ADDENDUM NO. 4
TO
CONTRACT DRAWINGS AND SPECIFICATIONS
Dated
July 9, 2007

MAINE TURNPIKE AUTHORITY
ADMINISTRATIVE BUILDING
CONTRACT NO. 2007.07

A/E PROJECT NO. 06016

Date of Addendum Issuance: August 10, 2007

The specifications and drawings are amended herein. This addendum consists of 10 pages of written text, the addition of Specification Sections 083113, 13960 and 15082, and Sketches ADD-4 C-1, L-1 through L-10, A-1 through A-14, and E-1 through E-3. These items replace original items previously issued or are to be added to the Bidding and Construction Documents as indicated.

Bidders are required to acknowledge receipt of this addendum on the BID FORM in the space provided. Failure to acknowledge all addenda may cause the bid to be considered not responsive to the invitation, which would require rejection of the Bid.

The Contract Documents for solicitation of Bids for the construction are hereby changed as follows:

PART I – PERTAINING TO THE SPECIFICATIONS:

1. Section 01410 – Testing, Adjusting, and Balancing:
   a. Delete 3.23A and 323B in their entirety.

2. Section 01500 – Temporary Facilities and Controls:
   a. 3.3, H., Delete and replace with the following:
      H. Architect's Project Representative & Owner's Field Office: Provide an insulated, weathertight, air-conditioned, secure field office for use by the Architect's Project Representative. Provide a single unit of at least 256 sf (8'x32').
         1. Furnish and equip office as follows:
            a. Two desks
            b. Two, four drawer file cabinets
            c. Two plan tables 8'x2.5'
            d. Two bookcases
            e. Two high speed internet connections for a minimum of 2 computers.
            f. One telephone
            g. One fax
            h. One answering machine
            i. Two, four foot square tack boards.

3. Section 02300 – Earthwork:
   a. 3.17, A.: Delete reference to Division 2 Section "Subdrainage" and replace with Division 2 Section "Perforated Underdrain."
   b. Replace 3.12, C. with the following:

C. Trenches excavated as described below shall be backfilled with structural fill or rushed stone in 6" lifts compacted to 95".
1. Trenches under non-building footings.
2. Trenches paralleling building footings within 18-inches horizontal distance and below a plane beginning at the toe of footing and extending downward at a 30-degree angle from the horizontal.

No trenches shall be excavated beneath building footings.

c. Add "D." to 3.7 as follows:

D. Maintenance During Construction:
When trenching within public traveled ways, the Contractor shall backfill all trenches and pave up to grade on a daily basis. This work shall be done in accordance with Section 105.4.1 of the Maine DOT's Standard Specifications and will be incidental to the contract. Additionally, all pavement markings obliterated or disturbed shall be restored daily for the safe passage of vehicles in accordance with Section 627 - Pavement Markings, of the Maine DOT's Standard Specifications.

4. Section 02780 – Unit Pavers:
a. 2.1, A. : Add Items "3." & "4." as follows:
3. Pavestone Company, 18 Cowan Dr., Middleboro, Massachusetts 02346 (508) 947-6001.
4. Genest Concrete Products, Sanford, Maine (207) 324-3250.
b. 2.1, B.: Add Item "2." as follows:
2. ADA paver with truncated domes, 3-7/8"w x 7-13/16"l x 2-3/8"h nominal. Color to be selected by the Architect from the manufacturer's standard range.
c. 2.2, a.: Revise to read: "Match architectural. Sizes vary as described on drawings. Thickness 2" nominal.

5. Section 064023 – Interior Architectural Woodwork:
a. 1.2, B.: Add Item 3 as follows:
3. Division 08 Section 088000 – "Glazing" for glass and glazing materials.
b. 2.2: Add Item "O" as follows:
O. Talk Thru Device: Provide round, 6 inch diameter stainless steel speak-thru device suitable for interior applications where described on the drawings. Include spacer ring and/or all other hardware that may be required for a complete and functional installation. Coordinate location and size of hole required in 3/8" butt glazing with Division 8 Section 088000 glass supplier. Subject to compliance with requirements, provide products by Insulgard Security Products, 1-800-624-6315.

6. Section 083113 – Access Control Doors and Frames:
a. Add Section 083113, a copy of which is attached, in its entirety.

7. Section 087111: Door Hardware (Scheduled by Describing Products):
a. Delete 2.20, B. and 2.21, C in their entirety.
b. Add 2.29 as follows:
2.29 ELECTROMAGNETIC LOCKS
A. General: BHMA A156.23; electrically powered, of strength and configuration indicated; with electromagnet attached to frame and armature plate attached to door.

1. Type: Full exterior or full interior, as required by application indicated.

2. Strength Ranking: 1000 lbf (4448 N).
3. Residual Magnetism: Not more than 4 lbf (18 N) to separate door from magnet.

B. Delayed-Egress Locks: BHMA A156.24.

1. Means of Egress Doors: Lock releases within 15 seconds after applying a force not more than 15 lbf (67 N) for not more than 3 seconds, as required by NFPA 101.

C. Configuration: Shear type.

1. Mounting: Lock mounted on face of header; strike mounted on either side of door with angle bracket.

D. Available Manufacturers:

1. Door Controls International.
2. DynaLock Corp.
3. Locknetics; an Ingersoll-Rand Company.
4. SARGENT Manufacturing Company; an ASSA ABLOY Group company.
5. Securitron Magnalock Corporation; an ASSA ABLOY Group company.
6. Security Door Controls.

c. Replace the following Hardware Set Descriptions in Part 3.7:

HWS1: Hinges, Lockset (Office Function), Armorplate, Closer, Stop, Electromagnetic Lock, Preparation for Card Access Device.

HWS7: Hinges, Lockset (Office Function), Kickplate, Closer, Automatic Door Bottom, Weatherstripping, Stop, Electromagnetic Lock, Preparation for Card Access Device.

HWS10: By Aluminum Door Supplier: Hinges, Exit Device, Closer, Threshold, Weatherstripping. By hardware vendor: Electromagnetic Lock, Preparation for Card Access Device, Cylinder.

HWS17: By Aluminum Door Supplier: Each Leaf to Receive Hinges, Concealed Rod Exit Device. By hardware vendor: Electromagnetic Lock for both leaves, Hold Open/Closer Detectors, Preparation for Card Access Device, Cylinder.

HWS19: By Aluminum Door Supplier: Each leaf to Receive: Hinges, Concealed Rod Exit Device, Closer, Weatherstripping, Threshold. By Hardware Vendor: Electromagnetic Lock for both leaves, Preparation for Card Access Device, Cylinder. ADA Automatic Door Operator.

HWS21: Hinges, Lockset (Office Function), Kickplate, Closer, Stop, Electromagnetic Lock, Preparations for Card Access Device.

HWS22: Hinges, Exit Device, Hold Open Closer/Detector, Electromagnetic Lock, Preparation for Card Access Device.

HWS23: Hinges, Exit Device with Delayed Egress and Alarm, Hold Open Closer/Detector, Electromagnetic Lock with Delayed Egress Feature, Preparation for Card Access.

8. Section 088000 – Glazing:
   a. 1.2, B.: Add the following related section:
      2. Division 6 Section "Interior Architectural Woodwork" for wood cabinets, standing and running wood trim, countertops, hardware and other miscellaneous materials related to butt-glazed monolithic interior borrowed lites.

9. Section 092216 – Non-Structural Metal Framing:
   a. Revise 2.2, D. to read as follows:
      D. Flat Strap and Backing Plate: Provide Steel sheet for blocking and bracing in locations described on drawings, in locations listed below, and in other locations as may be necessary for secure fastening of stair rails woodwork, hardware, finish systems, specialties, accessories and equipment. Locations requiring blocking include, but may not be limited to the following:

      - Wall mounted stair rail supports
      - Wall mounted wood standing and running trim
      - Wall mounted architectural woodwork including, but not necessarily limited to: standing and running trim, paneling and wainscots, cabinets, countertops, railings, and shelf supports.
      - Wall mounted door hardware including, but not necessarily limited to: electromagnetic door holders, doorstops and bumpers, and door control switches and door operators.
      - Wall mounted visual display surfaces, and display cases
      - Wall mounted supports for toilet compartments
      - Wall mounted supports for wire mesh partitions
      - Wall mounted toilet, bath and laundry accessories, both normal and detention, including, but not necessarily limited to: tissue dispensers, towel dispensers, soap dispensers, grab bars, napkin vendor and disposal units, mirrors, towel pins, curtain rods, and diaper-changing stations.
      - Fire extinguishers and fire extinguisher cabinets
      - Metal lockers

10. Section 09300 – Tiling:
    a. 2.3, D. Item #1.: Delete in its entirety.
    b. 2.6: Add Item E as follows:
       E. Stainless Steel Cove Base Transition: Provide Schluter DILEX-EHK, U11/011, stainless steel cove transition, or approved equal, at all restroom wall/floor intersections.

11. Section 101100 – Visual Display Surfaces:
    a. 3.4 Visual Display Surface Schedule: Add Item #8 as follows:
       8. Provide one visual display board assembly in each of the following locations:
          a. Conference Training 123
          b. Conference 159
          c. Conference 229 and 230
          d. Conference 338 and 345

12. Section 133419 – Metal Building Systems:
    a. 1.5, C.: Delete in its entirety. No insulation is required.
    b. 2.8, A.: Revise to read "...mechanically attaching panels to supports using concealed fasteners in side laps."
    c. 2.8, B.: Delete in its entirety. Liner panels are not required.

13. Section 13960 – Clean-Agent Extinguishing Systems:
    a. Add Section 13960, a copy of which is attached, in its entirety.

14. 15082 – Equipment Insulation:
    a. Add Section 15082, a copy of which is attached, in its entirety.

PART II – PERTAINING TO THE DRAWINGS:

1. CP101 – LAYOUT PLAN:
    a. Revise to include dimensioning for new paint markings on Congress Street; and , Add radius curb at District Drive and Congress Street and new paving in Congress Street for extension of right-hand turn lane from Congress on to the Airport Connector. See attached Sketch No. C-1 Congress Street & District Road.

2. LP101 – LANDSCAPE PLAN:
    a. Sketch Nos. L-1, L-2, L-3, L-4, L-5 and L-6 graphically clarify plant material requirements.
    b. Sketch No. L-7 clarifies extent of irrigation system provided as part of this contract.

3. LP202 – DETAIL LANDSCAPE PLAN:
    a. Sketch No. L-8 graphically clarifies plant material requirements.
    b. Sketch No. L-9 revises plant material requirements.

4. LP501 – LANDSCAPE DETAILS / PLANT LISTS:
    a. Plant List: Perennials, under column heading "Root": Delete "Pots" and replace with "One Gallon Container Minimum." Reference Sketch No. L-10 attached.
    b. Add the following to Perennials Plant List:
    LS – Lavandula angustifolia 'Hidcote Superior' / Hidcote Superior English Lavender – 1 gal. pot – full."

5. C504 – SITE DETAILS:
    a. A1, Paving Detail at Front Entry: Revise the third and fourth notes down on the right-hand side of the detail to read 12"x12" Precast. Only the shaded area under the canopy and between the canopy and the front steps for the width of the steps receives granite paving.

6. AE101 – FIRST FLOOR PLAN:
    a. Key Notes: Add the following to Note #7: Wire Mesh Partitions, 10 ft. high with 3 ft. – 8 inches wide x 7 ft. high doors.
    b. Revise the window tag adjacent to Door No. 168c from "A3" to "A10."
    c. Revise door swings 131, 133, 135 and 136 as described on A-1.

7. AE111 – FIRST FLOOR LAYOUT PLAN:
    a. Revise dimensions at Corridor 137 as described on A-2.

8. AE121, 122 & 123 – REFLECTED CEILING PLANS:
   a. Symbol Legend: Remove (N.I.C.) from Ceiling Mounted Camera line item.
   b. Revise layout of ceiling in Corridor 137 as described on A-3.
   c. Locate soffit mounted cameras as described on A-4, A-5 and A-6.

9. AE131 – ROOF PLAN:
   a. Locate cameras as described on A-7 and A-8.

10. AE218 – INTERIOR ELEVATIONS:
    a. Revise layout at kitchenette in Break Room 138 as described on A-9.

11. AE402 – MAINTENANCE BUILDING PLANS & ELEVATIONS:
    a. General Notes, Note 5: Revise to read "...three coat fluoropolymer finish on both metal wall and roof panels...."

12. AE532 – BUILDING AND WALL DETAILS:
    a. Install rooftop mounted camera base as described by A-10.

13. ES101 – ELECTRICAL SITE PLAN:
    a. Revise the pole height for the Type AA fixture closest to drawing coordinate B/10 from 25 ft. to 20 ft.

14. ES301 – DUCT BANK DETAILS:
    a. Details A1, A6 and F4: Revise note to read "Provide concrete encasement beneath all paved areas subject to vehicular traffic.

15. ES302 – DUCT BANK DETAILS:
    a. Detail A1: Revise note to read "Provide concrete encasement beneath all paved areas subject to vehicular traffic, including paved drives and parking areas."

16. EP601 – PANEL SCHEDULES:
    a. Panelboard EPP1: 20 amp, 1 pole circuit EPP1-21 CAMERAS shall become SPARE.

17. EP603 – PANEL SCHEDULES:
    a. Panelboard EPP3: 20 amp, 1 pole circuit EPP1-4 PTZ CAMERAS shall become SPARE.

18. EL652 – LIGHTING CONTROL SCHEDULES & RISER:
    a. Detail A9 – Networked Lighting Control Panel Schematic Riser Diagram: Revise all 2-wire network wiring from "CAT 5E" to "16 AWG UTP Belden 8471 or equal."

19. EY101 – FIRST FLOOR SYSTEMS PLAN:
    a. Revise Keyed Note 4 to read as follows: "Provide 120V connection from EPP1-19 to card reader system transformer provided by owner's security access control system contractor. Provide 4" square junction box above door with ½"conduit stubbed into door head and ½" conduit to a junction box 48" AFF for each card reader. Coordinate final location of junction boxes with architect and owner's security contractor."
    b. Revise Keyed Note 13 to read as follows: "Furnish and install fixed CCTV camera in recessed dome beneath canopy. Reference drawing EY652, as modified herein by Sketch

No. E-3, for CCTV riser diagram and power supply. Coordinate final mounting location and aiming with architect and owner."

c. Revise Keyed Note 17 to read as follows: "Furnish and install fixed CCTV camera wall mounted above doorway. Reference drawing EY652, as modified herein by Sketch No. E-3, for CCTV riser diagram and power supply. Coordinate final mounting location and aiming with architect and owner.

d. Add Keyed Note 18 to read as follows: "Access controlled door with magnetic locks and integral hold-open closer/detector. Provide fire Alarm System control modules for magnetic lock release and hold-open release during alarm. Coordinate with owner's access control system contractor, and door hardware installer." See Sketch Nos.E-1 and E-2 attached.

20. EY102 – SECOND FLOOR SYSTEMS PLAN:

a. Revise Keyed Note 4 to read as follows: "Provide 120V connection from EPP1-19 to card reader system transformer provided by owner's security access control system contractor. Provide 4" square junction box above door with ½"conduit stubbed into door head and ½" conduit to a junction box 48" AFF for each card reader. Coordinate final location of junction boxes with architect and owner's security contractor."

b. Revise Keyed Note 12 to read as follows: "CCTB system head-end equipment rack and power supply. Provide 120V hardwired connection to power supply from EPP2-20. See EY652 for riser diagram and CCTV system requirements. Coordinate final mounting location and height with architect and owner."

c. Revise Keyed Note 13 to read as follows: "Furnish and install fixed CCTV camera in recessed dome beneath canopy. Reference drawing EY652, as modified herein by Sketch No. E-3, for CCTV riser diagram and power supply. Coordinate final mounting location and aiming with owner and architect.

21. EY103 - THIRD FLOOR SYSTEMS PLAN:

a. A1, Authority Room No. 310: Delete the junction box associated with Keyed Note 8. Control interface will be wireless as noted in Specification Section 16800.

b. Revise Keyed Note 4 to read as follows: "Provide 120V connection from EPP1-19 to card reader system transformer provided by owner's security access control system contractor. Provide 4" square junction box above door with ½"conduit stubbed into door head and ½" conduit to a junction box 48" AFF for each card reader. Coordinate final location of junction boxes with architect and owner's security contractor."

c. Revise Keyed Note 12 to read as follows: "Provide CCTV exterior PTC camera arm mounted on building corner. Reference drawing EY652, as modified herein by Sketch No. E-3, for CCTV riser diagram and power supply. Coordinate final mounting location and aiming with architect and owner."

22. EY652 – SYSTEMS RISER DIAGRAMS:

a. A1: Replace with attached Sketch No. E-3.

PART III– GENERAL INFORMATION RELATING TO THE PROJECT:

These items provide supplemental information to the Contract.

Question 1: "As an interior elevation has not been provided for the east wall of Alcove 201d, assume it is similar to elevations provided for Hall 201a?"

Response: The intent of the documents is to provide vinyl wall covering with wood base on north, west and south walls, and wood paneling on east wall as scheduled. Layout of vinyl wall finish and

wood base on west and south walls, and wood paneling on east wall are both similar to interior elevation 21.

Question 2: "Room finish schedule on AE602 notes SF (Storefront) w/o a reference to wood panel, while 13,14 and 15 show panel. Is there a wood panel at these walls as the elevations show? "
Response: Reference AE602, Finish Notes, Note #3 as referenced in the schedule for Vestibule 211. The intent of the documents is to provide for both aluminum storefront and wood panel wall finishes in Vestibule 211 as referenced in the schedule and described on the interior elevations.

Question 3: "As an interior elevation has not been provided for the east wall of Alcove 301a, assume it is similar to elevations provided for gallery 301?
Response: Correct. Reference Question #1 above.

Question 4: "At Supply Closet 109. How many levels of shelving are there? How deep is the shelving?"
Response: Closets 109, 209 and 309 are each to contain 5 shelves, 12 inches deep on the long leg, and 18inches deep on the short leg.

Question 5: "Closets 256, 311 and 350 graphically show a closet shelf & rod. How deep is the shelf and of what is the rod constructed. Is there only one shelf at each location?
Response: Each closet shall be provided with a full width rod consisting of 770-5 heavy duty round tubing and 764 flanges as manufactured by Knape & Vogt or approved equal. Each closet shall also be provided with one full width shelf supported on 1x6 cleats. The depth of the shelf in Closet 256 is 18 inches, and the shelves are 24 inches deep in Closets 311 and 350.

Question 6: "Is any shelving required at Closet 312?
Response: No.

Question 7: The showers shown on AE401 appear to have ADA compliant shower seats and grab bars. There is no mention of these in the Toilet Accessories Key Notes or specifications for toilet accessories.
Response: Reference Specification Section 15410, "Plumbing Fixtures." Shower benches and grab bars are specified as integral to the shower units.

Question 8: Are subcontractors required to provide the same insurance coverages as general contractors?
Response: The documents stipulate insurance requirements for the general contractor only.

Question 9: AE001 shows all 3 floors to receive spray-on fireproofing, but details, e.g. A9/AE315, A9/AE316 and A7/AE541 do not show fireproofing on the roof. Is the roof to receive fireproofing or just the second and third floor framing?
Response: Roof framing members are not intended to receive spray-on fire protection. Reference S4.0, Note 14, and S4.1, Note 11. Beams identified by Notes 14 and 11 as not receiving primer or paint are to receive spray-on fire protection.

Question 10: Is the composite slab on second and third level framing normal weight or light weight concrete? Note: with 3" net concrete, the concrete would need to be light weight in order for the deck to qualify as unprotected, i.e., not sprayed.
Response: Design intent is to provide spray-on fire protection on those horizontal structural steel members identified in S4.0 and S4.1 as noted above, and other miscellaneous steel plates as are required for support of exit stairs as detailed on AE542.

Question 11: There does not appear to be a reference to in-wall blocking except for the metal blocking at the chair-rail and metal wall railing. Is there supposed to be blocking for division 10 specialties? Any blocking at wood paneling or wood base? If so, is there a preference for wood or metal blocking?
Response: Reference 092216, 2.2, D. as revised herein above, and 061053, 3.1, B. Provide metal blocking typically to block non-structural metal framing. Provide wood blocking where described in the drawings and specifications, and in those limited applications in non-structural metal framing where metal blocking may require supplemental support or rigidity.

Question 12: Two wage rate schedules have been included for this project, one for the building and a second for the highway and earthwork. These two lists share many of the same occupation titles, but each schedule has a different wage associated with the same title. For example, under the painter for the building wage rates the minimum total wage is $13.17, while for the highway and earthwork rates the painter's rate is $18.50. So which rate will we carry with discrepancies such as this. I assume we will not have to carry two different painter's rates? Please clarify.
Response: State of Maine Law requires Maine Turnpike Authority construction contracts be governed by the Prevailing Wage Provisions in Title 26, Chapter 15 of the Maine Revised Statutes Annotated. It is the Contractor's responsibility to fully comply with this law. The Maine Turnpike Authority can not provide any additional information as to how to comply with the law. Questions regarding compliance may, at the Contractor's discretion, be directed by the Contractor to State of Maine Department of Labor.

Question 13: As a start date of September 6, 2007 is referenced, should bidders assume that FAA Form 7460-1 will be approved by that date along with the municipal building permit and performance bond which are being procured by the Owner?
Response: A project start date is provided on the Bid Form for the sole purpose of establishing the construction interval. Yes, Bidders should assume that FAA Form 7460-1 notification for the permanent construction will be approved by the contract award date. The Contractor will be responsible for submitting and obtaining such other FAA approvals as may be required for temporary conditions during construction, such as the use of cranes. Yes, Bidders should also assume that municipal performance guarantee and building permit will be obtained by the Owner by the contract award date.

Question 14: Will the permit for the State of Maine Site Location of Development and Natural Resources Protection Act be approved by the start of construction and have all special conditions been noted on the drawings?
Response: Yes.

Question 15: Can signing off the certificate(s) required under the Site Location of Development Law, including Stormwater Management Law, be accomplished within the time frame allowed so that construction may begin?
Response: Yes.

Question 16: What thickness is the insulation that occurs under the slab on grade?
Response: One inch down the interior face of frost wall and across the entire area described as insulated on S2.0 – Foundation Plan, and one inch beneath the entire area of those exterior slabs containing inslab radiant piping as described on MP111A and MP112.

Question 17: Where is window type A10/AE621 located?
Response: Over Door No. 168c as described on AE101 as revised herein above.

Question 18: Is the electrical contractor responsible for providing all work and material for the installation of the security access control system?
Response: The work of this contract pertaining to security access and control systems includes that described on EY101, EY102 & EY103 under Keyed Notes Item #4. Under separate contract with the Owner, security access and control system devices, low voltage system wiring, head-end equipment, software and programming will be provided.

Question 19: Review of the grading plan, sheet CG101, and the Subsurface Exploration Plan contained in the geotechnical report shows discrepancies in the location of the property lines for the site. Please clarify.
Response: The Subsurface Exploration Plan contained in the geotechnical report includes preliminary boundary and topographic information which was later updated and is reflected in the construction documents. The test pit (TP) locations, elevations, and the ledge surface shown are accurately recorded in each plan. By aligning the Subsurface Exploration Plan and CG101 – Grading Plan utilizing the test pit locations, accurate relation of the ledge surface to the proposed grading may be obtained.

Question 20: Sheet CU202 / Detail #6: The way that the detail is drawn could be interpreted to show a 1-1/2" pavement overlay of Congress St. in the area of the new sewer service. Is an overlay required?
Response: No, the intent of the detail referenced is to describe pavement repair in Congress Street made necessary by disturbance created from the construction of the new sanitary sewer line.

Question 21: On Sheet LP101 there is a note that states that irrigation system is to be provided by others. However, irrigation specifications are included in the contract documents. Is irrigation to be included as part of this bid?
Response: Irrigation of lawns and planting within the area shown is to be included in this bid. Please reference Sketch No. L-7 included herein.

Question 22: Can you provide a furnishings layout for information?
Response: A-11, A-12 and A-13 are provided for information purposes only. These drawings are progress drawings, and are subject to revision.

Question 23: With the Exception of the pad at the boilers, which is shown on AE101, it is unclear as to what other mechanical equipment gets housekeeping pads. Please clarify which items get pads and what the size of the pads are?
Response: Reference attached A-14 for approximate pad sizes and locations within Mech. Room 169. Pads for HTR1 and HTR2 are approximately 30"x 30"x 4." Pads for P/1A, P/1B, P/7A, P/7B, P/2A and P/2B are approximately 20"x 50"x 4." Pad for glycol is approximately 30"x 30"x 4." Pad sizes are approximate and final sizes will be coordinated by Contractor based on submitted and approved equipment product data. Pad locations shall also be coordinated and finalized by Contractor based on submitted and approved equipment product data. Reference Section 15050, 3.10 for additional requirements for concrete equipment bases.

Question 24: Will you consider/accept a product substitution at this time?
Response: Reference Supplemental Instructions to Bidders, Paragraph 3.3.2. No requests for substitutions will be considered prior to bidding except on the limited basis described in 3.3.2.

END OF ADDENDUM No. 4

SECTION 083113

ACCESS DOORS AND FRAMES

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. This Section includes the following:

1. Access doors and frames for walls and ceilings.

B. Related Sections include the following:
1. Division 07 Section "Roof Accessories" for roof hatches.

1.3 SUBMITTALS

A. Product Data: For each type of access door and frame indicated. Include construction details, materials, individual components and profiles, and finishes.

B. Access Door and Frame Schedule: Provide complete access door and frame schedule, including types, locations, sizes, latching or locking provisions, and other data pertinent to installation.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of access door(s) and frame(s) through one source from a single manufacturer.

1.5 COORDINATION

A. Verification: Determine specific locations and sizes for access doors needed to gain access to concealed plumbing, mechanical, or other concealed work, and indicate in the schedule specified in "Submittals" Article.

PART 2 - PRODUCTS

2.1 STEEL MATERIALS

A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

1. ASTM A 123/A 123M, for galvanizing steel and iron products.
2. ASTM A 153/A 153M, for galvanizing steel and iron hardware.

B. Steel Sheet: Uncoated or electrolytic zinc-coated, ASTM A 591/A 591M with cold-rolled steel sheet substrate complying with ASTM A 1008/A 1008M, Commercial Steel (CS), exposed.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS) with A60 (ZF180) zinc-iron-alloy (galvannealed) coating or G60 (Z180) mill-phosphatized zinc coating; stretcher-leveled standard of flatness; with minimum thickness indicated representing specified thickness according to ASTM A 924/A 924M.

D. Steel Finishes: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1. Surface Preparation for Steel Sheet: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
2. Surface Preparation for Metallic-Coated Steel Sheet: Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating suited to the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas, and apply galvanizing repair paint specified below to comply with ASTM A 780.

    a. Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds in steel, complying with SSPC-Paint 20.

3. Factory-Primed Finish: Apply shop primer immediately after cleaning and pretreating.

E. Drywall Beads: Edge trim formed from 0.0299-inch (0.76-mm) zinc-coated steel sheet formed to receive joint compound and in size to suit thickness of gypsum board.

2.2 ACCESS DOORS AND FRAMES FOR WALLS AND CEILINGS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Babcock-Davis; A Cierra Products Co.
2. Bar-Co, Inc. Div.; Alfab, Inc.
3. Dur-Red Products.
4. J. L. Industries, Inc.
5. Karp Associates, Inc.
6. Larsen's Manufacturing Company.
7. Milcor Inc.

8. Nystrom, Inc.

B. Flush Access Doors and Frames with Exposed Trim: Fabricated from **metallic-coated steel** sheet.

1. Locations: Wall and ceiling surfaces.
2. Door: Minimum 0.060-inch- (1.5-mm-) thick sheet metal, set flush with exposed face flange of frame.
3. Frame: Minimum 0.060-inch- (1.5-mm-) thick sheet metal with 1-inch- (25-mm-) wide, surface-mounted trim.
4. Hinges: Continuous piano.
5. Latch: Cam latch with interior release.

C. Hardware: Provide the following:

1. Hinges: Heavy-duty, zinc-coated steel butt hinges with stainless-steel pins.
2. Hardware Material: Manufacturer's standard.

2.3 FABRICATION

A. General: Provide access door and frame assemblies manufactured as integral units ready for installation.

B. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.

C. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access panels to types of supports indicated.

1. Exposed Flanges: Nominal 1 to 1-1/2 inches (25 to 38 mm) wide around perimeter of frame.

D. Latching Mechanisms: Furnish number required to hold doors in flush, smooth plane when closed.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with manufacturer's written instructions for installing access doors and frames.

B. Set frames accurately in position and attach securely to supports with plane of face panels aligned with adjacent finish surfaces.

C. Install doors flush with adjacent finish surfaces or recessed to receive finish material.

3.2 ADJUSTING AND CLEANING

A. Adjust doors and hardware after installation for proper operation.

B. Remove and replace doors and frames that are warped, bowed, or otherwise damaged.

END OF SECTION 083113

SECTION 13960

CLEAN-AGENT EXTINGUISHING SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. The requirements of Section 13900, "Basic Fire Protection Materials and Methods" apply to work defined by this Section.

1.2 SUMMARY

A. This Section includes the following types of clean-agent extinguishing systems;
   1. IG-541, (Inergen).
   2. Note: FM-200 may be considered as an equal by the Owner pending equal performance to that required by this section.

B. Related Sections include the following:
   1. Division 10 Section, "Fire Extinguishers" for compatible clean agent extinguishers.
   2. Division 13 Section "Basic Fire Protection Materials and Methods."
   3. Division 15 Sections, "Metal Duct" and "Duct Accessories" for room pressure relief venting.
   4. Division 16 Section, "Fire Alarm" for alarm device wiring and system interface.

1.3 DEFINITIONS

A. ATS: Acceptance Testing Specifications.

B. EPO: Emergency Power Off.

C. IG-541: Clean agent fire extinguishing agent consisting of a mixture of nitrogen, argon, and carbon dioxide inert gases.

1.4 SYSTEM DESCRIPTION

A. Clean-agent fire-extinguishing system shall be an engineered system for total flooding of each zone identified where present. Zones shall be independent of each other. Discharge in one zone shall not automatically initiate discharge in another zone.

1.5 PERFORMANCE REQUIREMENTS

A. Design clean-agent extinguishing system and obtain approval from authorities having jurisdiction. Design system as appropriate for areas being protected and include safety factor. Use clean agent indicated and in concentration suitable for normally occupied areas.

B. Performance Requirements: Discharge IG-541 within 60 seconds and maintain 37.5 percent concentration by volume at 70 deg F (21 deg C) for 10-minute holding time in hazard areas.
   1. System Capabilities: Minimum 2175-psig (15-MPa) calculated working pressure upstream from orifice union, minimum 1000-psig (6895-kPa) calculated working pressure downstream from orifice union, and 2175-psig (15-MPa) initial charging pressure.

C. Cross-Zoned Detection: Two types of devices located within each zone. Sound alarm on activating a single-detection device of one type, and discharge extinguishing agent on actuating a single-detection device of the second type.

D. Sequence of Operation (typical for each zone):
   1. Actuating first detector type will cause the following to occur:
      a. The alarmed detector's location will be displayed on the system control panel LCD and graphic annunciator.
      b. The horn/strobe inside the protected space will operate, (slow pulse).
      c. An alarm condition will be transmitted to the building fire alarm system.
      d. The clean agent system will be placed in pre-alarm condition.
   2. Actuating second detector type will cause the following to occur:
      a. The alarmed detector's location will be displayed on the system control panel LCD and graphic annunciator.
      b. The horn/strobe inside the protected space will continue to operate. However, pulse will change from slow pulse to fast pulse.
      c. The horn/strobe outside the protected space will operate, (fast pulse).
      d. Air conditioning equipment will be shut down.
      e. Select equipment within the space will be shut down.
      f. A 30 second pre-discharge time delay will begin.
      g. Upon expiration of the 30 second time delay, clean agent will discharge to the active zone only.
      h. A "system active" alarm condition will be transmitted to the building fire alarm system.
      i. Audible and visual alarms will continue to operate until reset at the system control panel.
   3. Actuating a manual pull station will cause the following to occur:
      a. Action is the same as identified above for "actuating second detector type" except the 30 second time delay will be bypassed.
      b. Actuating a manual pull station will override an abort switch, (see below).
   4. Actuating and continuing to hold an abort switch will cause the following to occur:
      a. The 30 second delay will count down to 10 seconds and then hold.
      b. The system must be reset at the system control panel prior to releasing the abort switch.
      c. If the abort switch is released then the count down will continue from 10 seconds.

E. EPO: Will terminate power to protected equipment immediately on actuation.

F. Low-Agent Pressure Switch: Initiate trouble alarm if sensing less than set pressure.

G. General Trouble: Should a trouble condition occur at the control panel, a trouble signal will be sent to the building fire alarm system.

H. Seismic Performance: Fire-suppression piping and containers shall be capable of withstanding the effects of earthquake motions per the requirements of Section 13900.

1.6 SUBMITTALS

A. General: See Division 1 for general submittal and product substitution requirements.

B. Pre-Construction Submittals: Submit the following items prior to commencing with installations.
   1. Product Data: For the following:
      a. Extinguishing-agent containers.
      b. Extinguishing agent.
      c. Discharge nozzles.
      d. Control panels.
      e. Detection devices.
      f. Manual stations.
      g. Switches.
      h. Alarm devices.
      i. Pipe and fittings.
      j. Pipe hangers and supports, (including seismic restraints where applicable).
   2. Shop Drawings and Design Calculations: Prepared according to NFPA 2001. Include the following;
      a. Plans, elevations, sections, details, and attachments to other work. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each component.
         1) Indicate locations of other ceiling-mounted items including light fixtures, diffusers, grilles, speakers, sprinklers, and access panels.
      b. Wiring Diagrams: Power, signal, and control wiring.
      c. Design Calculations: For weight, volume, free venting area, and concentration of extinguishing agent required for each hazard area.
      d. Seismic brace details and locations.

C. Post-Construction Submittals: Submit the following items upon completion of the work.
   1. Field quality-control test reports.
   2. Copies of final system sign-off and acceptance by the AHJ.
   3. Maintenance Data: For components to include in fire protection operating and maintenance manuals.
   4. Record Drawings: Per the requirements of section 13900 and Division 1.

1.7 QUALITY ASSURANCE

A. Designer Qualifications: System designer shall be experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for

installations of clean-agent extinguishing systems that are similar to those indicated for this Project in material, design, and extent.

1. Contractor's designer to be a Registered Professional Fire Protection Engineer. Submitted drawings and calculations shall bear the original stamp and signature of said Engineer.
2. Contractor's designer to be NICET Level IV Certified or a Registered Professional Fire Protection Engineer.

B. Listing and Approval: Unless otherwise required by the Owner's Insurance Underwriter, components intended for use in fire suppression systems shall be "listed" or "approved."
1. "Listed": UL Listed.
2. "Approved": FM Approved.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.8 COORDINATION

A. Coordinate layout and installation of system components with other construction that penetrates ceilings, including sprinklers, light fixtures, HVAC equipment, and partition assemblies

1.9 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Deliver extra materials to Owner.

1. Detection Devices: Not less than 20 percent of amount of each type installed.
2. Nozzles: Not less than 20 percent of amount of each type installed.
3. Extinguishing Agent: Not less than 100 percent of amount installed as the primary system. "Extra" or back-up agent shall be hard-piped in an identical fashion to the primary system of cylinders, pipe, valves, controls and supports.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers listed below.

B. Clean Agent and System Components:
1. Ansul Incorporated, (Inergen).
2. Chemtura, (FM-200).
3. DuPont, (FM-200).

2.2 PIPING MATERIALS

A. Refer to Part 3 piping applications Article retained for applications of pipe, tube, fitting, and joining materials.

B. Piping, Valves, and Discharge Nozzles: Comply with types and standards listed in NFPA 2001, Section "Distribution," for charging pressure of system.

2.3 PIPE AND FITTINGS

A. Steel Pipe: ASTM A 53/A 53M, Grade B or ASTM A 106, Grade C; Schedule 40 and Schedule 80, seamless steel pipe.
   1. Threaded Fittings:
      a. Malleable-Iron Fittings: ASME B16.3, Class 300.
      b. Flanges and Flanged Fittings: ASME B16.5, Class 300, unless Class 600 is indicated.
   2. Forged-Steel Welding Fittings: ASME B16.11, Class 3000, socket pattern.

B. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.
   1. ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch (3.2-mm) maximum thickness, unless thickness or specific material is indicated.

C. Flange Bolts and Nuts: ASME B18.2.1, carbon steel.

D. Welding Filler Metals: Comply with AWS D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

2.4 VALVES

A. General: Brass; suitable for intended operation.

B. Container Valves: With rupture disc or solenoid and manual-release lever, capable of immediate and total agent discharge and suitable for intended flow capacity.

C. Valves in Sections of Closed Piping and Manifolds: Fabricate to prevent entrapment of liquid, or install valve and separate pressure relief device.

D. Valves in Manifolds: Check valve; installed to prevent loss of extinguishing agent when container is removed from manifold.

E. Selector Valves: Electrically actuated valve powered and controlled by the system control panel to direct agent to a specific hazard area.

2.5 EXTINGUISHING-AGENT CONTAINERS

A. Description: Steel tanks complying with ASME Boiler and Pressure Vessel Code: Section VIII, for unfired pressure vessels. Include minimum working-pressure rating that matches system charging pressure, valve, pressure switch, and pressure gage.

1. Finish: Red, enamel or epoxy paint.
2. Manifold: Fabricate with valves, pressure switches, and connections for multiple storage containers, as indicated.
3. Manifold: Fabricate with valves, pressure switches, selector switch, and connections for main- and reserve-supply banks of multiple storage containers.
4. Storage-Tank Brackets: Factory- or field-fabricated retaining brackets consisting of steel straps and channels; suitable for container support, maintenance, and tank refilling or replacement.

B. Clean Agent: IG-541, mixture of nitrogen, argon, and carbon dioxide inert gases.

2.6 DISCHARGE NOZZLES

A. Equipment manufacturer's standard one-piece brass or aluminum alloy of type, discharge pattern, and capacity required for application.

2.7 MANIFOLD AND ORIFICE UNIONS

A. Description: NRTL-listed device with minimum 2175-psig (15-MPa) pressure rating, to control flow and reduce pressure of IG-541 gas in piping.

1. NPS 2 (DN 50) and Smaller: Piping assembly with orifice, sized for system design requirements.
2. NPS 2-1/2 (DN 65) and Larger: Piping assembly with nipple, sized for system design requirements.

2.8 CONTROL PANELS

A. Description: FMG approved or NRTL listed, including equipment and features required for testing, supervising, and operating fire-extinguishing system.

B. Power Requirements: 120-V ac; with electrical contacts for connection to system components and fire alarm system, and transformer or rectifier as needed to produce power at voltage required for accessories and alarm devices.

C. Enclosure: NEMA ICS 6, Type 1, enameled-steel cabinet.

1. Mounting: surface.

D. Supervised Circuits: Separate circuits for each independent hazard area.

1. Detection circuits equal to the required number of zones, or addressable devices assigned to the required number of zones.
2. Manual pull-station circuit.

3. Alarm circuit.
4. Release circuit.
5. Abort circuit.
6. EPO circuit.

E. Provide the following control-panel features:
1. Electrical contacts for shutting down air conditioning equipment and operating system electrical devices.
2. Storage container, low-pressure indicator.
3. Service disconnect to interrupt system operation for maintenance with visual status indication on the annunciator panel.

F. Annunciator Panel: Graphic type showing protected, hazard-area plans and locations of detectors, abort, EPO, and manual stations. Include lamps to indicate device-initiating alarm, electrical contacts for connection to control panel, and stainless-steel or aluminum enclosure.

G. Standby Power: Lead-acid or nickel-cadmium batteries with capacity to operate system for 72 hours and alarm for minimum of 15 minutes. Include automatic battery charger, with varying charging rate between trickle and high depending on battery voltage, that is capable of maintaining batteries fully charged. Include manual voltage control, dc voltmeter, dc ammeter, electrical contacts for connection to control panel, and suitable enclosure.

2.9 DETECTION DEVICES

A. Description: Comply with NFPA 2001 and NFPA 72, and include equal quantities of the following types:
1. Ionization Detectors: Comply with UL 268, dual-chamber type, having sampling and referencing chambers, with smoke-sensing element.
2. Photoelectric Detectors: Comply with UL 268, consisting of LED light source and silicon photodiode receiving element.

2.10 MANUAL STATIONS

A. General Description: FMG approved or NRTL listed, with clear plastic hinged cover, low voltage compatible with controls. Include contacts for connection to control panel.

B. Manual Pull Stations: "MANUAL RELEASE" caption, and red finish. Unit can manually discharge extinguishing agent with operating device that remains engaged until unlocked.

C. Abort Switch: "ABORT" caption, momentary contact, with green finish.

D. Emergency Power Off, (EPO) Switch: "EPO" caption, with yellow finish.

2.11 SWITCHES

A. Description: FMG approved or NRTL listed, where available, 120-V ac or low voltage compatible with controls. Include contacts for connection to control panel.
1. Low-Agent Pressure Switches: Pneumatic operation.

2. Power Transfer Switches: Key-operation selector, for transfer of release circuit signal from main supply to reserve supply.
3. Door Closers: Magnetic retaining and release device or electrical interlock to cause the door operator to drive the door closed.

2.12 ALARM DEVICES

A. Description: FMG approved or NRTL listed, low voltage, and surface mounting, unless otherwise indicated.

B. Combination horn/strobe units that meet the following criteria are acceptable, as are individual devices. Devices shall be capable of multi-speed audible and visual pulse.
1. Horns: 90 to 94 dBA.
2. Strobe Lights: Translucent lens, with "FIRE" or similar caption.

2.13 ELECTRICAL POWER AND WIRING

A. Electrical power, power wiring, and devices are specified in Division 16.

B. Low voltage power and control wiring between the clean agent system components and the clean agent control panels shall be provided and installed per the requirements of Division 16 fire alarm sections.

2.14 PRESSURE RELIEF VENTING

A. General: Clean agent system supplier shall coordinate the required relief venting free area for each of the protected areas with the HVAC Contractor.

2.15 IDENTIFICATION

A. General: Provide equipment nameplates and pipe labeling per the requirements of Section 13900.

B. Signage: Provide warning and instruction signage on either side of each door that serves a protected area.
1. Material Requirements: Stainless steel, brushed aluminum or plastic laminate with one-inch high letters of contrasting color.
2. Sign to be located on the inside, (the protected area) of the door shall read:
   a. "WHEN ALARM SOUNDS, EVACUATE THE ROOM. WHEN ALARM SOUND CHANGES TO A FAST PULSE, AGENT WILL BE RELEASED AFTER A TIME DELAY."
3. Sign to be located on the outside of the door shall read:
   a. "THIS AREA IS PROTECTED BY A CLEAN AGENT FIRE EXTINGUISHING SYSTEM. DO NOT ENTER WITHOUT AUTHORIZATION DURING OR AFTER AGENT DISCHARGE. A HORN SOUNDING INDICATES SYSTEM ACTIVATION."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with hazard-area leakage requirements, installation tolerances, and other conditions affecting work performance.
   1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PIPING APPLICATIONS

A. Piping between Storage Containers and Orifice Union:
   1. Flanged pipe and fittings and flanged joints may be used to connect to specialties and accessories and where required for maintenance.
   2. Fittings Working Pressure: 2175 psig (15 MPa) minimum.
   3. Flanged Joints: Class 600 minimum.
   4. All Sizes: Schedule 80, steel pipe; forged-steel welding fittings; and welded joints.

B. Piping Downstream from Orifice Union:
   1. Flanged pipe and fittings and flanged joints may be used to connect to specialties and accessories and where required for maintenance.
   2. Fittings Working Pressure: 1000 psig (6900 kPa) minimum.
   3. Flanged Joints: Class 300 minimum.
   4. All Sizes: Schedule 40, steel pipe; forged-steel welding fittings; and welded joints.

3.3 CLEAN-AGENT EXTINGUISHING PIPING INSTALLATION

A. Install clean-agent extinguishing piping and other components level and plumb and according to manufacturers' written instructions.

B. Install extinguishing-agent containers anchored to substrate.

C. Install pipe and fittings, valves, and discharge nozzles according to requirements listed in NFPA 2001, Section "Distribution," and in ASME B31.1.
   1. Install valves designed to prevent entrapment of liquid or install pressure relief devices in valved sections of piping systems.
   2. Support piping using supports and methods according to NFPA 13.
   3. Install seismic restraints for extinguishing-agent containers and piping systems, (where required by section 13900).
   4. Install control panels, detection system components, alarms, and accessories, complying with requirements of NFPA 2001, Section "Detection, Actuation, and Control Systems," as required for supervised system application.

3.4 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to extinguishing-agent containers to allow service and maintenance.

C. Connect electrical devices to control panel and to building's fire alarm system. Electrical power, wiring, and devices are specified in Division 16 Section "Fire Alarm."

3.5 LABELING

A. Install labeling on piping, extinguishing-agent containers, other equipment, and panels according to NFPA 2001 and per the requirements of section 13900.

B. Install signs at entry doors for protected areas to warn occupants that they are entering a room protected with a clean-agent fire extinguishing system, as well as to advise persons outside the room the meaning of the horn(s), bell(s), and strobe light(s) outside the protected space.

3.6 FIELD QUALITY CONTROL

A. Pre-Test Checks: Comply with operating instructions and procedures of NFPA 2001, Section "Approval of Installations." Perform the following inspections of each clean-agent extinguishing system:
1. Check mechanical items, including room pressure relief devices.
   a. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
2. Inspect extinguishing-agent containers and extinguishing agent, and check mountings for adequate anchoring to substrate.
3. Check electrical systems, controls and safeties.
   a. Check control-panel primary power source.
4. Check enclosure integrity. Comply with NFPA 2001, Section "Enclosure Inspection."

B. System and Enclosure Performance Tests: Comply with operating instructions and procedures of NFPA 2001, Section "Approval of Installations." Perform the following tests to demonstrate compliance with requirements. Perform tests of each clean-agent extinguishing system when installation is complete. Perform system testing only after hazard-area enclosure construction has been completed and openings sealed.
1. Perform a door fan test on each enclosure per the requirements of NFPA 2001, Appendix, "Enclosure Integrity Procedure."
2. Perform functional pre-discharge test. Verify operating sequences.
3. Perform system functional operational test including, EPO, abort, and manual release.
4. Check remote monitoring operations and fire alarm system interface.
5. Perform "puff" test on piping system, using nitrogen, per the requirements of NFPA 2001, Appendix.

C. Correct malfunctioning equipment, then retest to demonstrate compliance. Replace equipment that cannot be corrected or does not perform as specified and indicated, then retest to demonstrate compliance. Repeat procedure until satisfactory results are obtained.
1. Report test results promptly and in writing to Architect and authorities having jurisdiction.

3.7 CLEANING

A. Each pipe section shall be cleaned internally after preparation and before assembly by means of swabbing, using a suitable nonflammable cleaner. Pipe network shall be free of particulate matter and oil residue before installing nozzles or discharge devices.

3.8 SYSTEM ACTIVATION

A. Ensure that cylinders are filled and pressurized,, circuits are energized, and controls are operating.

3.9 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain clean-agent extinguishing systems. Refer to Division 1 Section "Closeout Procedures."

END OF SECTION

SECTION 15082

EQUIPMENT INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes blanket, board, and block insulation; insulating cements; field-applied jackets; accessories and attachments; and sealing compounds.

B. Related Sections include the following:

1. Division 15 Section "Duct Insulation" for insulation materials and application for ducts and plenums.
2. Division 15 Section "Pipe Insulation" for insulation for piping systems.

1.3 SUBMITTALS

A. Product Data: Identify thermal conductivity, thickness, and jackets (both factory and field applied, if any), for each type of product indicated.

B. Shop Drawings: Show fabrication and installation details for the following:

1. Field application for each equipment type.
2. Removable insulation sections at access panels.
3. Application of field-applied jackets.
4. Special shapes for cellular-glass insulation.

C. Material Test Reports: From a qualified testing agency acceptable to authorities having jurisdiction indicating, interpreting, and certifying test results for compliance of insulation materials, sealers, attachments, cements, and jackets with requirements indicated. Include dates of tests.

D. Installer Certificates: Signed by the Contractor certifying that installers comply with requirements.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the U.S. Department of Labor, Bureau of Apprenticeship and Training.

B. Fire-Test-Response Characteristics: As determined by testing materials identical to those specified in this Section according to ASTM E 84, by a testing and inspecting agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and sealer and cement material containers with appropriate markings of applicable testing and inspecting agency.

1. Insulation Installed Indoors: Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less.
2. Insulation Installed Outdoors: Flame-spread rating of 75 or less, and smoke-developed rating of 150 or less.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Packaging: Ship insulation materials in containers marked by manufacturer with appropriate ASTM specification designation, type and grade, and maximum use temperature.

1.6 COORDINATION

A. Coordinate clearance requirements with equipment Installer for insulation application.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Cellular-Glass Insulation:

   a. Pittsburgh-Corning Corp.

2. Flexible Elastomeric Thermal Insulation:

   a. Armstrong World Industries, Inc.
   b. Rubatex Corp.

2.2 INSULATION MATERIALS

A. Mineral-Fiber Board Thermal Insulation: Glass fibers bonded with a thermosetting resin. Comply with ASTM C 612, Type IB, without facing and with all-service jacket manufactured from kraft paper, reinforcing scrim, aluminum foil, and vinyl film.

B. Mineral-Fiber Blanket Thermal Insulation: Glass fibers bonded with a thermosetting resin. Comply with ASTM C 553, Type II, without facing and with all-service jacket manufactured from kraft paper, reinforcing scrim, aluminum foil, and vinyl film.

C. Cellular-Glass Insulation: Inorganic, foamed or cellulated glass, annealed, rigid, hermetically sealed cells, incombustible.

1. Block Insulation: ASTM C 552, Type I.
2. Special-Shaped Insulation: ASTM C 552, Type III.
3. Board Insulation: ASTM C 552, Type IV.

D. Flexible Elastomeric Thermal Insulation: Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Type II for sheet materials.

1. Adhesive: As recommended by insulation material manufacturer.
2. Ultraviolet-Protective Coating: As recommended by insulation manufacturer.

E. Closed-Cell Phenolic-Foam Insulation: Block insulation of rigid, expanded, closed-cell structure. Comply with ASTM C 1126, Type II, Grade 1.

F. Calcium Silicate Insulation: Flat-, curved-, and grooved-block sections of noncombustible, inorganic, hydrous calcium silicate with a nonasbestos fibrous reinforcement. Comply with ASTM C 533, Type I.

2.3 FIELD-APPLIED JACKETS

A. General: ASTM C 921, Type 1, unless otherwise indicated.

B. Foil and Paper Jacket: Laminated, glass-fiber-reinforced, flame-retardant kraft paper and aluminum foil.

C. PVC Jacket: High-impact, ultraviolet-resistant PVC; 20 mils thick; roll stock ready for shop or field cutting and forming.

1. Adhesive: As recommended by insulation material manufacturer.
2. PVC Jacket Color: White or gray.
3. PVC Jacket Color: Color-code to match connected piping jackets based on materials contained within the piping system.

2.4 ACCESSORIES AND ATTACHMENTS

A. Bands: 3/4 inch wide, in one of the following materials compatible with jacket:

1. Stainless Steel: ASTM A 666, Type 304; 0.020 inch thick.
2. Galvanized Steel: 0.005 inch thick.
3. Aluminum: 0.007 inch thick.

B. Wire: 0.080-inch, nickel-copper alloy; 0.062-inch, soft-annealed, stainless steel; or 0.062-inch, soft-annealed, galvanized steel.

C. Weld-Attached Anchor Pins and Washers: Copper-coated steel pin for capacitor-discharge welding and galvanized speed washer. Pin length sufficient for insulation thickness indicated.

1. Welded Pin Holding Capacity: 100 lb for direct pull perpendicular to the attached surface.

D. Adhesive-Attached Anchor Pins and Speed Washers: Galvanized steel plate, pin, and washer manufactured for attachment to duct and plenum with adhesive. Pin length sufficient for insulation thickness indicated.

1. Adhesive: Recommended by the anchor pin manufacturer as appropriate for surface temperatures of ducts, plenums, and breechings; and to achieve a holding capacity of 100 lb for direct pull perpendicular to the adhered surface.

E. Self-Adhesive Anchor Pins and Speed Washers: Galvanized steel plate, pin, and washer manufactured for attachment to duct and plenum with adhesive. Pin length sufficient for insulation thickness indicated.

2.5 VAPOR RETARDERS

A. Mastics: Materials recommended by insulation material manufacturer that are compatible with insulation materials, jackets, and substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation and other conditions affecting performance of insulation application.

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

3.2 PREPARATION

A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

3.3 GENERAL APPLICATION REQUIREMENTS

A. Apply insulation materials, accessories, and finishes according to the manufacturer's written instructions; with smooth, straight, and even surfaces; and free of voids throughout the length of equipment.

B. Refer to schedules at the end of this Section for materials, forms, jackets, and thicknesses required for each equipment system.

C. Use accessories compatible with insulation materials and suitable for the service. Use accessories that do not corrode, soften, or otherwise attack insulation or jacket in either the wet or dry state.

D. Apply multiple layers of insulation with longitudinal and end seams staggered.

E. Seal joints and seams with vapor-retarder mastic on insulation indicated to receive a vapor retarder.

F. Keep insulation materials dry during application and finishing.

G. Apply insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by the insulation material manufacturer.

H. Apply insulation with the least number of joints practical.

I. Apply insulation over fittings and specialties, with continuous thermal and vapor-retarder integrity, unless otherwise indicated.

J. Hangers and Anchors: Where vapor retarder is indicated, seal penetrations in insulation at hangers, supports, anchors, and other projections with vapor-retarder mastic. Apply insulation continuously through hangers and around anchor attachments.

K. Insulation Terminations: For insulation application where vapor retarders are indicated, seal ends with a compound recommended by the insulation material manufacturer to maintain vapor retarder.

L. Apply insulation with integral jackets as follows:

1. Pull jacket tight and smooth.
2. Joints and Seams: Cover with tape and vapor retarder as recommended by insulation material manufacturer to maintain vapor seal.
3. Vapor-Retarder Mastics: Where vapor retarders are indicated, apply mastic on seams and joints and at ends adjacent to flanges and fittings.

M. Cut insulation according to manufacturer's written instructions to prevent compressing insulation to less than 75 percent of its nominal thickness.

N. Install vapor-retarder mastic on equipment scheduled to receive vapor retarders. Overlap insulation facing at seams and seal with vapor-retarder mastic and pressure-sensitive tape having same facing as insulation. Repair punctures, tears, and penetrations with tape or mastic to maintain vapor-retarder seal.

O. Insulate the following indoor equipment:

1. Chilled-water air separators (small tanks).
2. Chilled-water expansion tanks (small tanks).
3. Chilled-water centrifugal pump housings.
4. Domestic hot-water storage tanks, not factory insulated.
5. Heating hot-water air separators (small tanks).
6. Heating hot-water expansion tanks (small tanks).
7. Heating hot-water heat exchangers.

P. Omit insulation from the following:

1. Vibration-control devices.
2. Testing agency labels and stamps.
3. Nameplates and data plates.
4. Manholes.
5. Handholes.
6. Cleanouts.

3.4 INDOOR TANK AND VESSEL INSULATION APPLICATION

A. Blankets, Board, and Block Applications for Tanks and Vessels: Secure insulation with adhesive and anchor pins and speed washers.

1. Apply adhesives according to manufacturer's recommended coverage rates per square foot, for 100 percent coverage of tank and vessel surfaces.
2. Groove and score insulation materials to fit as closely as possible to the equipment, including contours. Bevel insulation edges for cylindrical surfaces for tight joint. Stagger end joints.
3. Protect exposed corners with secured corner angles.
4. Install adhesive-attached or self-adhesive anchor pins and speed washers on sides of tanks and vessels as follows:

    a. Do not weld anchor pins to ASME-labeled pressure vessels.
    b. On tank and vessel, 3 inches maximum from insulation end joints, and 16 inches o.c. in both directions.
    c. Do not overcompress insulation during installation.
    d. Cut and miter insulation segments to fit curved sides and dome heads of tanks and vessels.

5. Impale insulation over anchor pins and attach speed washers.
6. Cut excess portion of pins extending beyond speed washers or bend parallel with insulation surface. Cover exposed pins and washers with tape matching insulation facing
7. Secure each layer of insulation with stainless-steel bands.
8. Stagger joints between insulation layers at least 3 inches.
9. Apply insulation in removable segments on equipment access doors and other elements that require frequent removal for service.
10. Bevel and seal insulation ends around manholes, handholes, ASME stamps, and nameplates.

11. Apply vapor-retarder mastic to open joints, breaks, and punctures for insulation indicated to receive vapor retarder.

B. Flexible Elastomeric Thermal Insulation Applications for Tanks and Vessels: Apply insulation over entire surface of tanks and vessels according to the manufacturer's written instructions.

1. Apply 100 percent coverage of adhesive to surface with manufacturer's recommended adhesive.
2. Seal longitudinal seams and end joints.

3.5 FIELD-APPLIED JACKET APPLICATION

A. Foil and Paper Jackets: Apply foil and paper jackets where indicated.

1. Draw jacket material smooth and tight.
2. Apply lap or joint strips with the same material as jacket.
3. Secure jacket to insulation with manufacturer's recommended adhesive.
4. Apply jackets with 1-1/2-inch laps at longitudinal seams and 3-inch wide joint strips at end joints.
5. Seal openings, punctures, and breaks in vapor-retarder jackets and exposed insulation with vapor-retarder mastic.

B. PVC Jackets: Apply jacket with longitudinal seams along top and bottom of tanks and vessels for horizontal applications. Secure and seal seams and end joints with manufacturer's welding adhesive.

1. Apply two continuous beads of adhesive to seams and joints, one bead under lap and the finish bead along the seam and joint edge.

3.6 FINISHES

A. Flexible Elastomeric Thermal Insulation: After adhesive has fully cured, apply two coats of insulation manufacturer's recommended protective coating.

B. Color: Final color as selected by Architect. Vary first and second coats to allow visual inspection of the completed Work.

3.7 FIELD QUALITY CONTROL

A. Inspection: Owner will engage a qualified inspection agency to perform the following field quality-control inspections, after installing insulation materials, jackets, and finishes, to determine compliance with requirements:

B. Inspection: Perform the following field quality-control inspections, after installing insulation materials, jackets, and finishes, to determine compliance with requirements:

1. Inspect pumps and tanks randomly selected by Architect.

2. Remove insulation and covers from two chilled-water pumps or one percent of chilled-water pumps, whichever is greater.
3. Remove insulation and covers from two small tanks or one percent of small tanks, whichever is greater.

C. Insulation applications will be considered defective if sample inspection reveals noncompliance with requirements. Remove defective Work and replace with new materials according to these Specifications.

D. Reinstall insulation and covers on pumps and tanks uncovered for inspection according to these Specifications.

3.8 EQUIPMENT APPLICATIONS

A. Insulation materials and thicknesses are specified in schedules at the end of this Section.

B. Materials and thicknesses for systems listed below are specified in schedules at the end of this Section.

3.9 INTERIOR TANK AND VESSEL INSULATION APPLICATION SCHEDULE

A. Equipment: Chilled-water air separators and compression tanks.

1. Operating Temperature: 35 to 75 deg F.
2. Insulation Material: Cellular glass, with jacket or Flexible elastomeric.
3. Insulation Thickness: ¾"

4. Vapor Retarder Required: Yes.

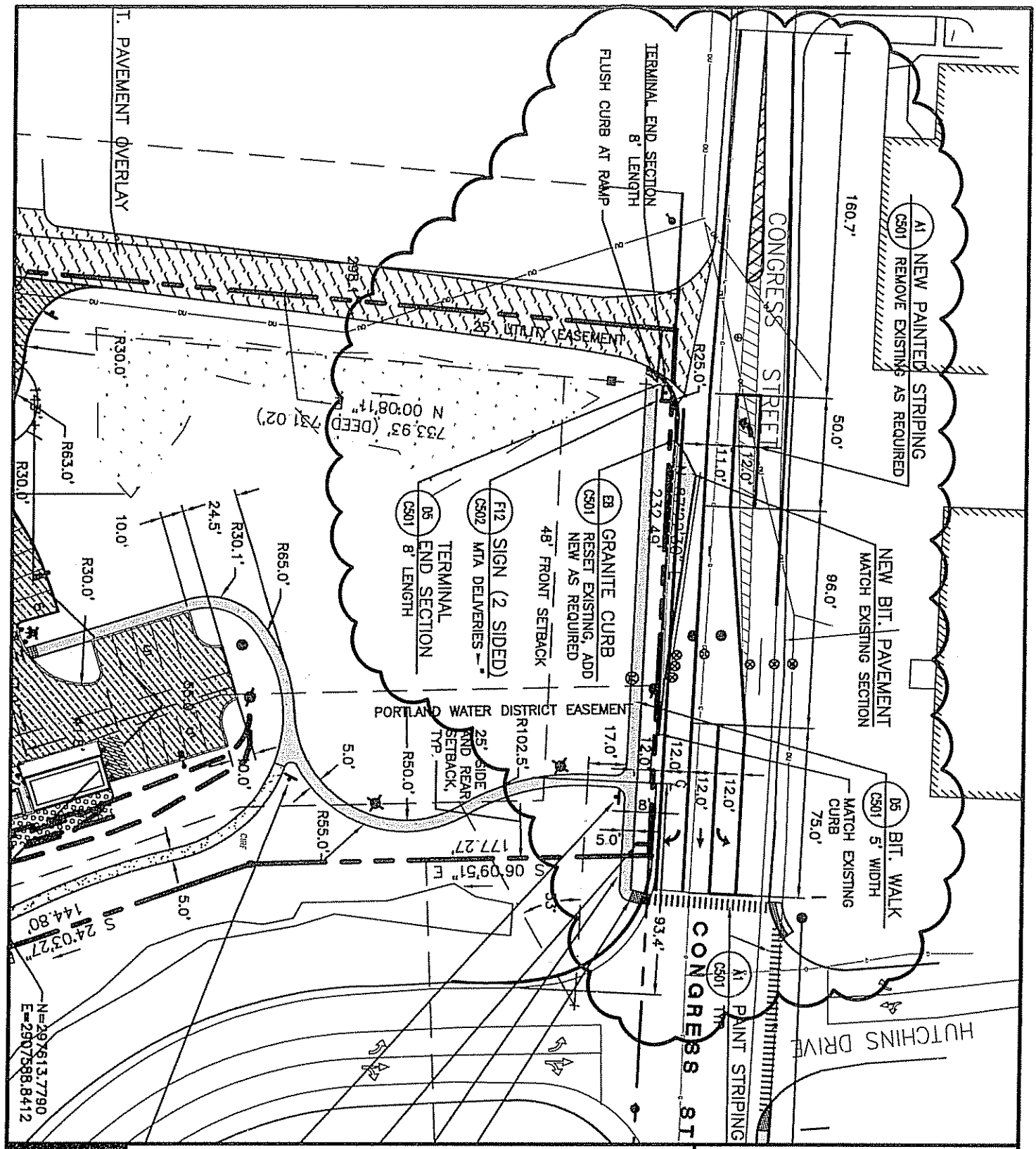
B. Equipment: Domestic hot-water storage tanks, not factory insulated.

1. Operating Temperature: 55 to 140 deg F
2. Insulation Material: Cellular glass, with jacket or Flexible elastomeric.
3. Insulation Thickness: ¾"

C. Equipment: Heating hot-water air separators and compression tanks.

1. Operating Temperature: 100 to 200 deg F.
2. Insulation Material: Cellular glass, with jacket or Flexible elastomeric.
3. Insulation Thickness: ¾"

END OF SECTION 15082



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CAD FILE:	CP101-06016
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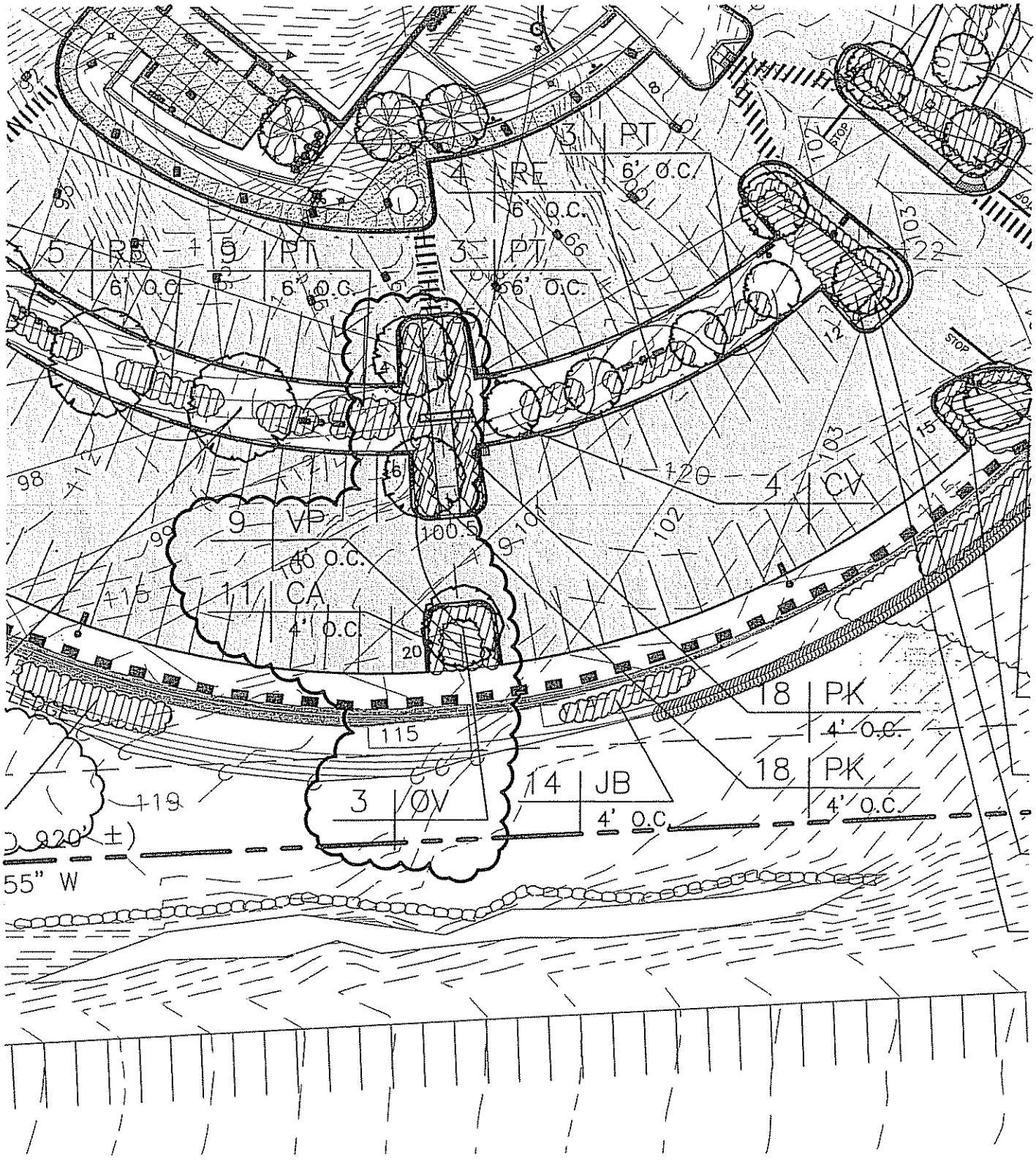
A/E: MGJ	SKETCH No. C-1
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY ADMINISTRATION BUILDING

SUBJECT: CONGRESS STREET & DISTRICT ROAD INTERSECTION IMPROVEMENTS



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PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: PLANT CLARIFICATION
AREA 1

SCALE:	1" = 40'
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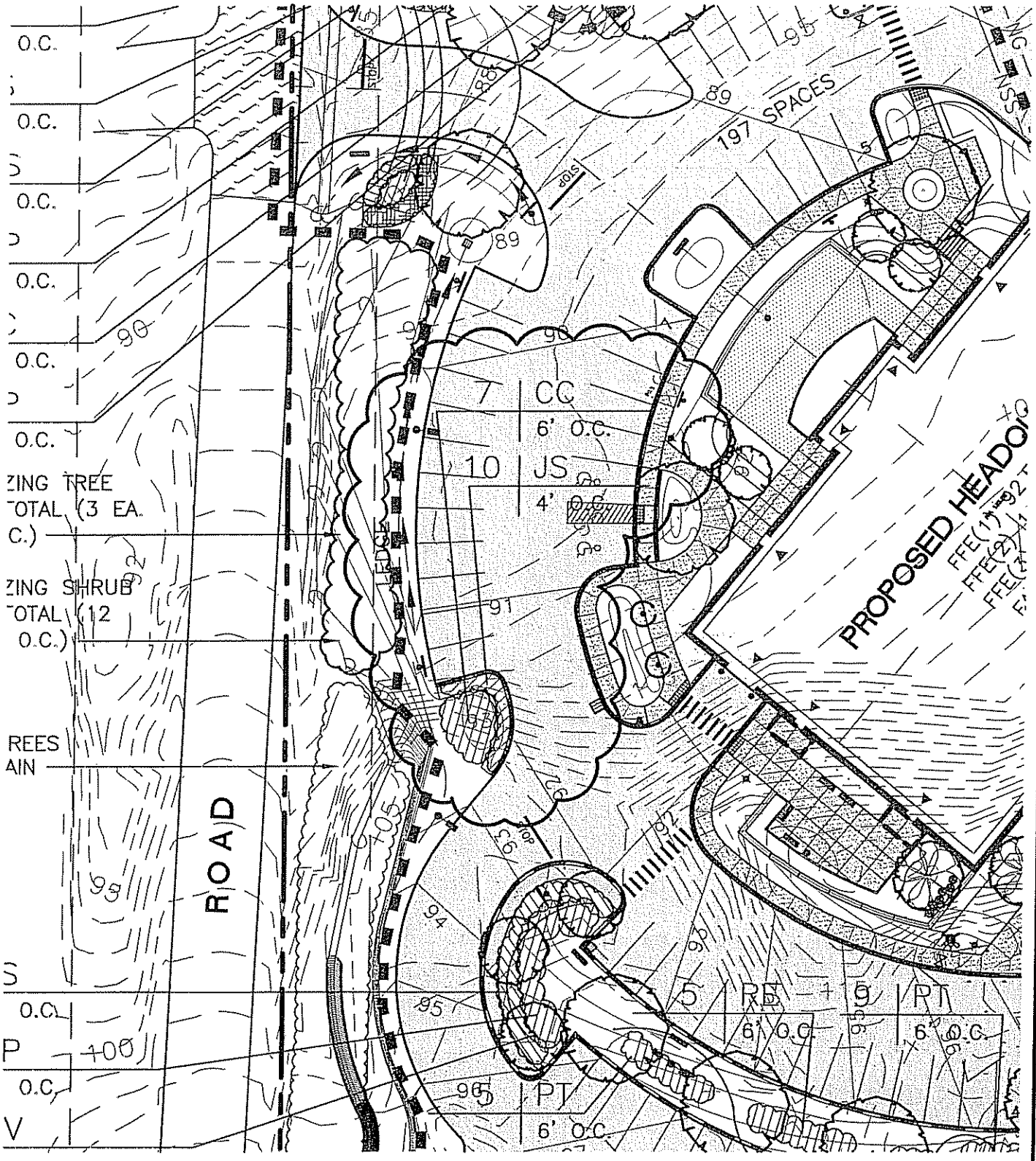

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A/E: MGJ	SKETCH No. L-2
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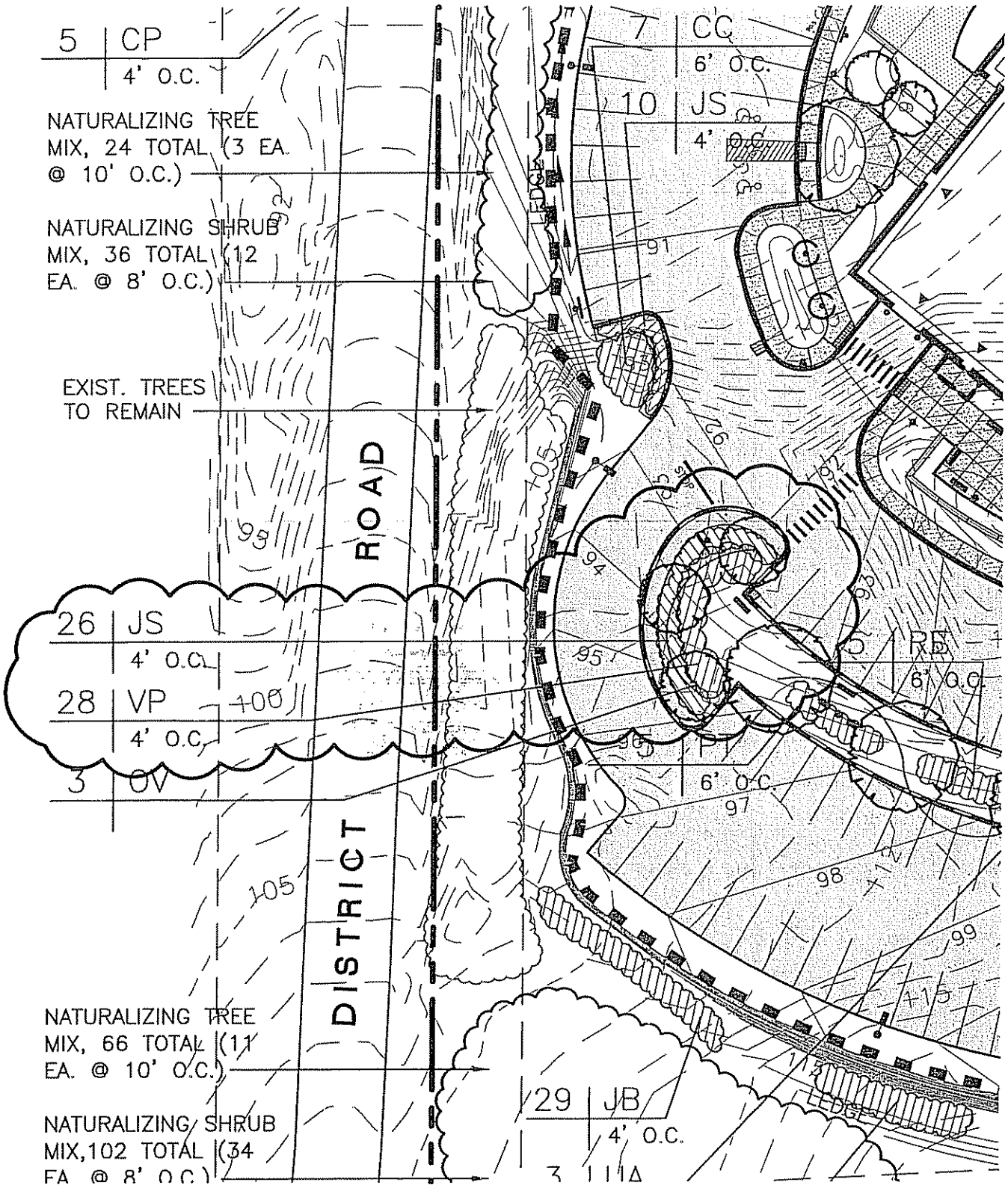
PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: PLANT CLARIFICATION
AREA 2



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PROJECT: MAINE TURNPIKE AUTHORITY ADMINISTRATION BUILDING

SUBJECT: PLANT CLARIFICATION AREA 3

SCALE:	1" = 40'
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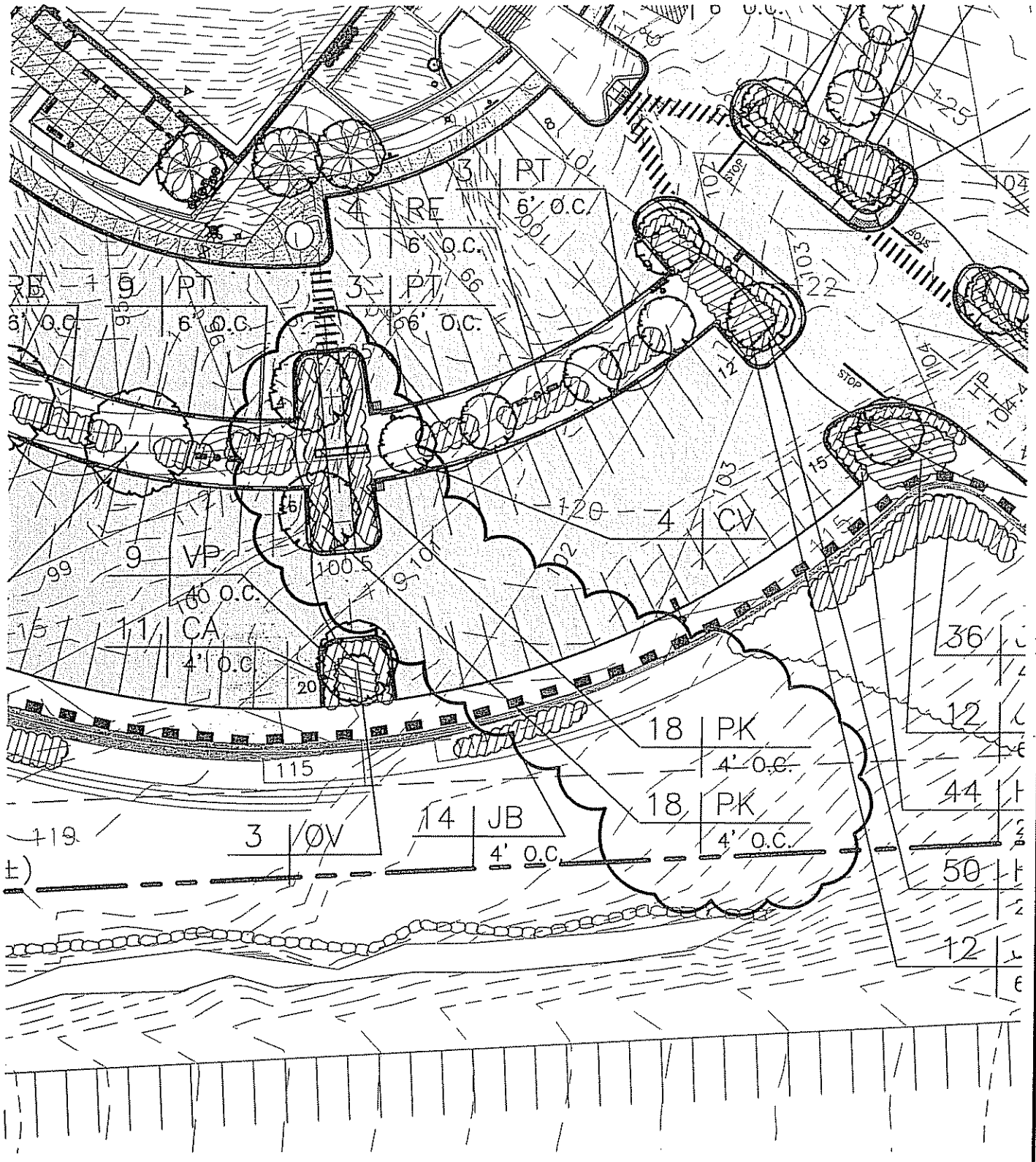

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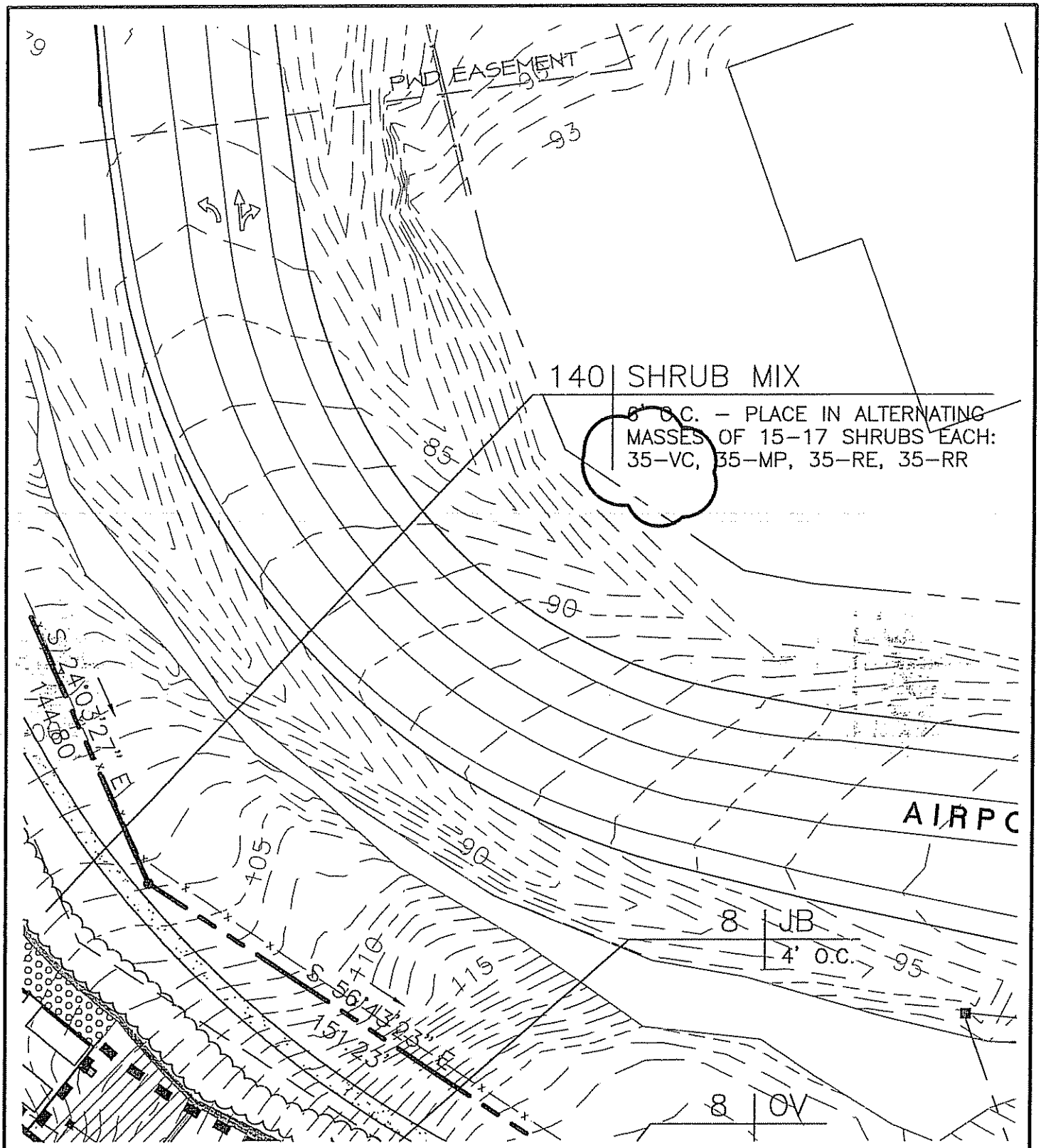
A/E: MGJ	SKETCH No. L-4
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: PLANT CLARIFICATION
AREA 4



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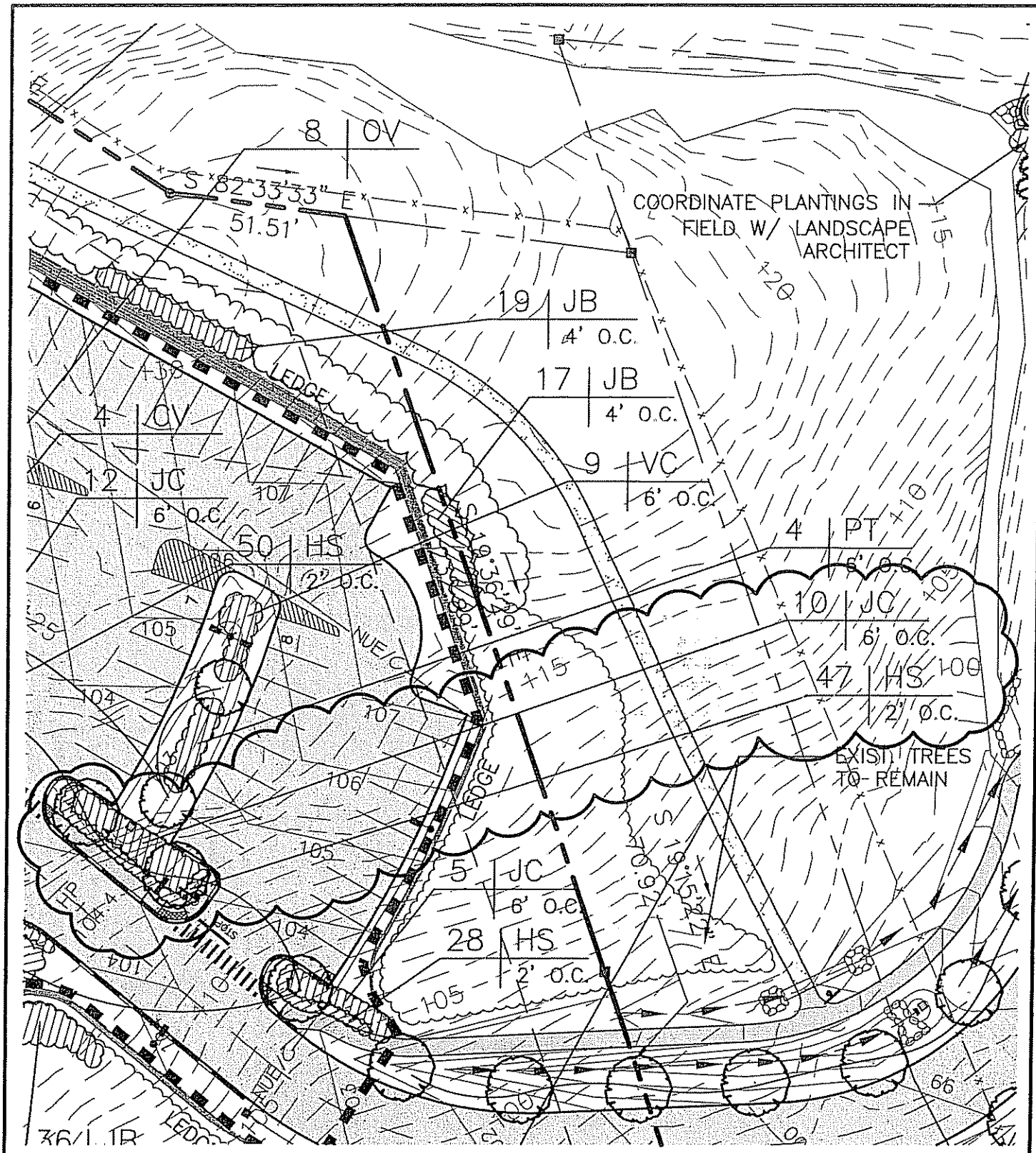
PROJECT No.	06016
REF. SHEET:	LP101
PM: SLB	ADDENDUM No. ADD–4
A/E: MGJ	SKETCH No. L–5
DATE: 8–10–07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: PLANT CLARIFICATION
AREA 5



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PROJECT No.	06016
REF. SHEET:	LP101
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A/E: MGJ	SKETCH No. L-6
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: PLANT CLARIFICATION
AREA 6

LANDSCAPING NOTES:

1. PLANTING AREA WITHIN LIMITS SHOWN TO BE IRRIGATED. CONTRACTOR TO COORDINATE LOCATION OF SLEEVES FOR IRRIGATION LINES UNDER PAVEMENTS WITH IRRIGATION CONTRACTOR PRIOR TO PLACEMENT OF PAVING.

   LIMIT OF IRRIGATION

2. IN LEDGE CUTS, ALL PLANTING BEDS TO BE 3' DEEP, MIN. IN AREAS ADJACENT TO BUILDING NOT IN LEDGE CUTS, PLANTING BEDS TO BE 2' DEEP, MIN.

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PROJECT No.	06016
REF. SHEET:	LP101
PROJECT:	MAINE TURNPIKE AUTHORITY ADMINISTRATION BUILDING
SUBJECT:	IRRIGATION NOTATION CLARIFICATION
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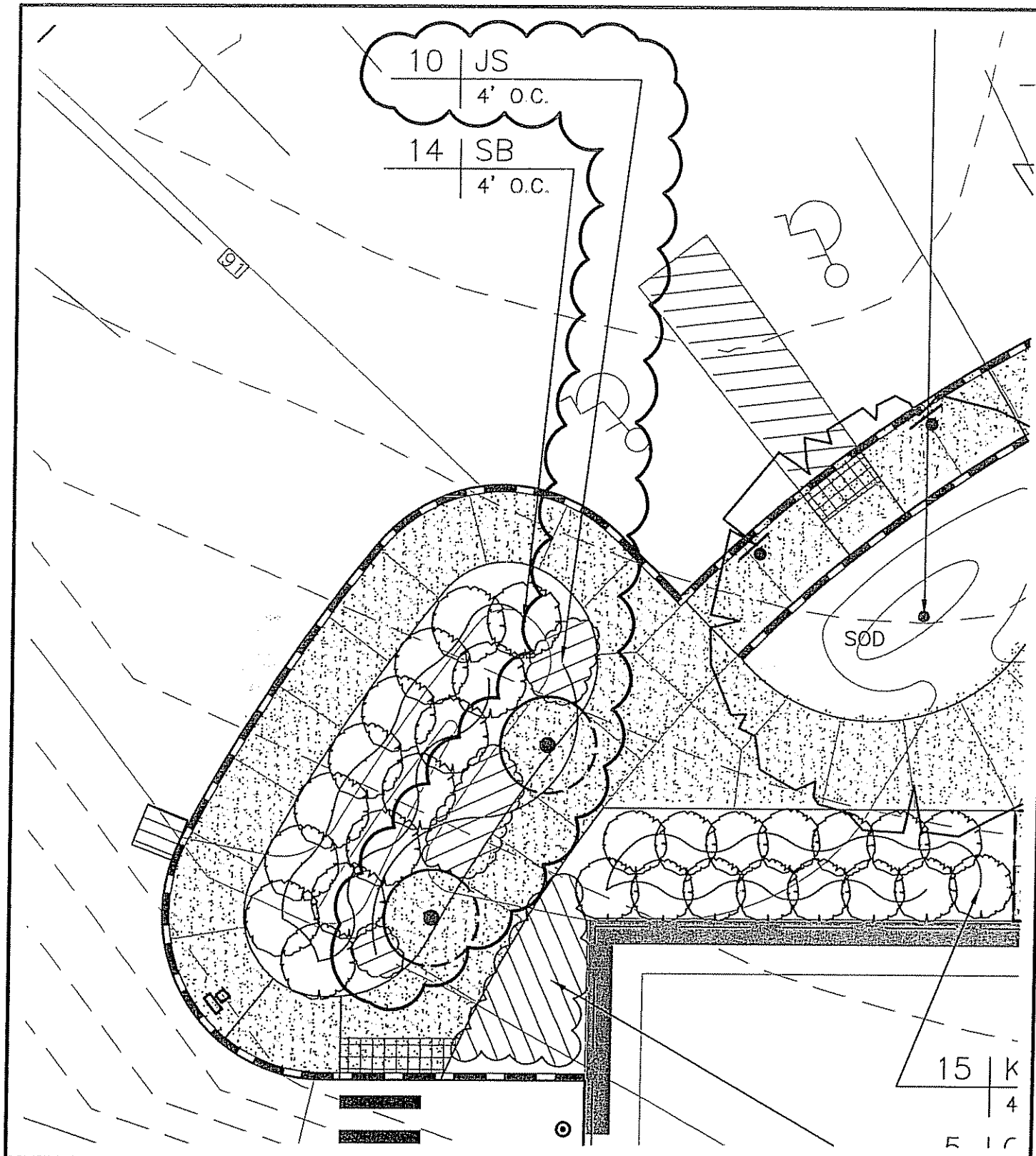
A/E: MGJ	SKETCH No. L-7
DATE: 8-10-07	



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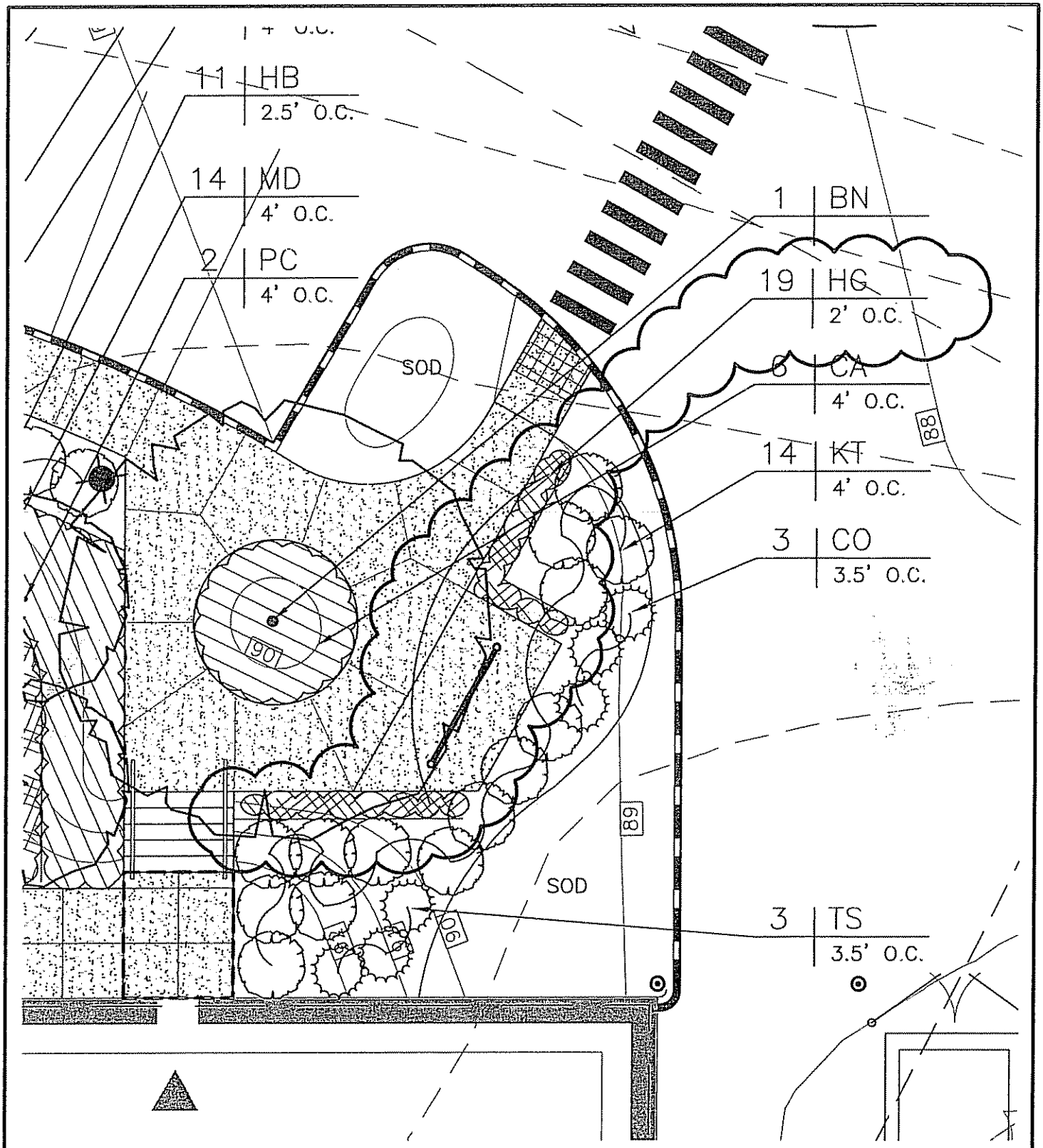
A/E: MGJ	SKETCH No. L-8
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: PLANT CLARIFICATION
AREA 7



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A/E: MGJ	SKETCH No. L-9
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: PLANT CLARIFICATION
AREA 8

PLANT LIST: PERENNIALS

QUANT.	MARK	SCIENTIFIC NAME / COMMON NAME	SIZE CAL.	SIZE HT.	ROOT	REMARKS
6	AA	Astilbe arendsii 'Burgundy' / False Spiraea	–	–	1 gal. cont.	Full
27	AS	Astilbe simplicifolia 'Sprite' / False Spiraea	–	–	1 gal. cont.	Full
16	EE	Euphorbia epithymoides / Cushion Spurge	–	–	1 gal. cont.	Full
22	HB	Hosta 'Big Mama' / Plantain Lily	–	–	1 gal. cont.	Full
140	HE	Hemerocallis mixture	–	–	1 gal. cont.	Staggered blooms
28	HG	Heuchera americana 'Greenspice' / Coralbells	–	–	1 gal. cont.	Full
255	HS	Hemerocallis 'Stella d'Oro' / Daylily	–	–	1 gal. cont.	Full
12	HT	Hosta tardiana 'Halcyon' / Plantain Lily	–	–	1 gal. cont.	Full
26	IS	Iberis sempervirens / Candytuft	–	–	1 gal. cont.	Full
20	LC	Leucanth. superbum 'Chris Hagemann' / Shasta Daisy	–	–	1 gal. cont.	Full
100	LG	Lamiastrum galeob. 'Herman's Pride' / Yellow Archangel	–	–	1 gal. cont.	Full
17	LM	Lamium maculatum 'Red Nancy' / Dead Nettle	–	–	1 gal. cont.	Full
x	LA	Leymus arenarius/Blue Lyme Grass	–	–	1 gal. cont.	Full
20	LS	Lavandula augustifolia 'Hidcote Superior'/Hidcote Superior English Lavender	–	–	1 gal. cont.	Full
6	MS	Matteuccia struthiopteris / Ostrich Fern	–	–	1 gal. cont.	Full
12	PV	Panicum virgatum 'Shenandoah' / Shenan. Switch Grass	–	–	1 gal. cont.	Full

NOTE:

ALL PERENNIALS TO BE 1 GAL. CONT., MIN.

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REF. SHEET: LP501
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A/E: MGJ
DATE: 8–10–07
ADDENDUM No. ADD–4
SKETCH No. L–10

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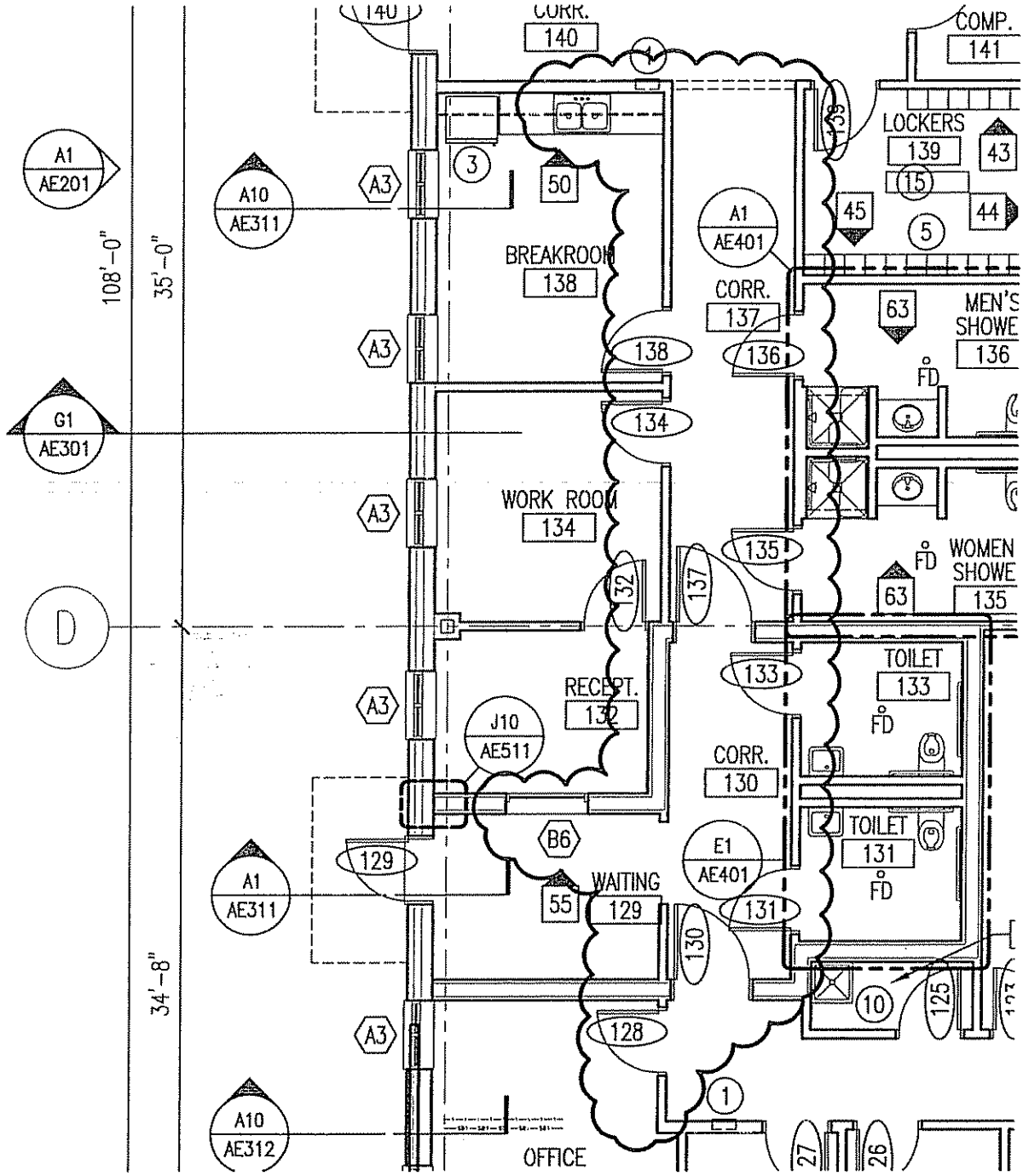
PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: PLANT LIST ADDITION
AREA 9



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A/E: SLB	SKETCH No. A-1
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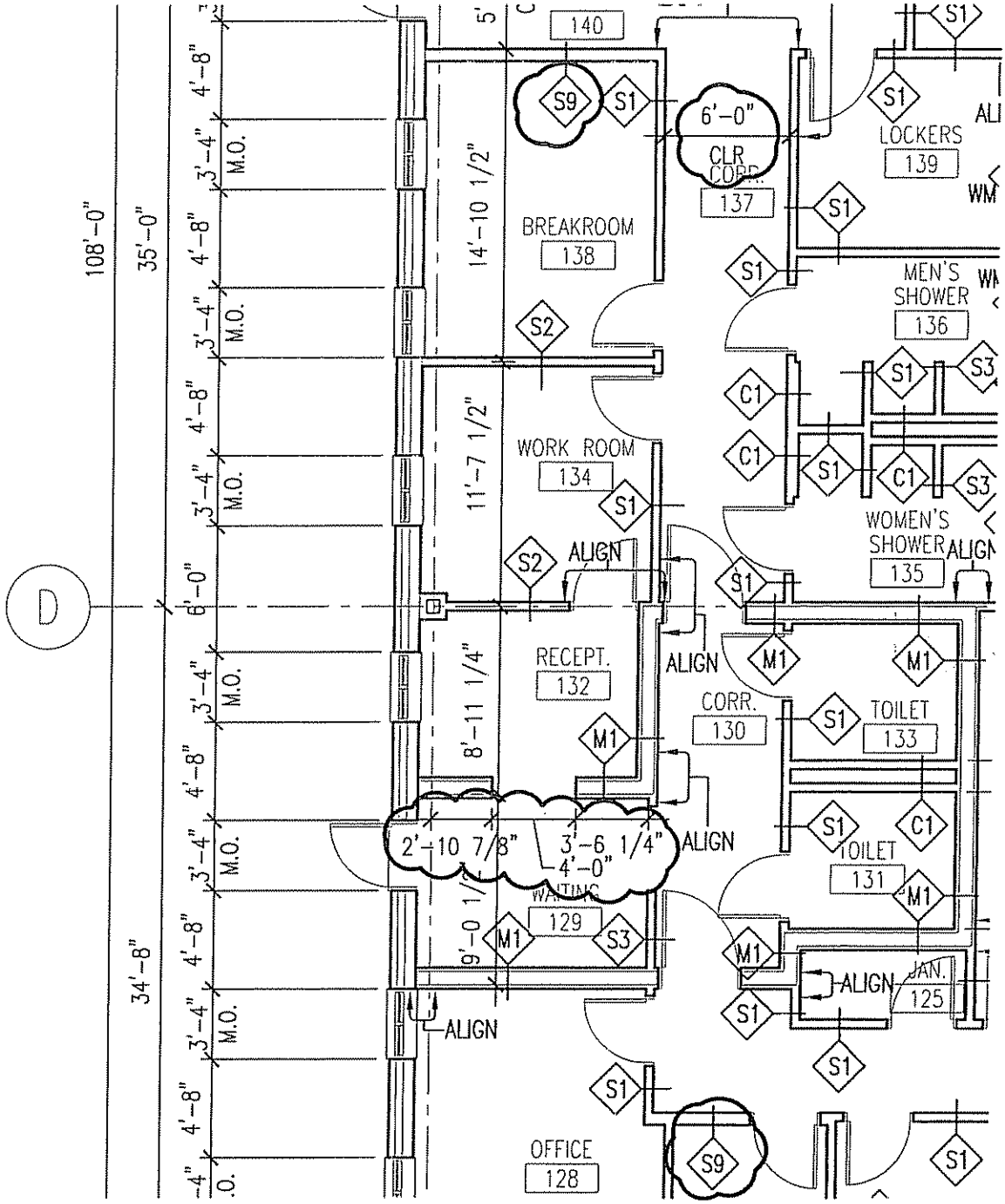
PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: FIRST FLOOR PLAN
REVISED AS NOTED



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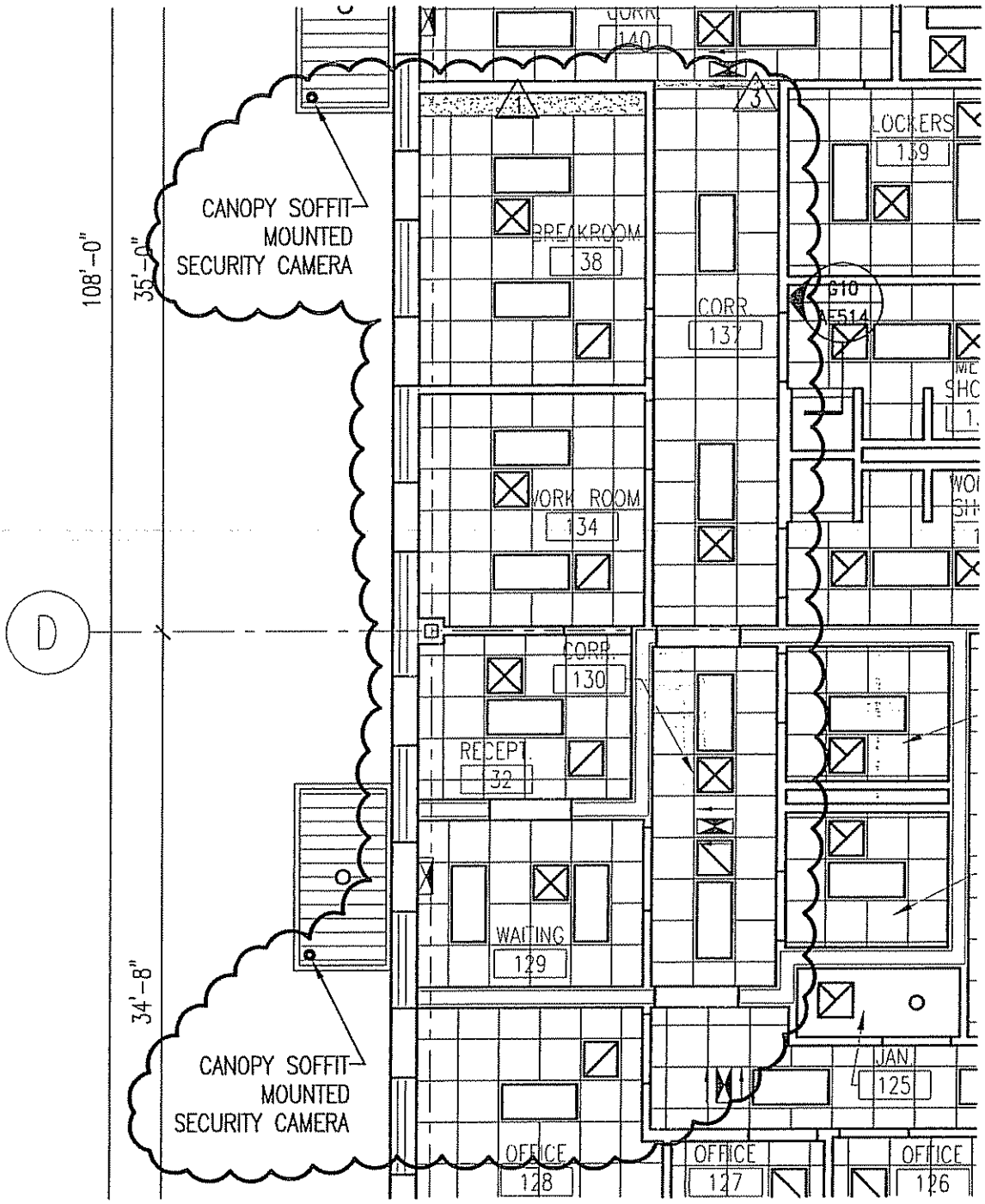
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: FIRST FLOOR LAYOUT PLAN
REVISED AS NOTED



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REF. SHEET:	AE121
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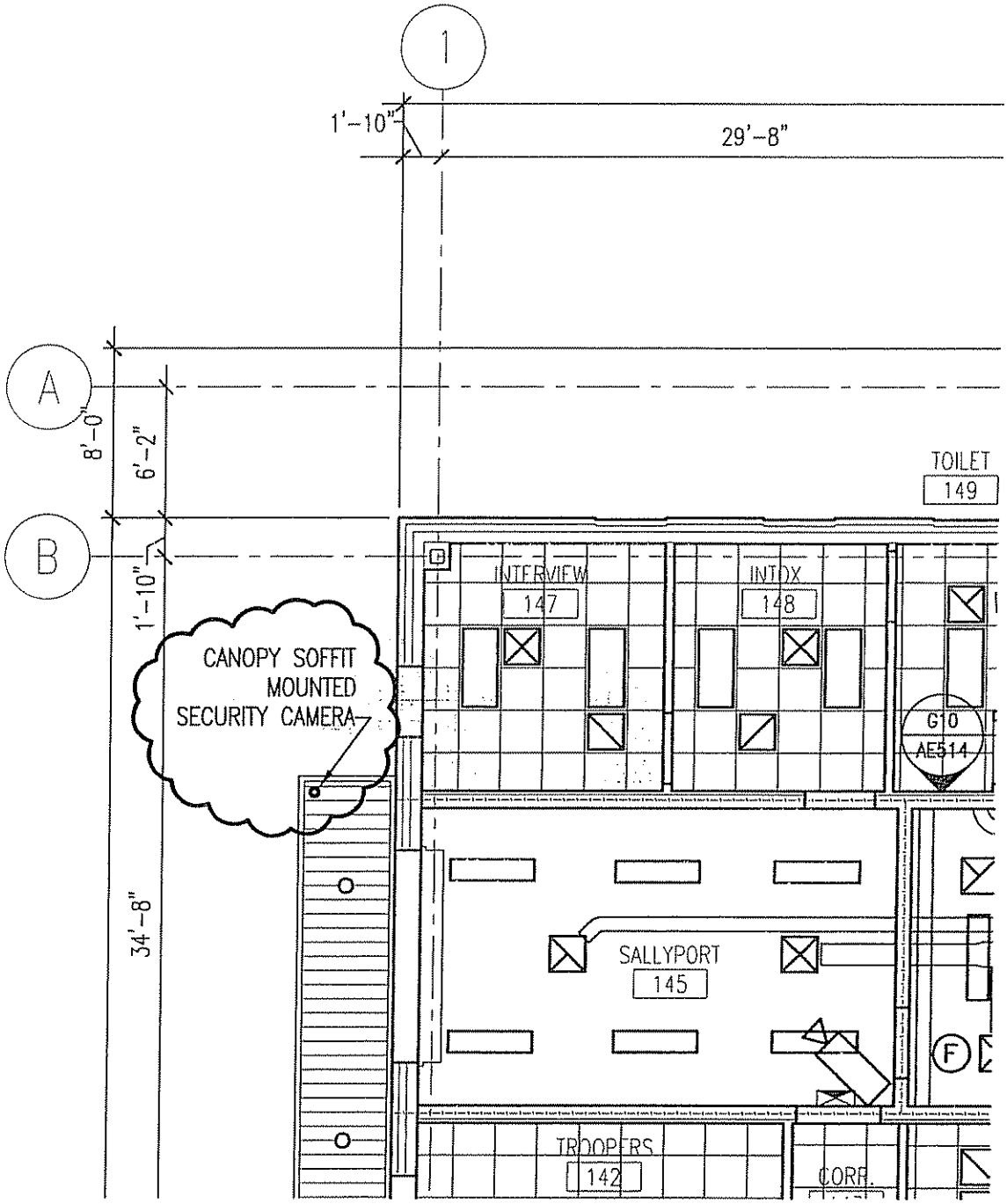
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: FIRST FLOOR REFLECTED CEILING PLAN
REVISED AS NOTED



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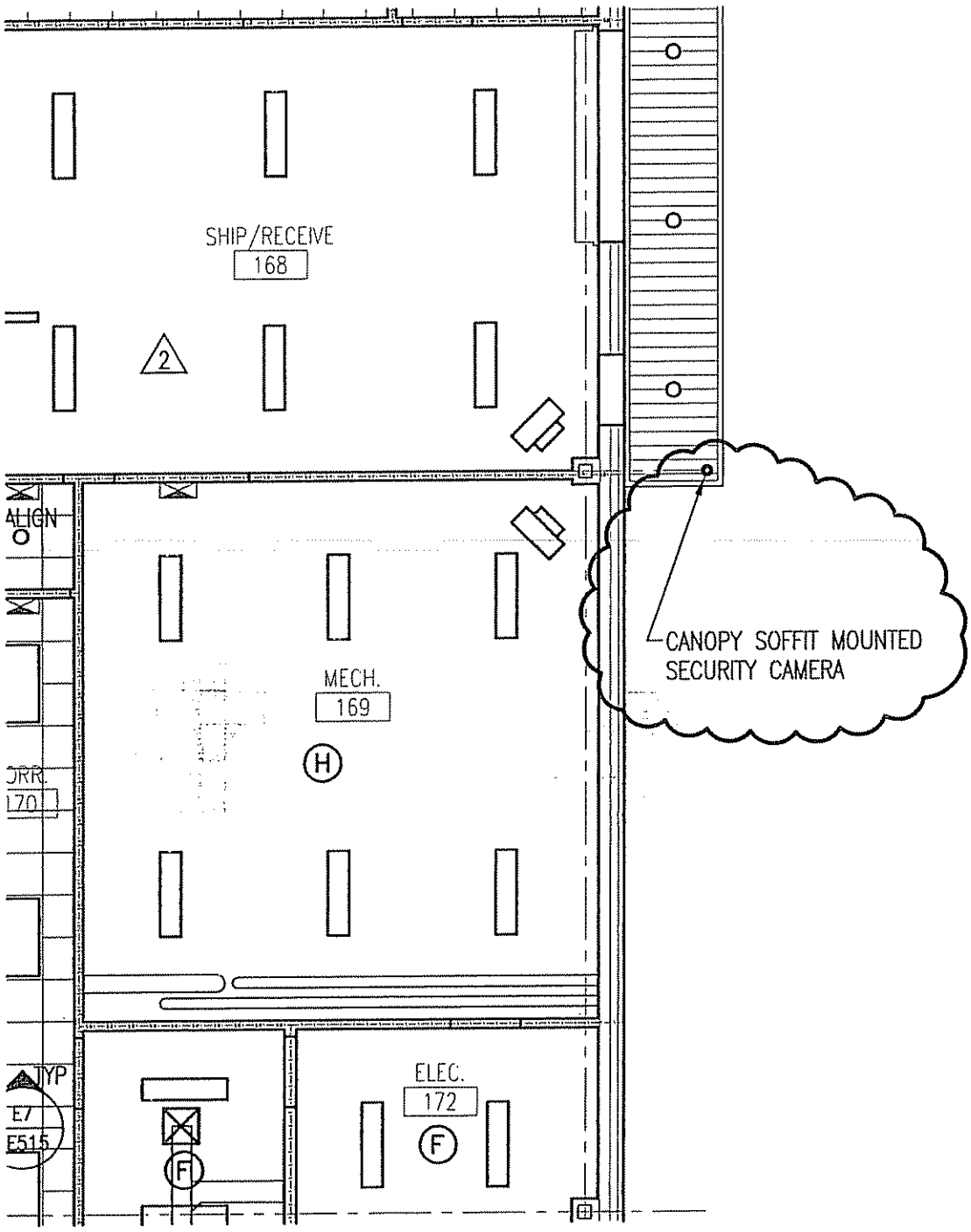
REF. SHEET:	AE121
PM:	SLB
A/E:	SLB
DATE:	8-10-07

ADDENDUM No. **ADD-4**

SKETCH No. **A-4**

PROJECT: MAINE TURNPIKE AUTHORITY ADMINISTRATION BUILDING

SUBJECT: FIRST FLOOR REFLECTED CEILING PLAN REVISED AS NOTED



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PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: FIRST FLOOR REFLECTED CEILING PLAN
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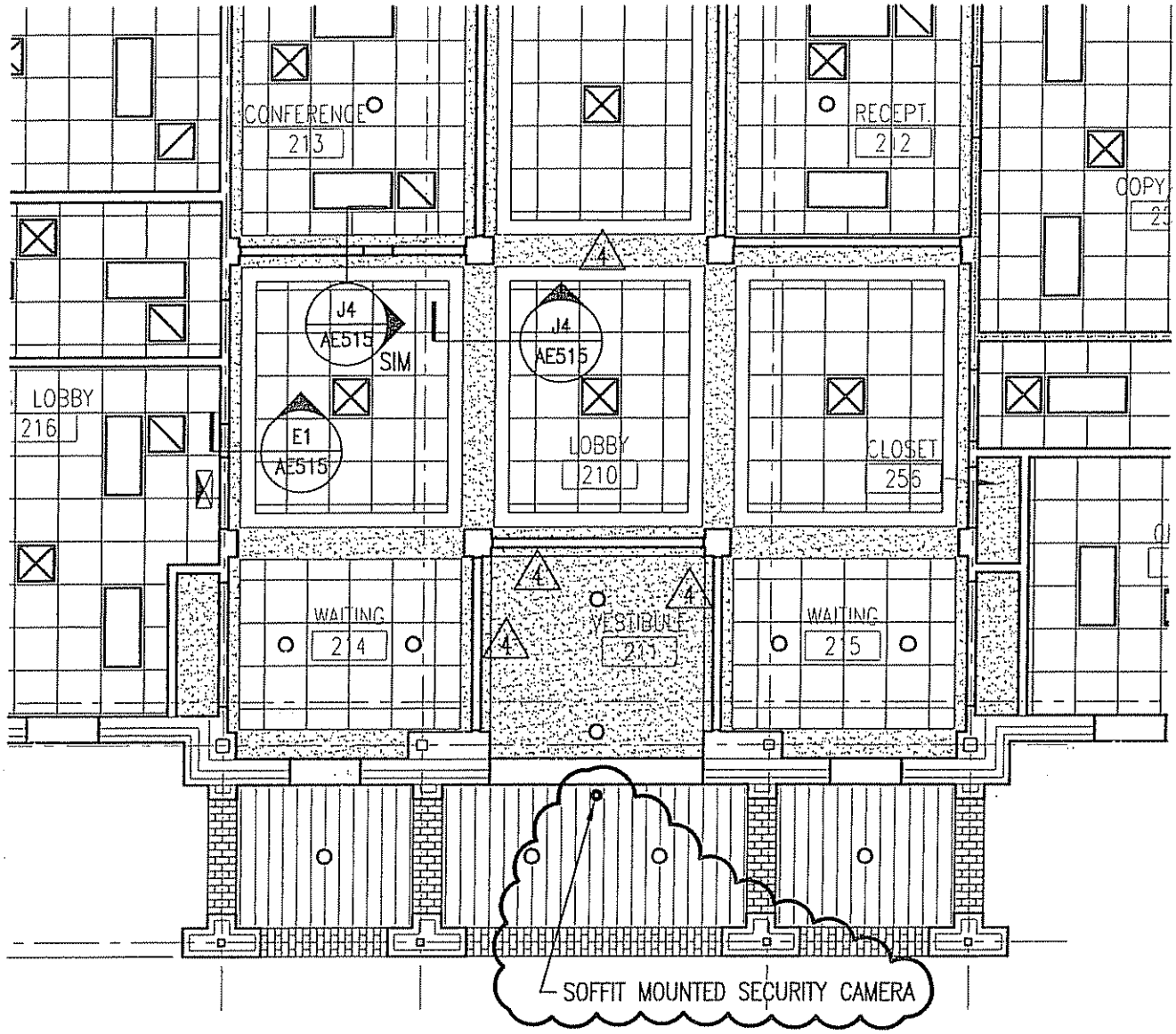

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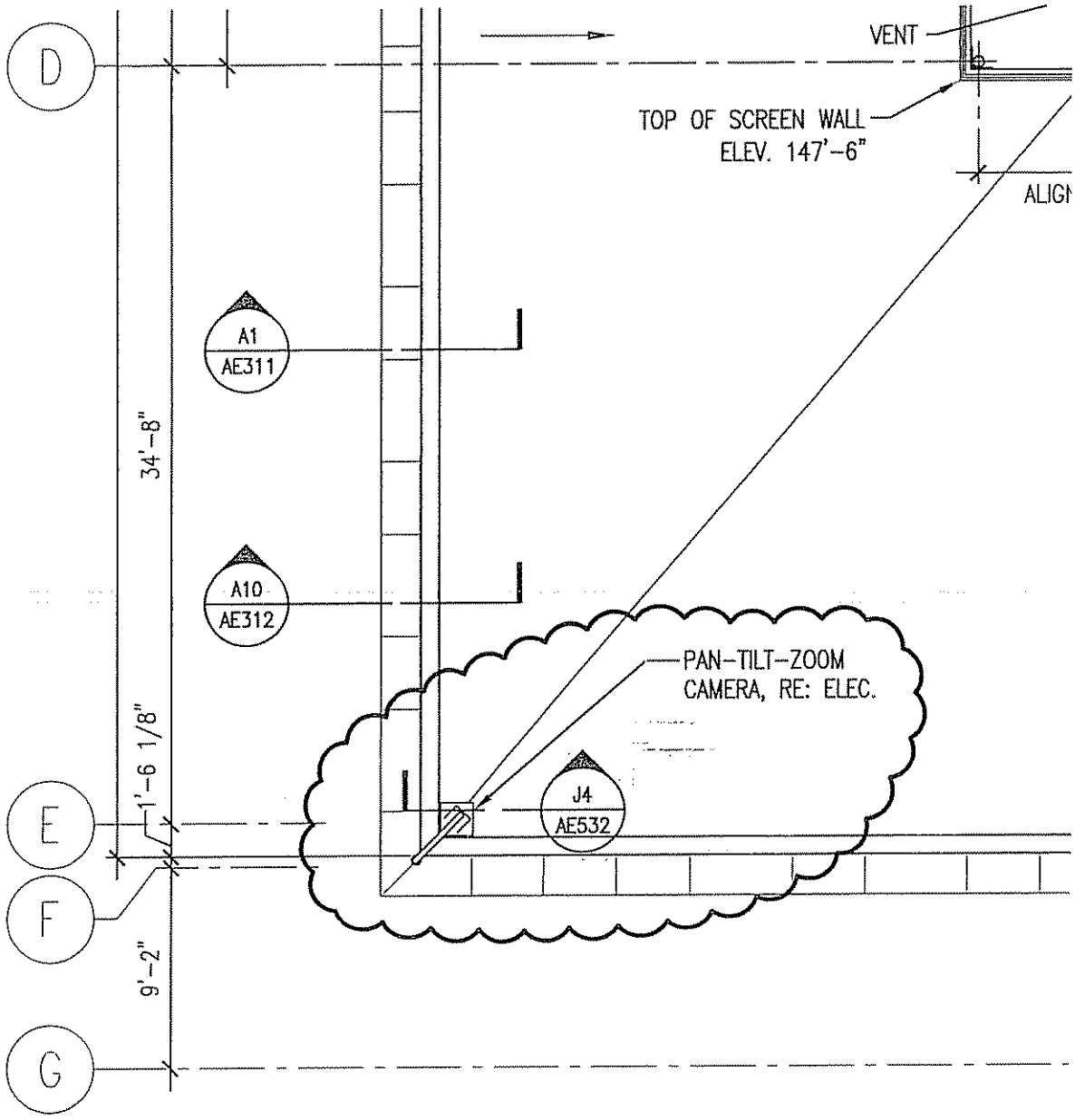
PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: SECOND FLOOR REFLECTED CEILING PLAN
REVISED AS NOTED

ADDENDUM No. **ADD-4**

SKETCH No. **A-6**



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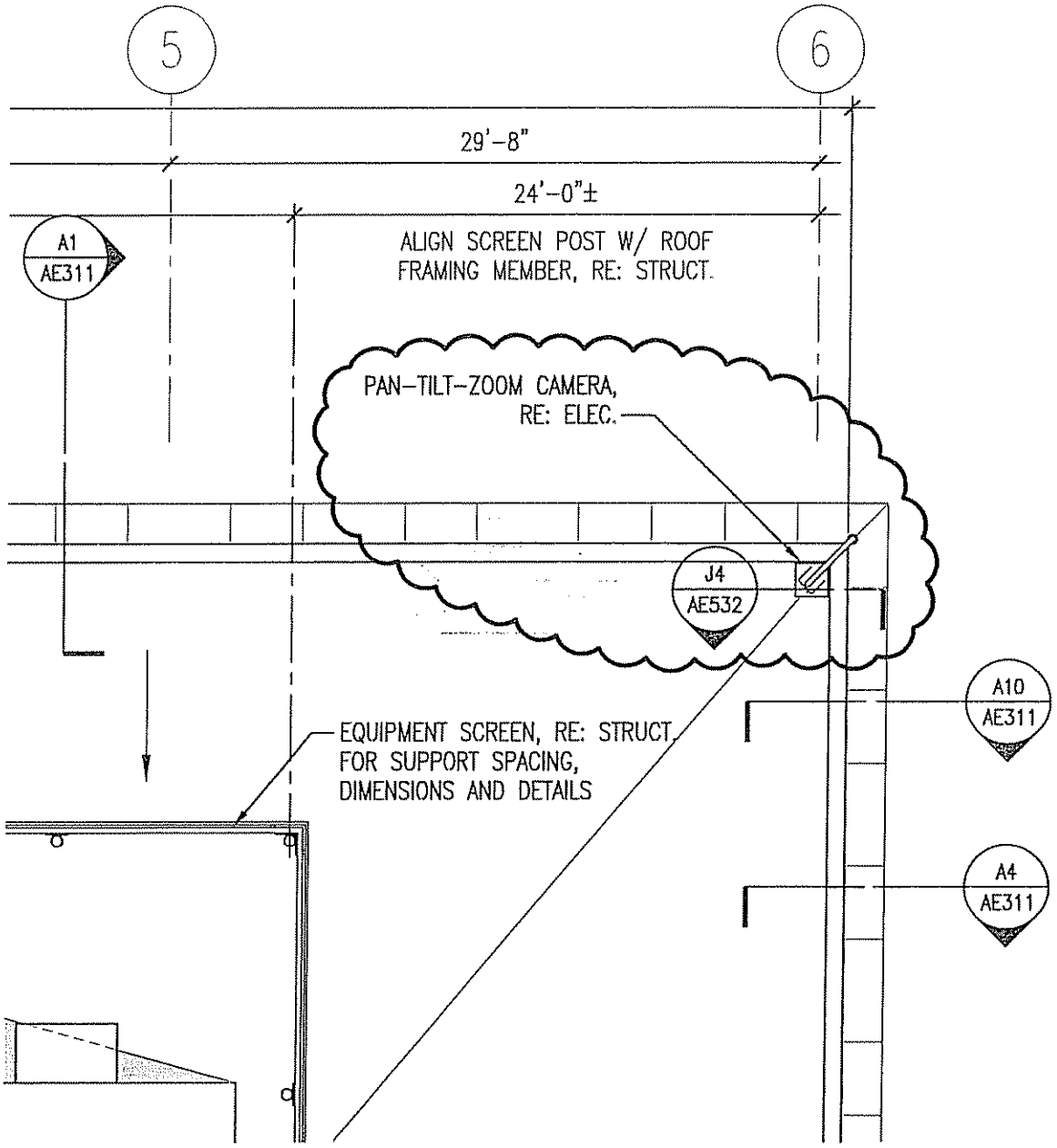
PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: ROOF PLAN
REVISED AS NOTED



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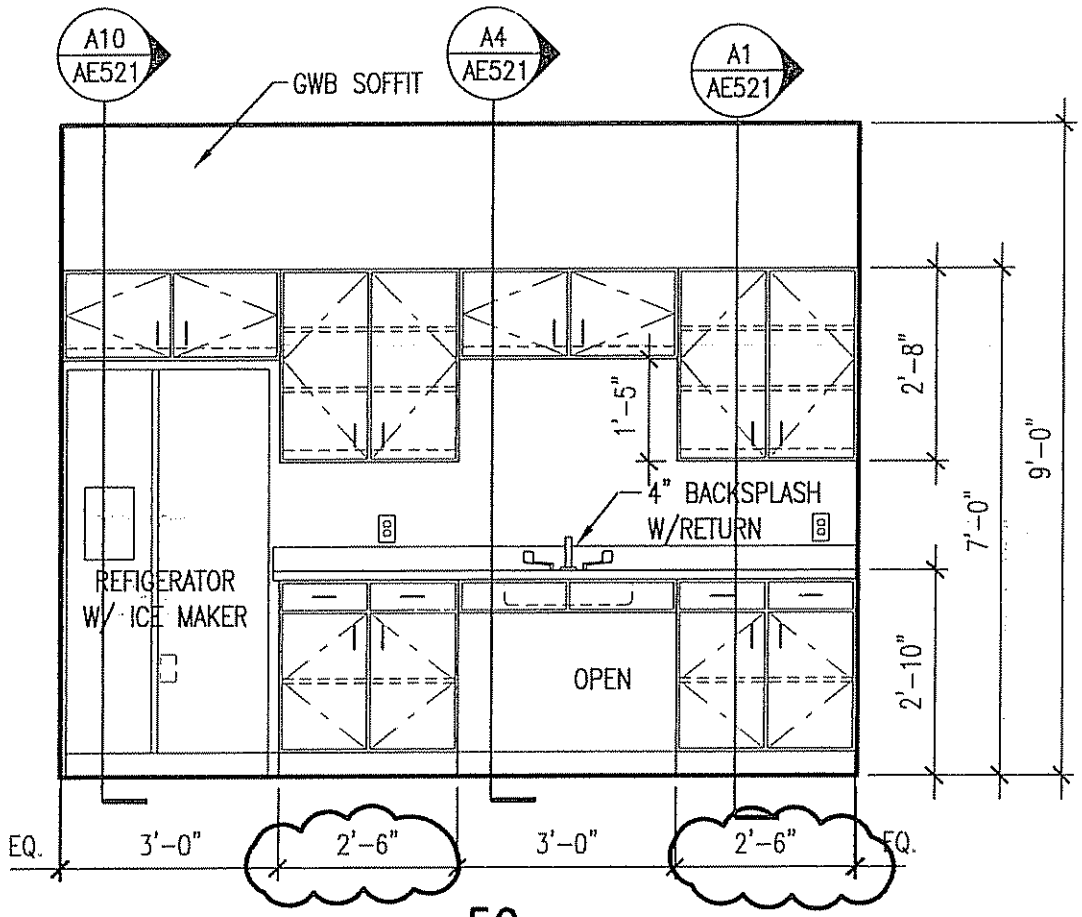
PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: ROOF PLAN
REVISED AS NOTED



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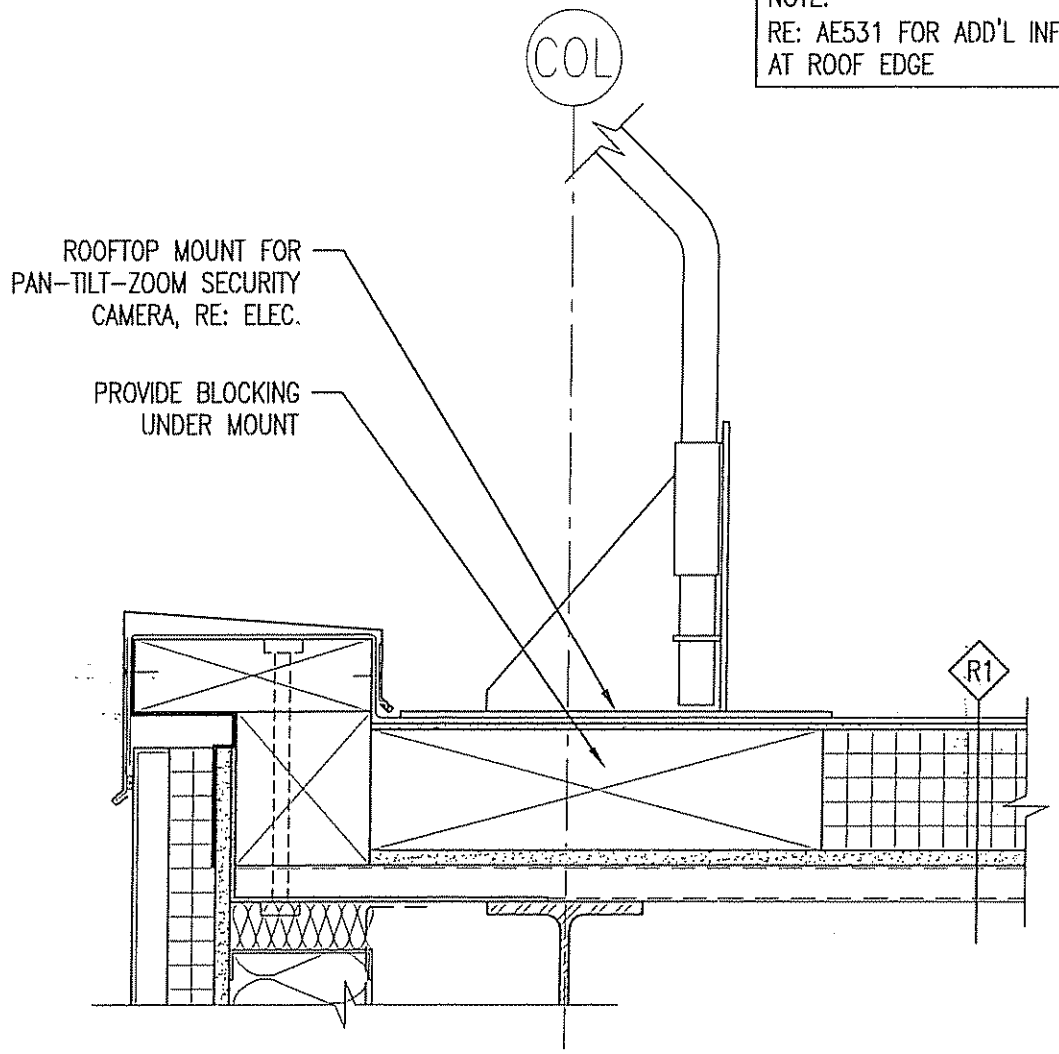
144 Fore Street/P.O.Box 618 PORTLAND, MAINE 04104
tel. (207) 772-3846 / fax. (207) 772-1070

SCALE:	3/8"=1'-0"
CAD FILE:	AE218-06016
PROJECT No.	06016
REF. SHEET:	AE218
PM: SLB	ADDENDUM No. ADD-4
A/E: SLB	SKETCH No. A-9
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: E9/AE218 INTERIOR ELEVATION
REVISED AS NOTED

NOTE:
RE: AE531 FOR ADD'L INFO
AT ROOF EDGE



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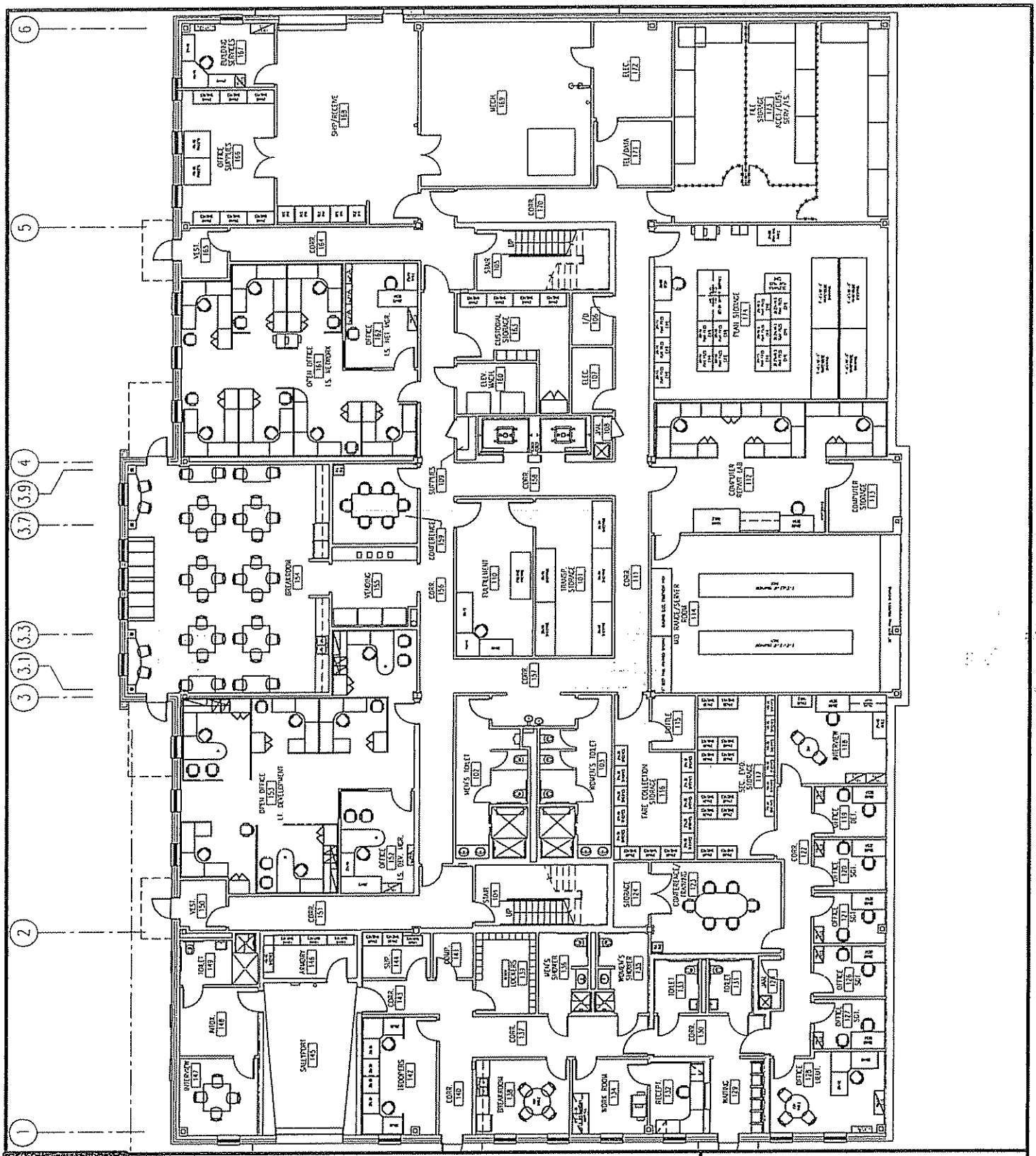
SCALE:	3/8"=1'–0"
CAD FILE:	AE532–06016
PROJECT No.	06016
REF. SHEET:	AE532
PM: SLB	ADDENDUM No. ADD–4
A/E: SLB	SKETCH No. A–10
DATE: 8–10–07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: ADDED J4/AE532
CAMERA MOUNT @ ROOF



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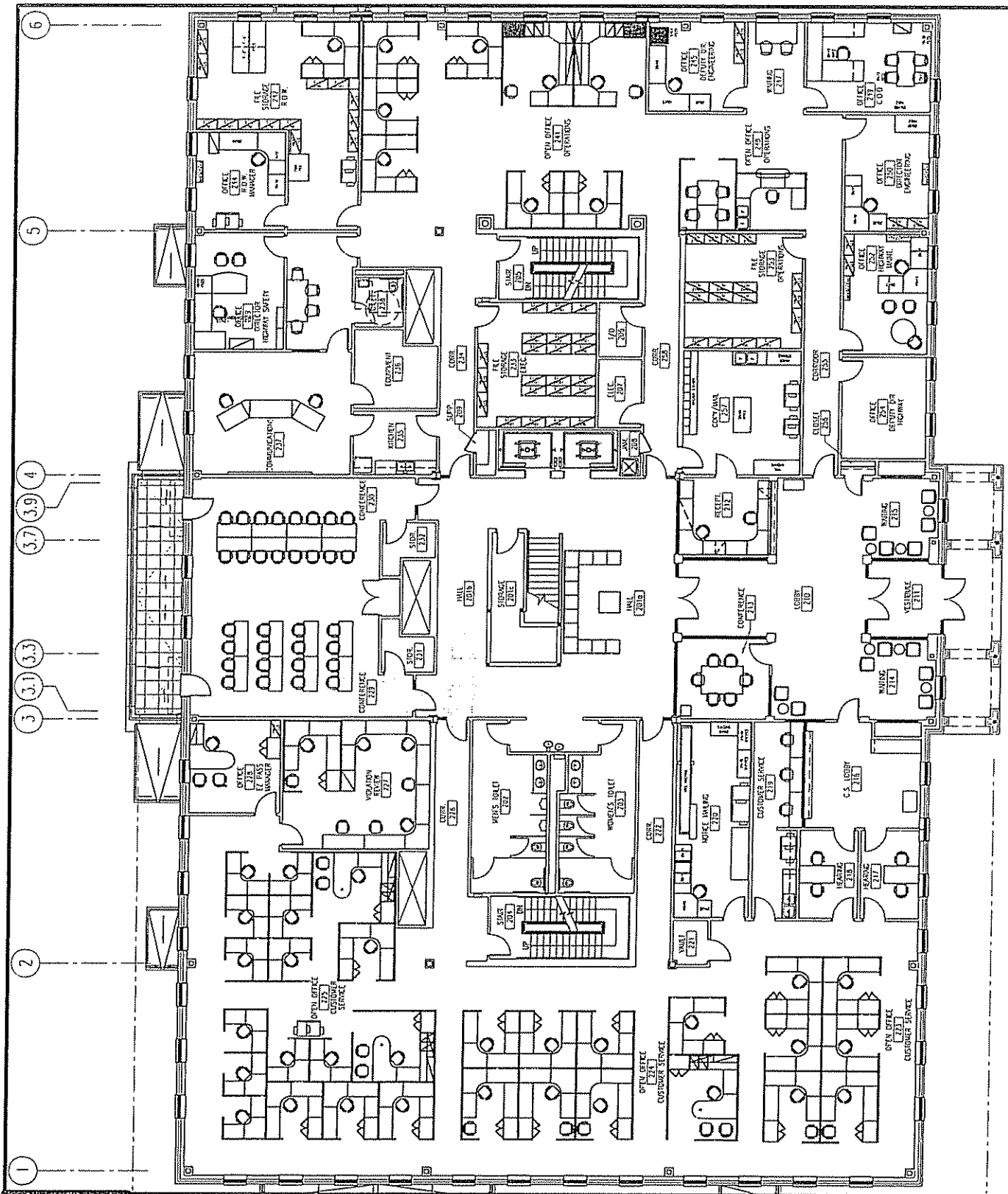
SCALE:	N.T.S.
CAD FILE:	IF101-06016
PROJECT No.	06016
REF. SHEET:	IF101
PM: SLB	ADDENDUM No. ADD-4
A/E: SLB	SKETCH No. A-11
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: FIRST FLOOR FURNITURE PLAN
FOR REFERENCE ONLY



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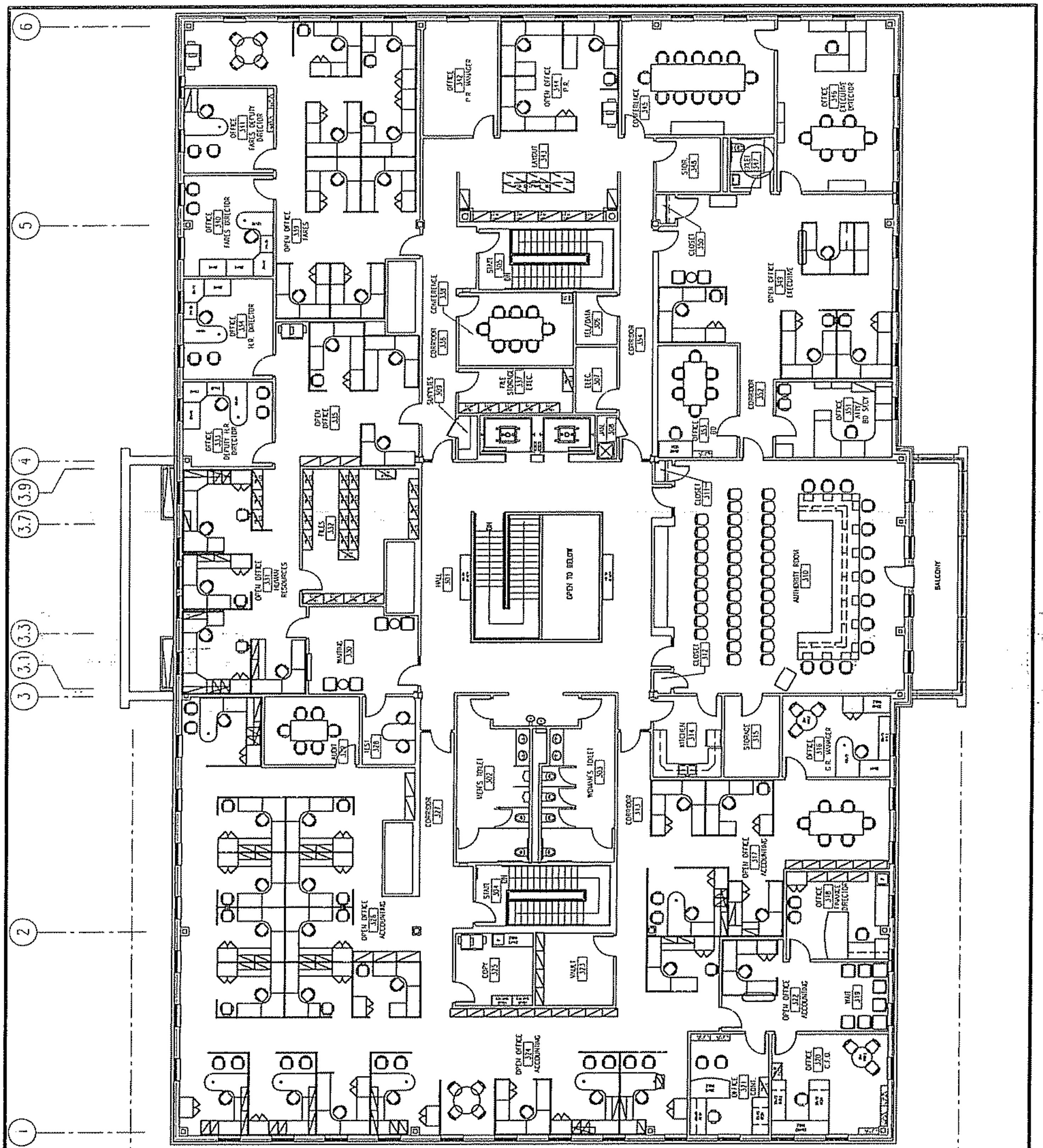
SCALE:	NTS
CAD FILE:	IF102-06016
PROJECT No.	06016
REF. SHEET:	IF102
PM: SLB	ADDENDUM No. ADD-4
A/E: SLB	SKETCH No. A-12
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY ADMINISTRATION BUILDING

SUBJECT: SECOND FLOOR FURNITURE PLAN FOR REFERENCE ONLY



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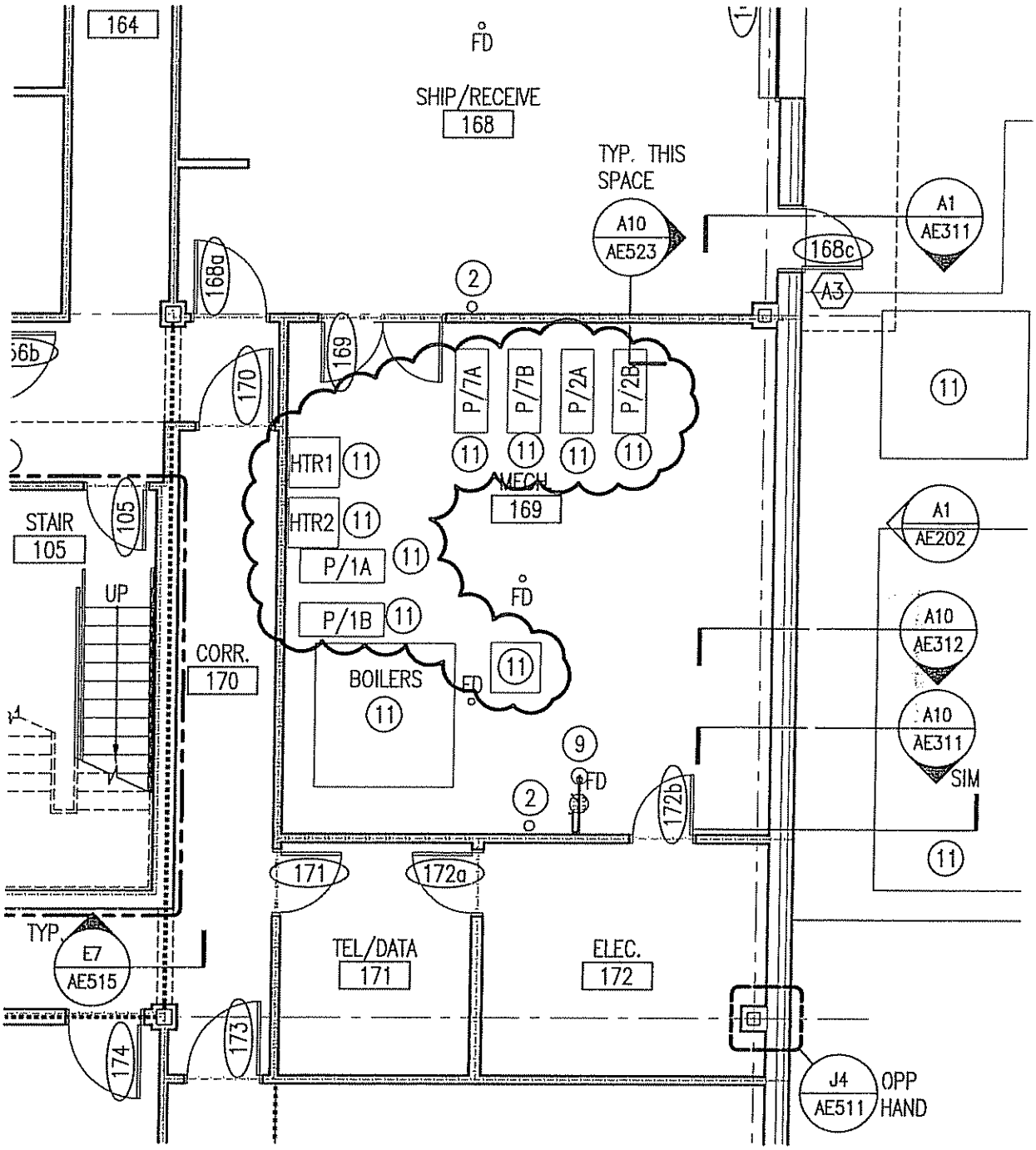
SCALE:	N.T.S.
CAD FILE:	IF103-06016
PROJECT No.	06016
REF. SHEET:	IF103
PM: SLB	ADDENDUM No. ADD-4
A/E: SLB	
DATE: 8-10-07	SKETCH No. A-13

PROJECT: MAINE TURNPIKE AUTHORITY ADMINISTRATION BUILDING

SUBJECT: THIRD FLOOR FURNITURE PLAN FOR REFERENCE ONLY



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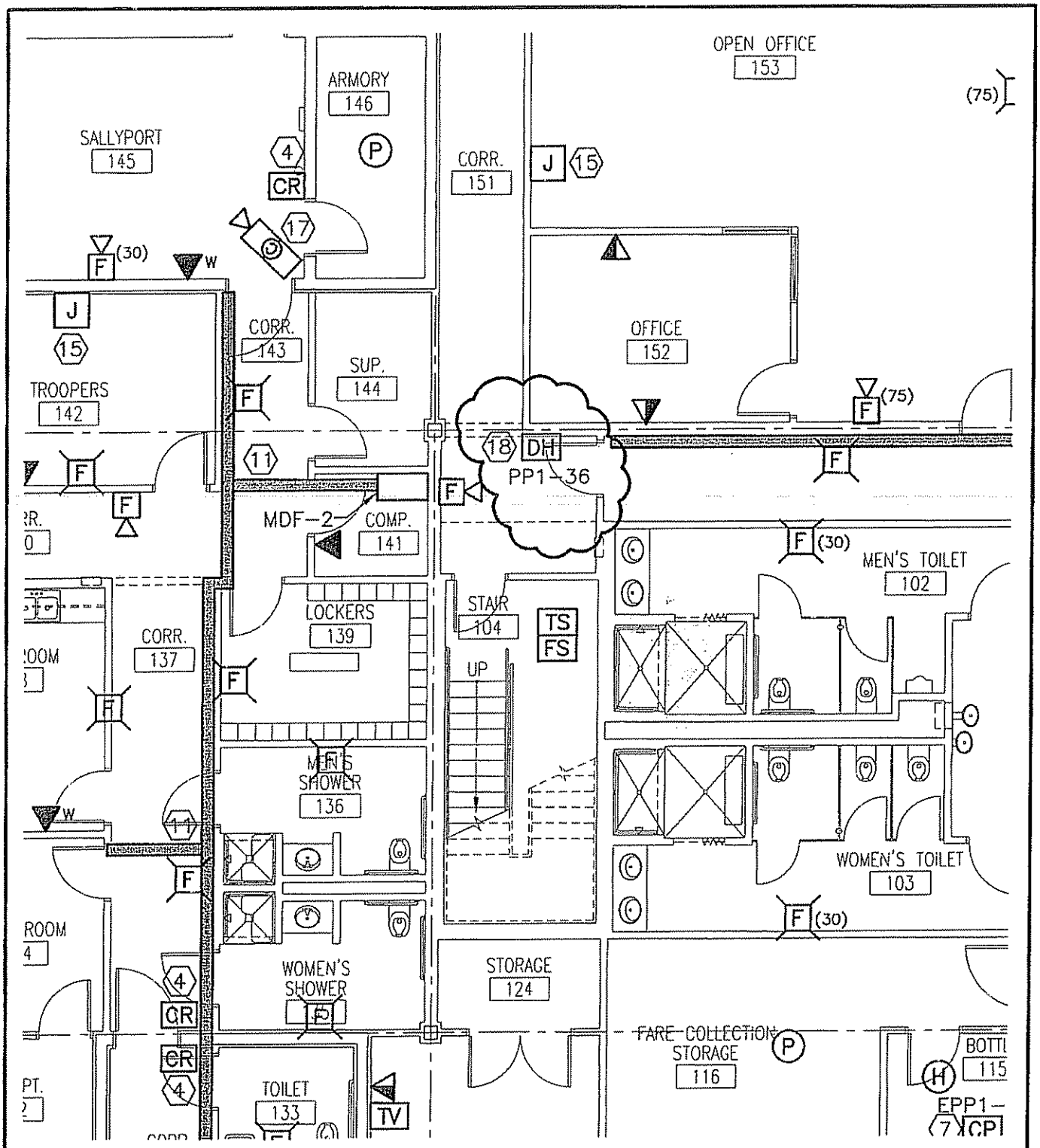
SCALE:	1/8"=1'-0"
CAD FILE:	AE101-06016
PROJECT No.	06016
REF. SHEET:	AE101
PM:	SLB
A/E:	SLB
DATE:	8-10-07

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: FIRST FLOOR PLAN
REVISED AS NOTED

ADDENDUM No. ADD-4

SKETCH No. A-14



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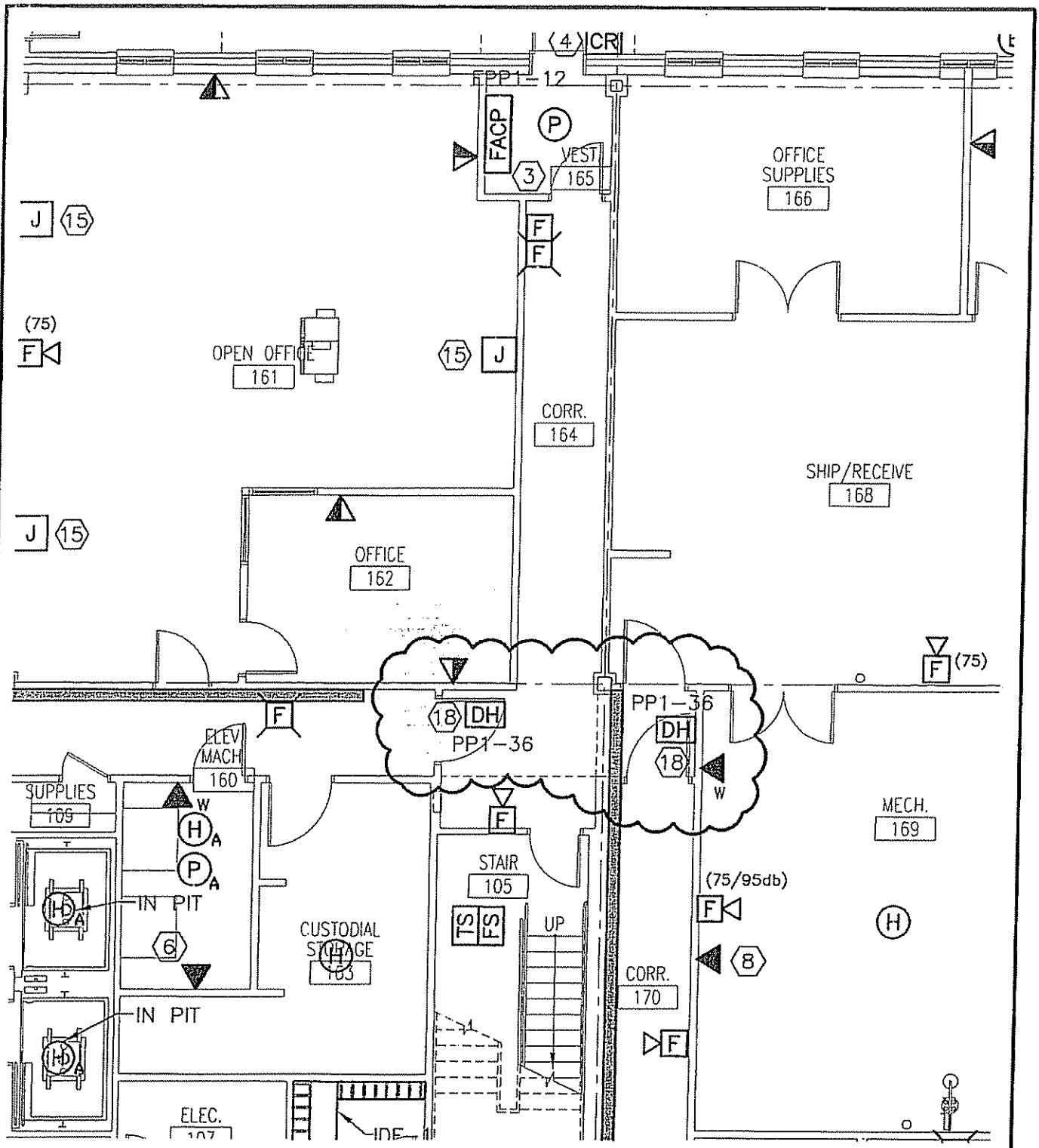
SCALE:	1/8"=1'-0"
CAD FILE:	EY101-06016
PROJECT No.	06016
REF. SHEET:	EY101
PM: SLB	ADDENDUM No. ADD-4
A/E: JPP	SKETCH No. E-1
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING

SUBJECT: FIRST FLOOR
SYSTEMS PLAN



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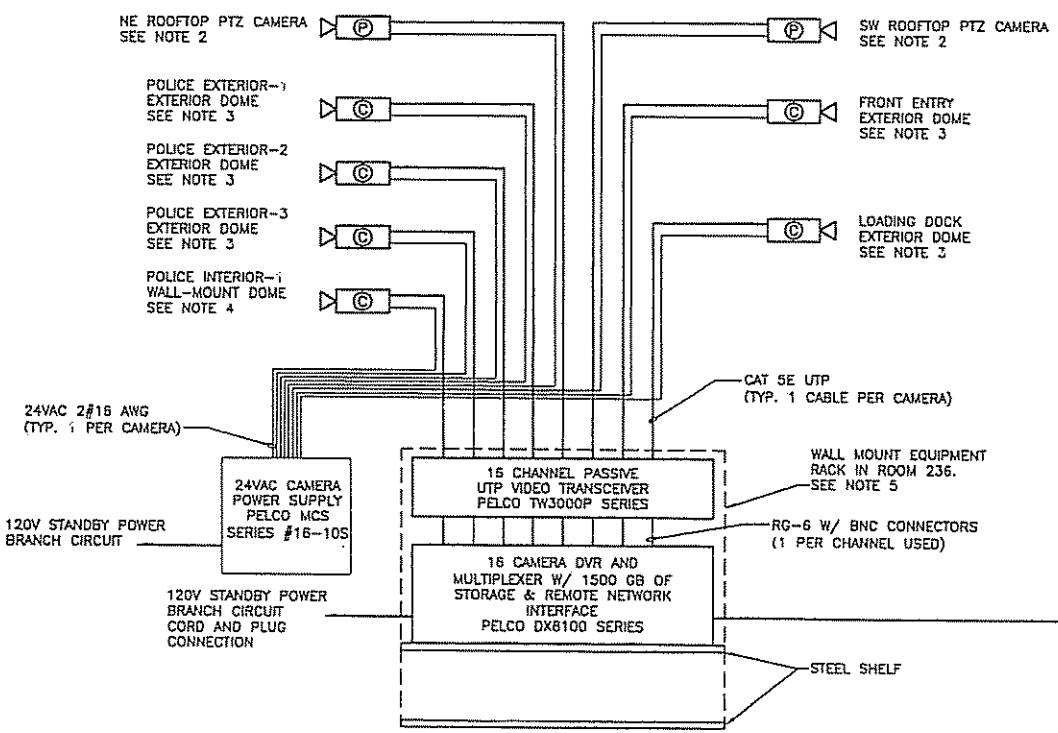
SCALE:	1/8"=1'-0"
CAD FILE:	EY101-06016
PROJECT No.	06016
REF. SHEET:	EY101
PM: SLB	ADDENDUM No. ADD-4
A/E: JPP	SKETCH No. E-2
DATE: 8-10-07	

PROJECT: MAINE TURNPIKE AUTHORITY ADMINISTRATION BUILDING

SUBJECT: FIRST FLOOR SYSTEMS PLAN



NOTES:

1. SEE SHEET E-001 FOR LEGEND AND GENERAL NOTES.
2. FURNISH AND INSTALL ROOF MOUNT PAN/TILT/ZOOM EXTERIOR DOME CAMERA. PROVIDE PELCO #SE SPECTRA SE SERIES DAY/NIGHT, HIGH RESOLUTION COLOR/BW CAMERA. PROVIDE W/ 32X ZOOM VARIFOCAL LENS IN ENVIRONMENTAL PENDANT ENCLOSURE FOR ARM MOUNTING. PROVIDE #PP451 ARM MOUNT INSTALL TO TOP OF ROOF EDGE. COORDINATE MOUNTING W/ ARCHITECT, OWNER, AND APPLICABLE TRADES.
3. FURNISH AND INSTALL RECESSED MOUNT FIXED EXTERIOR DOME CAMERA. PROVIDE PELCO #IS150 SERIES DAY/NIGHT, HIGH RESOLUTION COLOR/BW CAMERA. PROVIDE W/ 9-22mm VARIFOCAL LENS AND RECESSED ENVIRONMENTAL ENCLOSURE FOR INSTALLATION IN CANOPY CEILING. COORDINATE MOUNTING W/ ARCHITECT, OWNER, AND APPLICABLE TRADES.
4. FURNISH AND INSTALL WALL MOUNT FIXED INTERIOR DOME CAMERA. PROVIDE PELCO #IS90 SERIES HIGH RESOLUTION COLOR CAMERA. PROVIDE W/ 9-22mm VARIFOCAL LENS AND PENDANT WALL MOUNT ENCLOSURE FOR INSTALLATION IN CANOPY CEILING. COORDINATE MOUNTING W/ ARCHITECT, OWNER, AND APPLICABLE TRADES.
5. FURNISH AND INSTALL WALL MOUNT 19"Wx38.5"Hx18"D RACK (CHATSWORTH #11961-X18 OR EQUAL) W/ CABLE MANAGEMENT. PROVIDE SOLID BOTTOM SHELVE FOR DVR AND SPARE LOWER SLOT.

NOTE: CONTACTOR SHALL FURNISH AND INSTALL ALL CAMERA SYSTEM SOFTWARE, CAMERAS, ENCLOSURES, DVR, RACKS, TRANSCEIVERS, MOUNTING HARDWARE, POWER SUPPLIES, AND ASSOCIATED UTP AND POWER WIRING FOR A COMPLETE AND OPERABLE SYSTEM. EXTERIOR CAMERAS SHALL BE DAY/NIGHT HIGH RESOLUTION TYPE W/ UTP OUTPUT AND HEATED ENCLOSURES. INTERIOR CAMERAS SHALL BE GENERAL PURPOSE TYPE W/ UTP OUTPUT. SYSTEM INSTALLATION SHALL BE BY FACTORY AUTHORIZED INSTALLER AND INCLUDE ALL PROGRAMMING AND INITIAL SYSTEM SETUP. ALL PRODUCT SHALL BE PELCO AS INDICATED OR APPOVED EQUAL.

A1	CCTV RISER DIAGRAM
NONE	

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PROJECT: MAINE TURNPIKE AUTHORITY
ADMINISTRATION BUILDING
SUBJECT: SYSTEMS
RISER DIAGRAMS

SCALE:	NONE
PROJECT MANAGER:	SLB
REF. SHEET:	EY652
A/E OF RECORD:	JPP
CAD FILE:	EY652-06016
PROJECT No.	06016
DATE:	8-10-07

ADDENDUM No. ADD-4

E-3