation is complete and complies with manufacturer's requirements. Clean product and accessories, removing excess sealant, labels and protective covers.

C. Touch-up, repair or replace damaged products before Substantial Completion.

D. Product Warranty: Applicable warranty shall be issued to owner upon final release of completed project.

END OF SECTION 130660

SECTION 232113.13 - UNDERGROUND HYDRONIC PIPING

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:
 - 1. Cased piping system.
 - 2. Loose-fill insulation.

1.3 PERFORMANCE REQUIREMENTS

- A. Provide components and installation capable of producing hydronic piping systems with the following minimum working-pressure ratings:
 - 1. Condenser-Water Piping: 150 psig at 150 deg F

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Conduit piping.
 - 2. Loose-fill insulation.

1.5 INFORMATIONAL SUBMITTALS

- A. Profile Drawings: Show system piping in elevation. Draw profiles at horizontal scale of not less than 1 inch equals 50 feet and at vertical scale of not less than 1 inch equals 5 feet. Indicate manholes and piping. Show types, sizes, materials, and elevations of other utilities crossing hydronic piping.
- B. Qualification Data: For qualified Installer.
- C. Welding certificates.
- D. Material Test Reports: For conduit piping.

- E. Source quality-control reports.
- F. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Pipe and Fitting Installers: Installers shall be certified by manufacturer of pipes and fittings as having been trained and qualified to join piping with manufacturer-recommended method.
- B. Welding Qualifications: Qualify procedures and personnel according to ASME Boiler and Pressure Vessel Code: Section IX.
 - 1. Comply with provisions in ASME B31.9, "Building Services Piping."
 - 2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.
- C. ASME Compliance: Comply with ASME B31.9, "Building Services Piping," for materials, products, and installation.

PART 2 - PRODUCTS

2.1 CASED PIPING SYSTEM

- A. Description: Factory-fabricated piping with carrier pipe, insulation, and casing.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Insul-Tek Piping Systems, Inc.
 - b. Perma-Pipe, Inc.
 - c. Rovanco Piping Systems, Inc.
 - d. Thermacor Process, L.P.
 - e. Thermal Pipe Systems.
 - f. Urecon Ltd.
- B. Carrier Pipe: Fiberglass pipe and fittings.
- C. Carrier Pipe Insulation:
 - 1. Polyurethane Foam Pipe Insulation: Rigid, cellular, high-pressure injected between carrier pipe and jacket.
 - a. Comply with ASTM C 591; thermal conductivity (k-value) shall not exceed 0.14 Btu x in./h x sq. ft. x deg F at 75 deg F after 180 days of aging.
- D. Casing: HDPE 0.034-nch- thick, spiral-wound, lock-seam galvanized steel

- E. Casing accessories include the following:
1. Joint Kit: Half-shell, pourable or split insulation, casing sleeve, and shrink-wrap sleeve.
 2. Expansion Blanket: Elastomeric foam, formed to fit over piping.
 3. End Seals: Shrink wrap the casing material to seal watertight around casing and carrier pipe.
- F. Manholes: Black steel with lifting eyes.
1. Finish: Spray-applied urethane, minimum 30 mils thick.
 2. Access: 30-inch- diameter waterproof cover with gasket, ladder, and two 6-inch vents, one high and one low, extending above grade with rain caps.
 3. Conduit Stub-Outs and Seals: Welded steel with drain and vent openings.
 4. Sump: 12 inches in diameter, 12 inches deep.
 5. Floatation Anchor: Oversized bottom keyed into concrete base.
- G. Source Quality Control: Factory test the carrier pipe to 150 percent of the operating pressure of system. Furnish test certificates.

2.2 LOOSE-FILL INSULATION

- A. Granular, Loose-Fill Insulation: Inorganic, nontoxic, nonflammable, sodium potassium aluminum silicate with calcium carbonate filler. Include chemical treatment that renders insulation hydrophobic.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Gilsulate International, Inc.
 2. Thermal Conductivity (k-Value): 0.60 at 175 deg F and 0.65 at 300 deg F.
 3. Application Temperature Range: 35 to 800 deg F.
 4. Dry Density: 40 to 42 lb/cu. ft.
 5. Strength: 12,000 lb/sq. ft.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. See Section 312000 "Earth Moving" for excavating, trenching, and backfilling.

3.2 PIPING APPLICATION

- A. Condenser-Water Piping:
1. NPS 2-1/2 and larger shall be the following:

- a. RP and RTRF with adhesive or flanged joints.
 - b. Loose-Fill Insulation: Granular or Powder.
2. Cased piping with polyurethane carrier-pipe insulation.
- a. Piping Insulation Thickness: 2 inches.

3.3 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicate piping locations and arrangements if such were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- B. Remove standing water in the bottom of trench.
- C. Do not backfill piping trench until field quality-control testing has been completed and results approved.
- D. Install piping at uniform grade of 0.2 percent. Install drains, consisting of a tee fitting, NPS 3/4 ball valve, and short NPS 3/4 threaded nipple with cap, at low points and elsewhere as required for system drainage. Install manual air vents at high points.
- E. In conduits, install drain valves at low points and manual air vents at high points.
- F. Install components with pressure rating equal to or greater than system operating pressure.
- G. Install piping free of sags and bends.
- H. Install fittings for changes in direction and branch connections.
- I. See Section 230517 "Sleeves and Sleeve Seals for HVAC Piping" for sleeves and mechanical sleeve seals through exterior building walls.
- J. Secure anchors with concrete thrust blocks. Concrete is specified in Section 033000 "Cast-in-Place Concrete."

3.4 LOOSE-FILL INSULATION INSTALLATION

- A. Do not disturb the bottom of trench; otherwise, compact and stabilize it to ensure proper support.
- B. Remove standing water in the bottom of trench.
- C. Bed the pipe on a minimum 6-inch layer of granular fill material with a minimum 6-inch clearance between the pipes.

- D. Form insulation trench by excavation or by installing drywall side forms to establish required height and width of the insulation.
- E. Support piping with proper pitch, separation, and clearance to backfill or side forms using temporary supporting devices that can be removed after back filling with insulation.
- F. Place insulation and backfill after field quality-control testing has been completed and results approved.
- G. Apply bitumastic coating to carbon-steel anchors and guides. Pour concrete thrust blocks and anchors. See Section 033000 "Cast-in-Place Concrete" for concrete and reinforcement.
- H. Wrap piping at expansion loops and offsets with mineral-wool insulation of thickness appropriate for calculated expansion amount.
- I. Pour loose-fill insulation to required dimension agitating insulation to eliminate voids around piping.
- J. Remove temporary hangers and supports.
- K. Cover loose-fill insulation with polyethylene sheet a minimum of 4 mils thick, and empty loose-fill insulation bags on top.
- L. Manually backfill 6 inches of clean backfill. If mechanical compaction is required, manually backfill to 12 inches before using mechanical-compaction equipment.

3.5 JOINT CONSTRUCTION

- A. See Section 330500 "Common Work Results for Utilities" for basic piping joint construction.
- B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- D. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.
- E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," Ch. 35, "Pipe and Tubing," using copper-phosphorus brazing filler metal complying with AWS A5.8/A5.8M.
- F. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.

2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- G. Welded Joints: Construct joints according to AWS D10.12M/D10.12, using qualified processes and welding operators according to "Quality Assurance" Article.
- H. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.
- I. Plastic Piping Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
 1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
 2. CPVC Piping: Join according to ASTM D 2846/D 2846M Appendix.
 3. PVC Pressure Piping: Join ASTM D 1785 schedule number, PVC pipe and PVC socket fittings according to ASTM D 2672. Join other-than-schedule number PVC pipe and socket fittings according to ASTM D 2855.
- J. Fiberglass Bonded Joints: Prepare pipe ends and fittings, apply adhesive, and join according to pipe manufacturer's written instructions.
- K. Pressure-Sealed Joints: Use manufacturer-recommended tool and procedure. Leave insertion marks on pipe after assembly.
- L. Conduit and Cased Piping Joints: Assemble sections and finish joints with pourable or split insulation and exterior jacket sleeve, and apply shrink-wrap seals.

3.6 IDENTIFICATION

- A. Install continuous plastic underground warning tapes during back filling of trenches for underground hydronic piping. Locate tapes 6 to 8 inches below finished grade, directly over piping. See Section 312000 "Earth Moving" for warning-tape materials and devices and their installation.

3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- C. Perform tests and inspections.
 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

D. Tests and Inspections:

1. Prepare hydronic piping for testing according to ASME B31.9 and as follows:
 - a. Leave joints, including welds, uninsulated and exposed for examination during test.
 - b. Fill system with water. Where there is risk of freezing, air or a safe, compatible liquid may be used.
 - c. Use vents installed at high points to release trapped air while filling system.
2. Test hydronic piping as follows:
 - a. Subject hydronic piping to hydrostatic test pressure that is not less than 1.5 times the design pressure.
 - b. After hydrostatic test pressure has been applied for 10 minutes, examine joints for leakage. Remake leaking joints using new materials and repeat hydrostatic test until no leaks exist.
3. Test conduit as follows:
 - a. Seal vents and drains and subject conduit to 15 psig for four hours with no loss of pressure. Repair leaks and retest as required.

E. Prepare test and inspection reports.

END OF SECTION 232113.13

SECTION 260923 - LIGHTING CONTROL DEVICES

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:

1. Time switches.
2. Photoelectric switches.
3. Indoor occupancy sensors.
4. Lighting contactors.
5. .

- B. Related Requirements:

1. Section 262726 "Wiring Devices" for wall-box dimmers, wall-switch occupancy sensors, and manual light switches.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: Show installation details for occupancy and light-level sensors.

1. Interconnection diagrams showing field-installed wiring.
2. Include diagrams for power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For each type of lighting control device to include in emergency, operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 OUTDOOR PHOTOELECTRIC SWITCHES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following:
1. Cooper Industries, Inc.
 2. Intermatic, Inc.
 3. NSi Industries LLC; TORK Products.
 4. Tyco Electronics; ALR Brand.
- B. Description: Solid state, with SPST dry contacts rated for 1800-VA tungsten or 1000-VA inductive, to operate connected relay, contactor coils, or microprocessor input; complying with UL 773A.
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 2. Light-Level Monitoring Range: 1.5 to 10 fc (16.14 to 108 lux), with an adjustment for turn-on and turn-off levels within that range, and a directional lens in front of the photocell to prevent fixed light sources from causing turn-off.
 3. Time Delay: Fifteen second minimum, to prevent false operation.
 4. Surge Protection: Metal-oxide varistor.
 5. Mounting: Twist lock complies with NEMA C136.10, with base-and-stem mounting or stem-and-swivel mounting accessories as required to direct sensor to the north sky exposure.
- C. Description: Solid state, with SPST dry contacts rated for 1800 VA, to operate connected load, complying with UL 773.
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 2. Light-Level Monitoring Range: 1.5 to 10 fc (16.14 to 108 lux), with an adjustment for turn-on and turn-off levels within that range.
 3. Time Delay: Thirty-second minimum, to prevent false operation.
 4. Lightning Arrester: Air-gap type.
 5. Mounting: Twist lock complying with NEMA C136.10, with base.

2.2 INDOOR OCCUPANCY SENSORS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work to include the following:
1. Bryant Electric.
 2. Cooper Industries, Inc.
 3. Hubbell Building Automation, Inc.

4. Leviton Manufacturing Co., Inc.
5. Lightolier Controls.
6. Lithonia Lighting; Acuity Brands Lighting, Inc.
7. Lutron Electronics Co., Inc.
8. NSi Industries LLC; TORK Products.
9. RAB Lighting.
10. Sensor Switch, Inc.
11. Square D.
12. Watt Stopper.

B. General Requirements for Sensors: Wall mounted, solid-state indoor occupancy sensors with a separate power pack.

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Operation: Unless otherwise indicated, turn lights on when coverage area is occupied, and turn them off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes.
3. Sensor Output: Contacts rated to operate the connected relay, complying with UL 773A. Sensor is powered from the power pack.
4. Power Pack: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Sensor has 24-V dc, 150-mA, Class 2 power source, as defined by NFPA 70.
5. Mounting:
 - a. Sensor: Suitable for mounting in any position on a standard outlet box.
 - b. Relay: Externally mounted through a 1/2-inch knockout in a standard electrical enclosure.
 - c. Time-Delay and Sensitivity Adjustments: Recessed and concealed behind hinged door.
6. Indicator: Digital display, to show when motion is detected during testing and normal operation of sensor.
7. Bypass Switch: Override the "on" function in case of sensor failure.
8. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc; turn lights off when selected lighting level is present.

2.3 SWITCHBOX-MOUNTED OCCUPANCY SENSORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following:

1. Bryant Electric.
2. Cooper Industries, Inc.
3. Hubbell Building Automation, Inc.
4. Leviton Manufacturing Co., Inc.
5. Lightolier Controls.

6. Lithonia Lighting; Acuity Brands Lighting, Inc.
 7. Lutron Electronics Co., Inc.
 8. NSi Industries LLC; TORK Products.
 9. RAB Lighting.
 10. Sensor Switch, Inc.
 11. Square D.
 12. Watt Stopper.
- B. General Requirements for Sensors: Automatic-wall-switch occupancy sensor, suitable for mounting in a single gang switchbox.
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 2. Operating Ambient Conditions: Dry interior conditions, 32 to 120 deg F.
 3. Switch Rating: Not less than 800-VA fluorescent at 120 V, 1200-VA fluorescent at 277 V, and 800-W incandescent.
- C. Wall-Switch Sensor Tag WS1:
1. Standard Range: 180-degree field of view, field adjustable from 180 to 40 degrees; with a minimum coverage area of 900 sq. ft.
 2. Sensing Technology: Dual technology - PIR and ultrasonic.
 3. Switch Type: SP, field selectable automatic "on," or manual "on" automatic "off."
 4. Voltage: Match the circuit voltage.
 5. Ambient-Light Override: Concealed, field-adjustable, light-level sensor from 10 to 150 fc. The switch prevents the lights from turning on when the light level is higher than the set point of the sensor.
 6. Concealed, field-adjustable, "off" time-delay selector at up to 30 minutes.
 7. Adaptive Technology: Self-adjusting circuitry detects and memorizes usage patterns of the space and helps eliminate false "off" switching.
- D. Wall-Switch Sensor Tag WS2:
1. Standard Range: 210-degree field of view, with a minimum coverage area of 900 sq. ft..
 2. Sensing Technology: PIR.
 3. Switch Type: SP, field selectable automatic "on," or manual "on" automatic "off."
 4. Voltage: Match the circuit voltage.
 5. Ambient-Light Override: Concealed, field-adjustable, light-level sensor from 10 to 150 fc. The switch prevents the lights from turning on when the light level is higher than the set point of the sensor.
 6. Concealed, field-adjustable, "off" time-delay selector at up to 30 minutes.
 7. Adaptive Technology: Self-adjusting circuitry detects and memorizes usage patterns of the space and helps eliminate false "off" switching.

2.4 OUTDOOR MOTION SENSORS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following:
1. Bryant Electric.
 2. Cooper Industries, Inc.
 3. Hubbell Building Automation, Inc.
 4. Leviton Manufacturing Co., Inc.
 5. Lithonia Lighting; Acuity Brands Lighting, Inc.
 6. NSi Industries LLC; TORK Products.
 7. RAB Lighting.
 8. Sensor Switch, Inc.
 9. Watt Stopper.
- B. General Requirements for Sensors: Solid-state outdoor motion sensors.
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 2. Dual-technology (PIR and infrared) type, weatherproof. Detect occurrences of 6-inch-minimum movement of any portion of a human body that presents a target of not less than 36 sq. in. Comply with UL 773A.
 3. Switch Rating:
 - a. Lighting-Fixture-Mounted Sensor: 1000-W incandescent, 500-VA fluorescent.
 - b. Separately Mounted Sensor: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Sensor has 24-V dc, 150-mA, Class 2 power source, as defined by NFPA 70.
 4. Switch Type: SP, field selectable automatic "on," or manual "on" automatic "off."
 5. Voltage: Match the circuit voltage.
 6. Detector Coverage:
 - a. Standard Range: 210-degree field of view, with a minimum coverage area of 900 sq. ft..
 - b. Long Range: 180-degree field of view and 110-foot detection range.
 7. Ambient-Light Override: Concealed, field-adjustable, light-level sensor from 10 to 150 fc. The switch prevents the lights from turning on when the light level is higher than the set point of the sensor.
 8. Concealed, field-adjustable, "off" time-delay selector at up to 30 minutes.
 9. Adaptive Technology: Self-adjusting circuitry detects and memorizes usage patterns of the space and helps eliminate false "off" switching.
 10. Operating Ambient Conditions: Suitable for operation in ambient temperatures ranging from minus 40 to plus 130 deg F, rated as "raintight" according to UL 773A.

2.5 LIGHTING CONTACTORS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following:
1. Allen-Bradley/Rockwell Automation.
 2. ASCO Power Technologies, LP.
 3. Eaton Corporation.
 4. General Electric Company; GE Consumer; Industrial - Electrical Distribution; Total Lighting Control.
 5. Square D.
- B. Description: Electrically operated and electrically held, combination-type lighting contactors with fusible switch, complying with NEMA ICS 2 and UL 508.
1. Current Rating for Switching: Listing or rating consistent with type of load served, including tungsten filament, inductive, and high-inrush ballast (ballast with 15 percent or less total harmonic distortion of normal load current).
 2. Fault Current Withstand Rating: Equal to or exceeding the available fault current at the point of installation.
 3. Enclosure: Comply with NEMA 250.
 4. Provide with control and pilot devices as indicated on Drawings, matching the NEMA type specified for the enclosure.
- C. BAS Interface: Provide hardware interface to enable the BAS to monitor and control lighting contactors.
1. Monitoring: On-off status.
 2. Control: On-off operation.

2.6 CONDUCTORS AND CABLES

- A. Power Wiring to Supply Side of Remote-Control Power Sources: Not smaller than No. 12 AWG. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- B. Classes 2 and 3 Control Cable: Multiconductor cable with stranded-copper conductors not smaller than No. 18 AWG. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- C. Class 1 Control Cable: Multiconductor cable with stranded-copper conductors not smaller than No. 14 AWG. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

PART 3 - EXECUTION

3.1 SENSOR INSTALLATION

- A. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression systems, and partition assemblies.
- B. Install and aim sensors in locations to achieve not less than 90 percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.

3.2 CONTACTOR INSTALLATION

- A. Mount electrically held lighting contactors with elastomeric isolator pads to eliminate structure-borne vibration, unless contactors are installed in an enclosure with factory-installed vibration isolators.

3.3 WIRING INSTALLATION

- A. Wiring Method: Comply with Section 260519 "Low-Voltage Electrical Power Conductors and Cables." Minimum conduit size is 1/2 inch.
- B. Wiring within Enclosures: Comply with NECA 1. Separate power-limited and nonpower-limited conductors according to conductor manufacturer's written instructions.
- C. Size conductors according to lighting control device manufacturer's written instructions unless otherwise indicated.
- D. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

3.4 IDENTIFICATION

- A. Identify components and power and control wiring according to Section 260553 "Identification for Electrical Systems."
 - 1. Identify controlled circuits in lighting contactors.
 - 2. Identify circuits or luminaires controlled by photoelectric and occupancy sensors at each sensor.
- B. Label time switches and contactors with a unique designation.

3.5 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- B. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
 - 1. Operational Test: After installing time switches and sensors, and after electrical circuitry has been energized, start units to confirm proper unit operation.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Lighting control devices will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports.

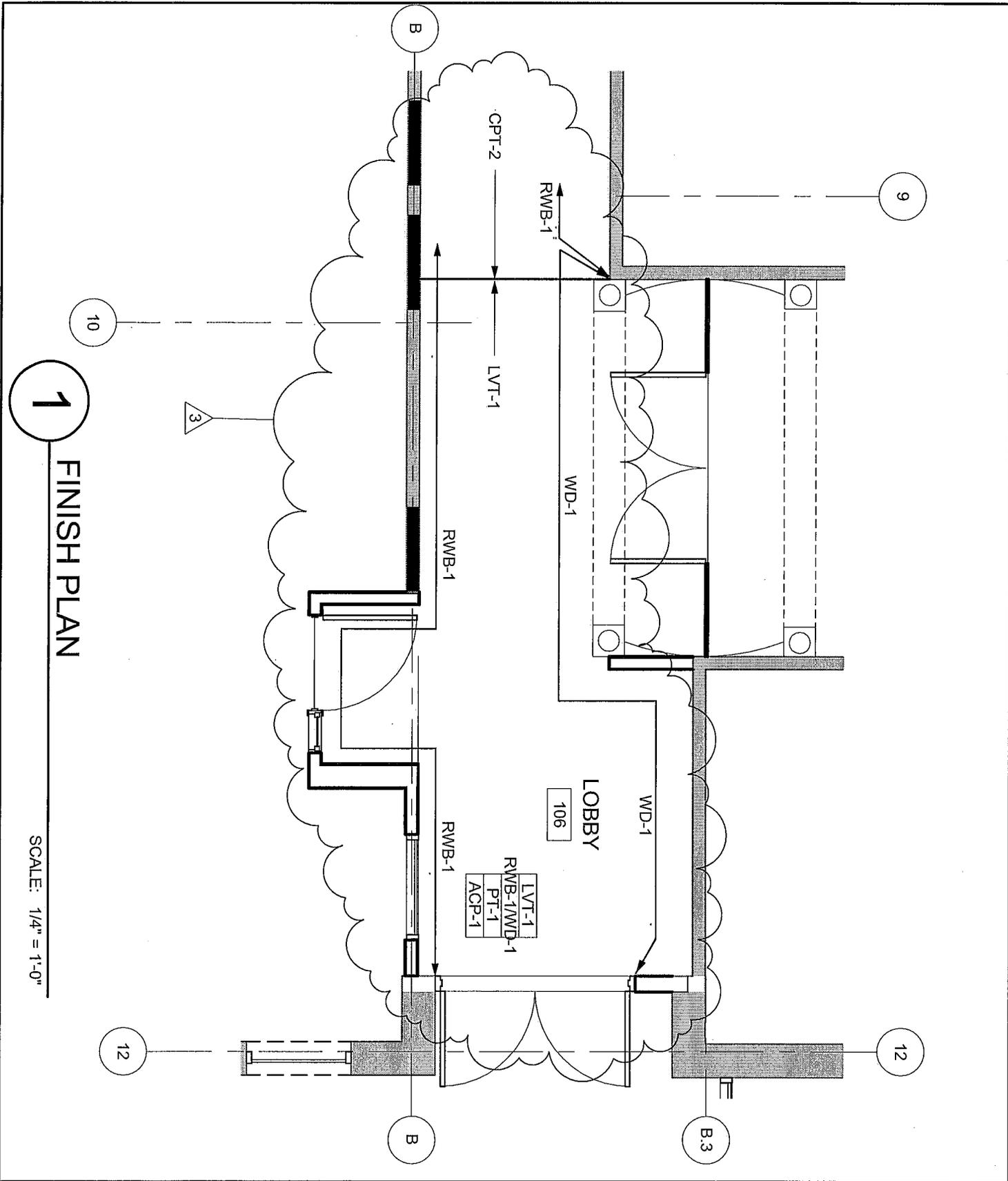
3.6 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting sensors to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.
 - 1. For occupancy and motion sensors, verify operation at outer limits of detector range. Set time delay to suit Owner's operations.
 - 2. For daylighting controls, adjust set points and deadband controls to suit Owner's operations.
 - 3. Align high-bay occupancy sensors using manufacturer's laser aiming tool.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain lighting control devices.

END OF SECTION 260923



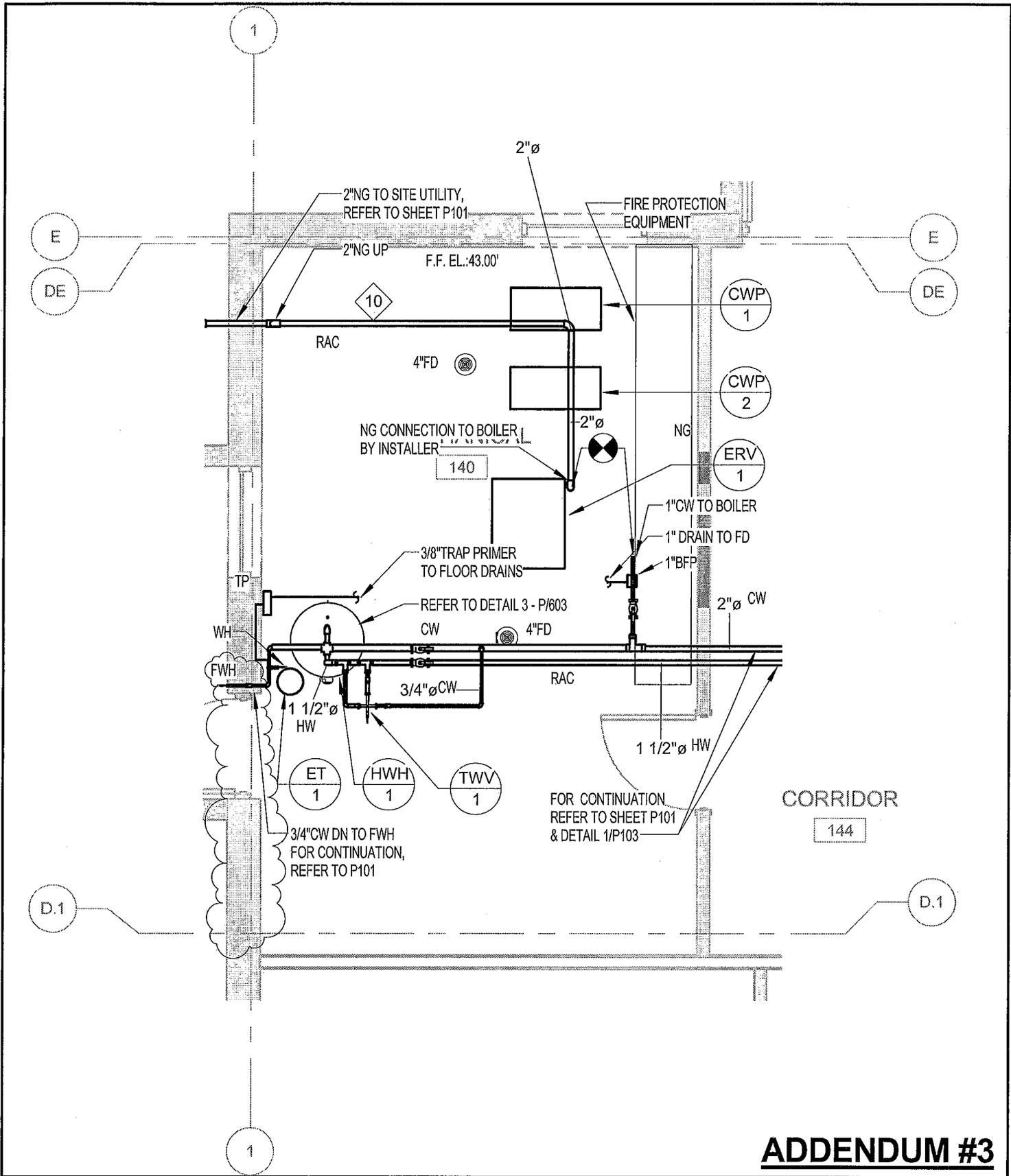
1 FINISH PLAN

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

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FINISH PLAN (ADDENDUM NO. 3)		SKA104-1
PROJECT NO.:	2012025.00	
DATE:	3/13/13	
SCALE:	1/4" = 1'-0"	
DRAWN BY:	Author	



ADDENDUM #3

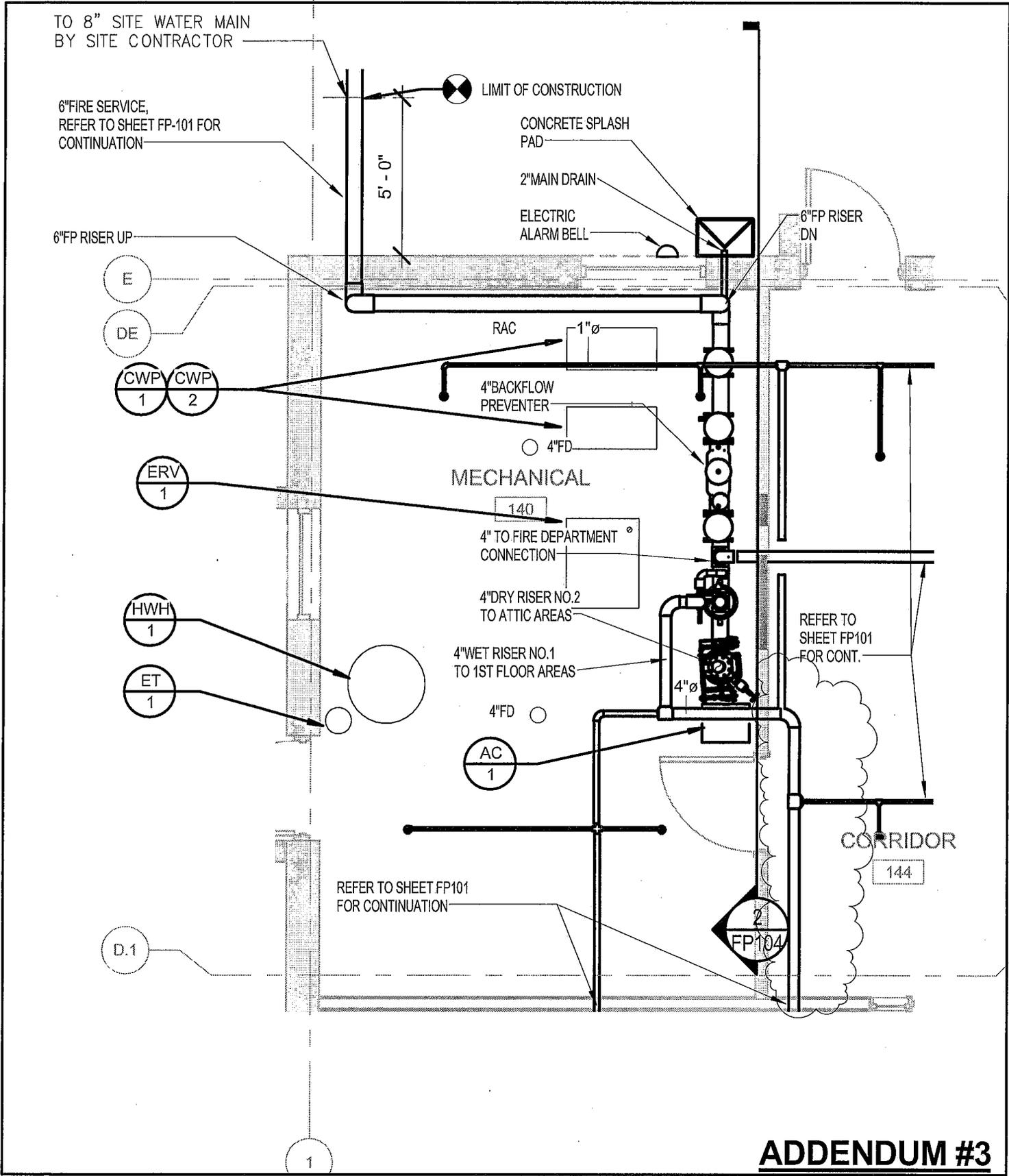


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Plumbing - Domestic Water System - Mechanical Room - Partial Plan	
PROJECT NO.:	2012025.00
DATE:	03/13/2013
SCALE:	1/4" = 1'-0"
DRAWN BY:	Author

SKP103-2



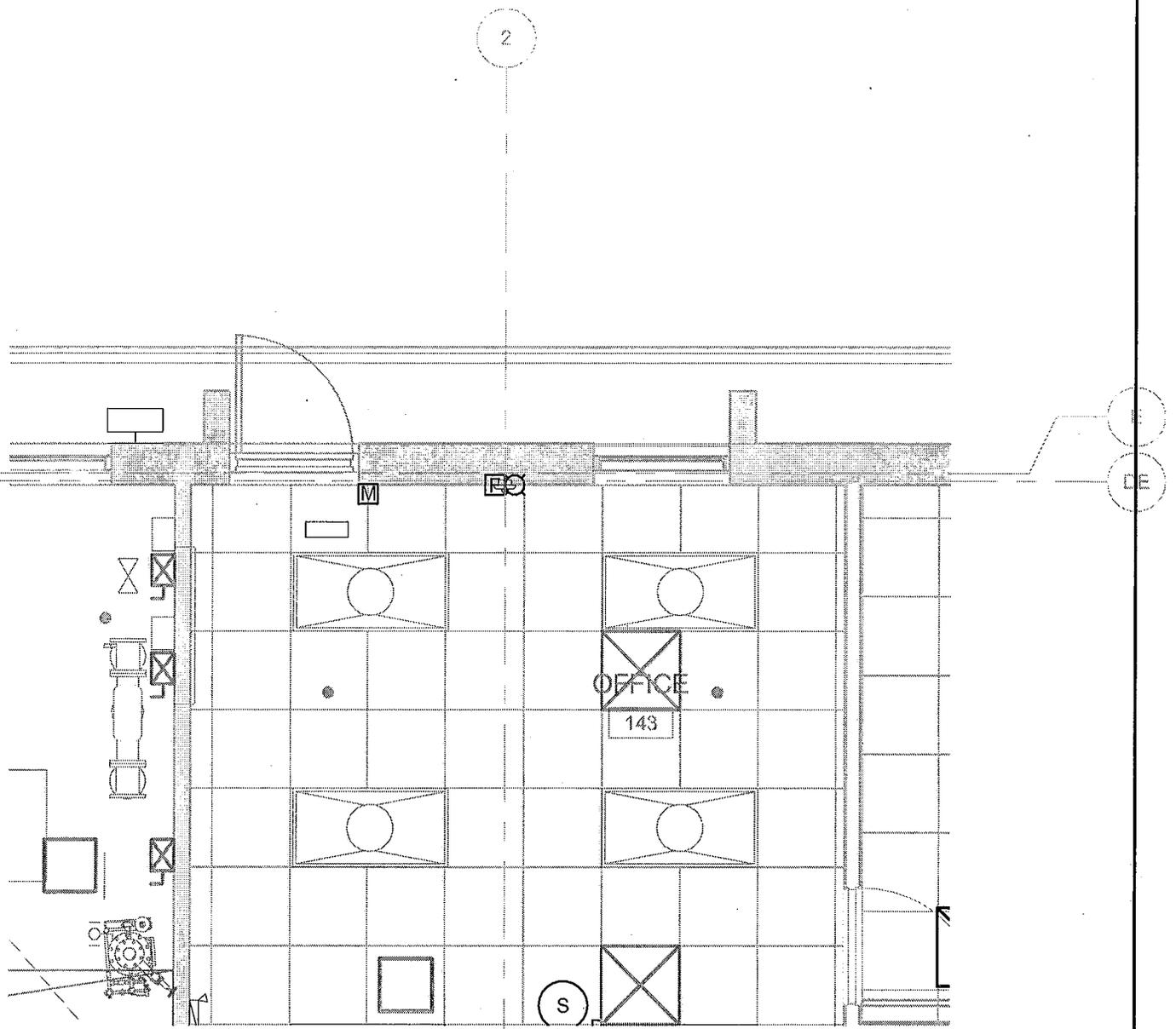
ADDENDUM #3

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Automatic Sprinkler System - Mechanical Room - Partial Floor Plan
 PROJECT NO.: 2012025.00
 DATE: 03/13/2013
 SCALE: 1/4" = 1'-0"
 DRAWN BY: Author

SKFP104-1



① Partial Fire Alarm Plan - Room 143
 1/4" = 1'-0"

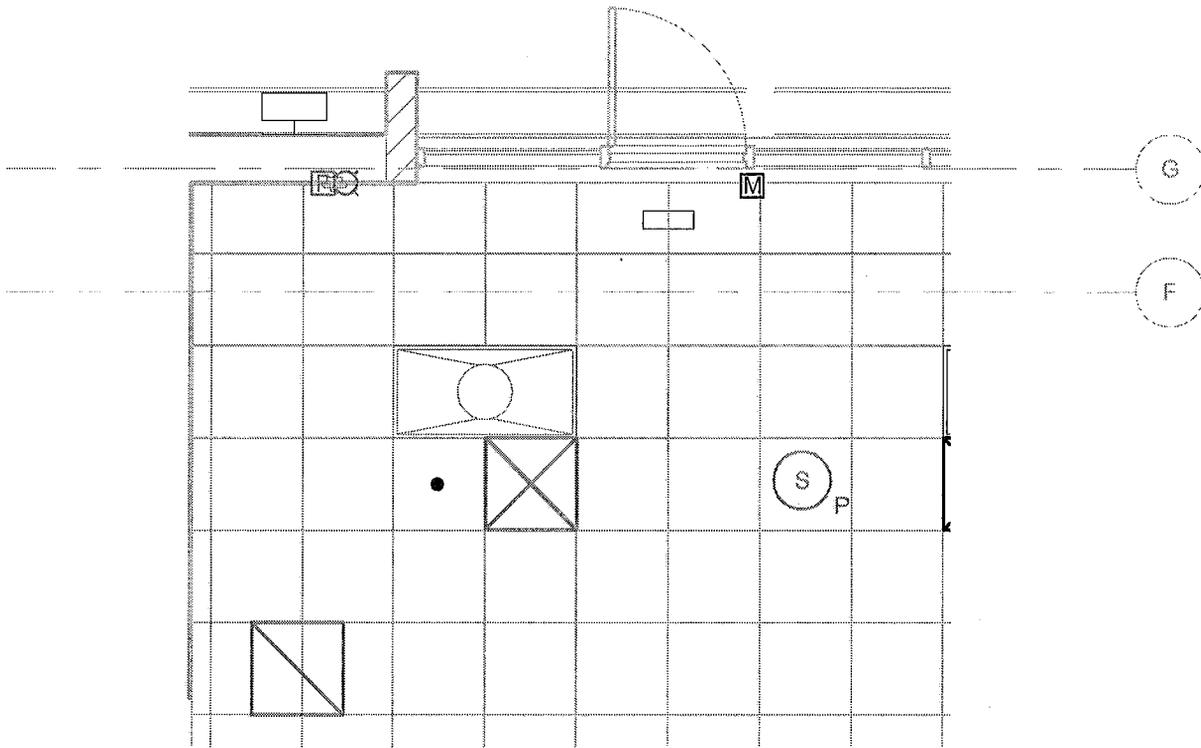
ADDENDUM #3

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Partial Fire Alarm Plan - Room 143		SKE103-1
PROJECT NO.:	2012025.00	
DATE:	03/13/2013	
SCALE:	1/4" = 1'-0"	
DRAWN BY:	Author	



① Partial Fire Alarm Plan - Room 157
 1/4" = 1'-0"

ADDENDUM #3

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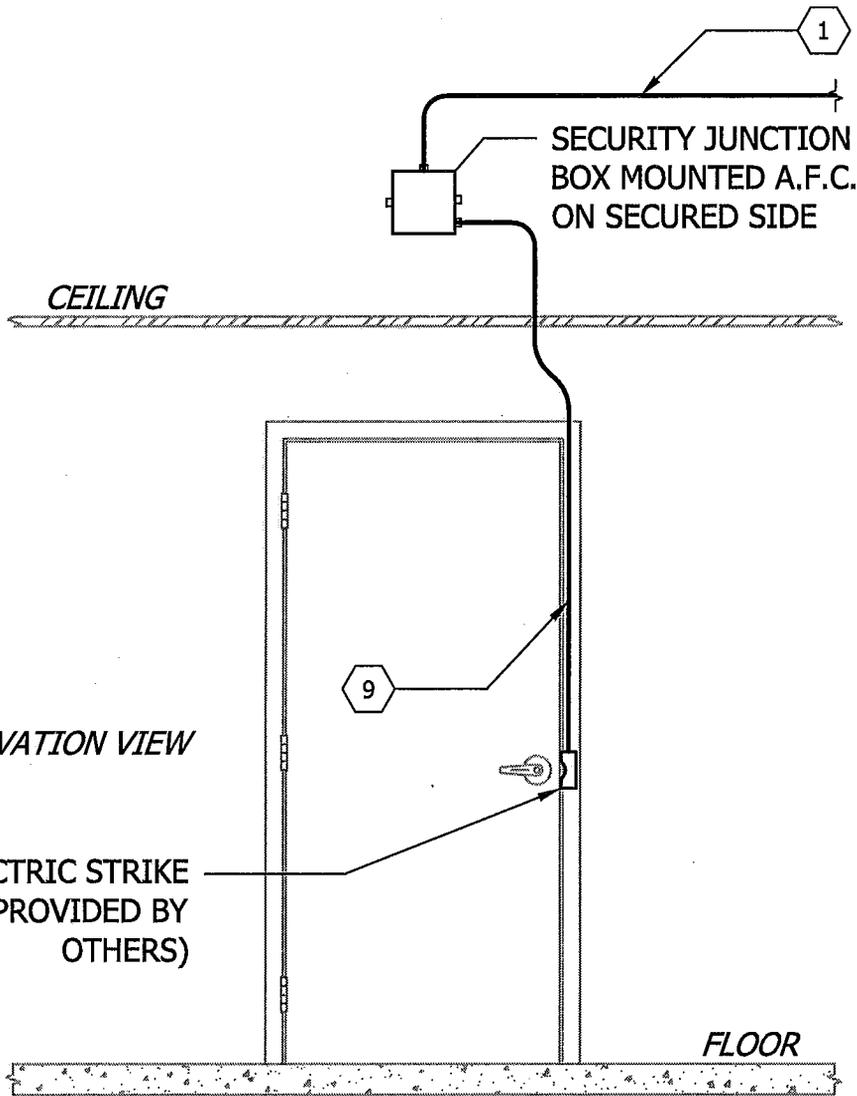
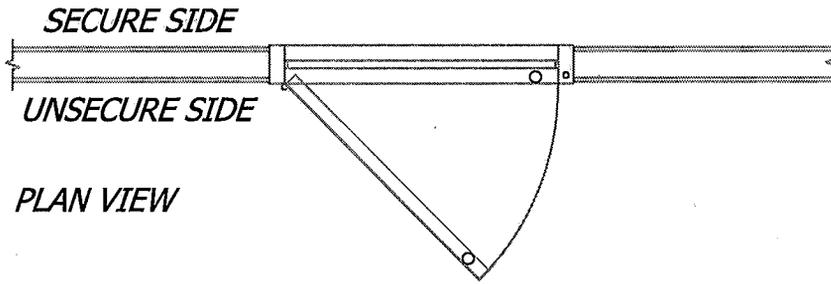
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Partial Fire Alarm Plan - Room 157

PROJECT NO.:	2012025.00
DATE:	03/13/2013
SCALE:	1/4" = 1'-0"
DRAWN BY:	Author

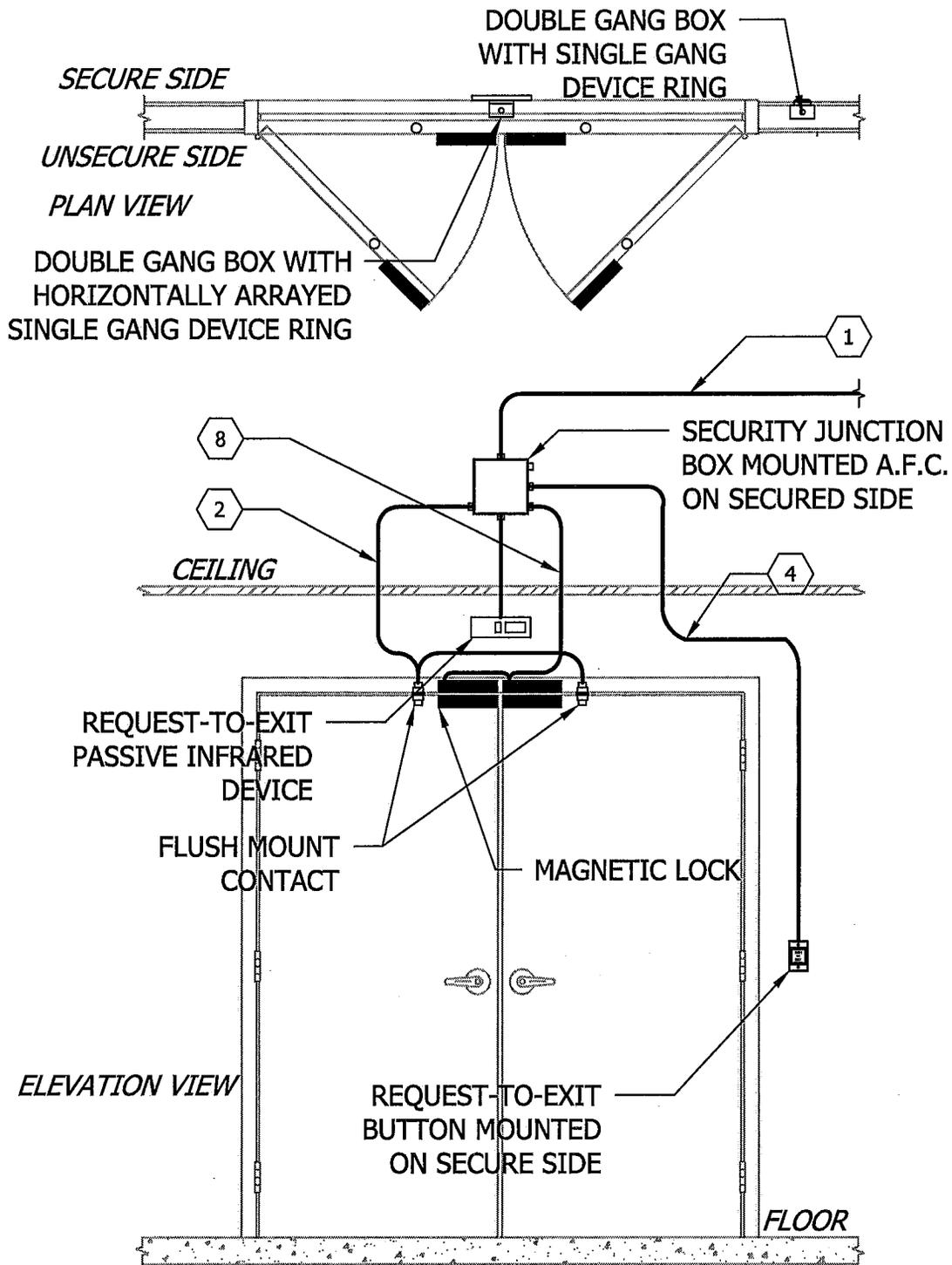
SKE103-2



5 SINGLE EMERGENCY LOCK-DOWN ACCESS CONTROL DOOR DETAIL
Scale: NTS

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			PROJECT NO.: 2012025.00
			DATE: 03/14/13
			SCALE: AS NOTED
			DRAWN BY: AED

SK-TA030-1



6 **DOUBLE EMERGENCY LOCK-DOWN ACCESS CONTROL DOOR DETAIL**
 Scale: NTS

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			PROJECT NO.: 2012025.00
			DATE: 03/14/13
			SCALE: AS NOTED
			DRAWN BY: AED

SK-TA030-2