Project: Lincoln Public Schools - Belmont Elementary School – Indoor Air Quality Improvements
3425 North 14th Street, Lincoln, NE 68521
LPS Bid Pckg: #8768
Project No.: Engineers Project No.: 2016-136
Engineer: Engineering Technologies, Inc.
825 M St, Suite 200, Lincoln, NE 68508
Issued: March 9, 2017
Bid Date: March 16th 2017 at (2:00 p.m.) at LPS Operations
Bid Opening: Lincoln Public Schools
Operations
800 S. 24th Street, Lincoln, NE 68510

ADDENDUM #1

This addendum is issued by the Engineer to all known bidders before receipt of proposals. This Addendum is to authorize the use of the following information in preparing proposals for the above named project. Bidder must acknowledge the receipt of this Addendum on their Proposal Sheet and all information contained herein shall become a part of the contract documents.

ADDENDUM:

PART 1 – GENERAL ITEMS

1.1 GENERAL ITEMS

A. The date for receipt of bids is unchanged by this addendum and remains at the same time and location. Bid Date is 3/16/2017.
B. Pre-Bid Conference Agenda and Sign-in Sheets
   1. Included in this addendum is the pre-bid conference agenda and sign-in sheets from the pre-bid meeting held on March 7, 2017.
C. Pre-Bid Conference Questions
   1. A request was made for clarification regarding the drawing notes to protect and re-support data cabling and whose responsibility this would be.
      a) The Contractors shall protect all low voltage cable, ie.: data, intercom, fire alarm and control wiring during the project. The General Contractor shall re-support existing cabling above ceilings that is not supported adequately or is disturbed during demolition and construction. Support shall be by the means of new J-hooks and Velcro straps. Any damaged cables shall be replaced at no cost to the Owner. The re-testing and re-certification of all existing data cabling as well as testing and certification of new cabling shall be included in the base bid for the project. Under Alternate #3 (included in this addendum), provide a price to eliminate the re-certification of all existing data cabling at the end of the project. All existing data cabling has been certified by LPS when installed and is functioning within tolerances. At the Contractors option, the Contractor can choose to certify the existing data cabling prior to construction to ensure no cabling is damaged prior to work.
   2. A request was made for electronic versions of the Bid Form and supporting documents. For use by the BIDDERS, the following forms have been included with this addendum:
      a) The Bid Form
      b) Allowance Form
      c) Unit Price Form – Revised by this addendum
      d) Alternates Form – Revised by this addendum
      e) Bid Submittal Checklist

1.2 ARCHITECTURAL

A. CLARIFICATIONS
   1. Terrazzo work: All terrazzo work indicated on the plans in notes and/or keynotes shall be included in the Contractor's base bid and will not be drawn from Allowance No. 2. Allowance No. 2 is specifically for the repair of cracks in the terrazzo floors.
   2. Ceiling Types: There are four (4) different ceiling types specified.

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a) The classrooms are to have the high NRC panels, APC-3 in spec (see also finish schedule remarks, all classrooms and those noted as Note 19).
b) The kitchen area is to have the vinyl-faced gypsum core panels, APC-2 in the spec (text note on sheet A3.1A).
c) Rooms directly below or adjacent to Mechanical 382M are to have acoustically treated ceiling pads and are keynoted as 098436.A.
d) The rest of the lay-in ceilings are to be ACP-1.

3. Alternate #2
   a) As a clarification, new ceilings, new lighting and HVAC work should **not** be included in the pricing of this alternate as these items will remain in the base bid.

B. ATTACHMENTS
1. This Addendum includes the following attached Documents and Specification Sections:
   a) Document 00 4322-UNIT PRICE FORM, dated 03-09-17, (reissued).
   b) Document 00 4323-ALTERNATES FORM, dated 03-09-17, (reissued).
   c) Section 01 3233, PHOTOGRAPHIC DOCUMENTATION, dated 03-09-17, (new).
   d) Section 06 6400, PLASTIC PANELING, dated 03-09-17, (new).
   e) Section 23 0548, VIBRATION ISOLATION, dated 03-09-17, (new).
   f) Section 31 1000, SITE CLEARING, dated 03-09-17, (new)
   g) Section 31 2000, EARTH MOVING, dated 03-09-17, (new)
2. This Addendum includes the attached Addendum Drawings:
   a) Civil Addendum Drawing CAD-01, dated 03-09-17, revising Sheet C1.0.
   b) Civil Addendum Drawing CAD-02, dated 03-09-17, revising Sheet C1.1.
   c) Civil Addendum Drawing CAD-03, dated 03-09-17, revising Sheet C1.1.
   d) Architectural Addendum Drawing AAD-01, dated 03-09-17, revising Sheets A2.2A and A5.0.
   e) Architectural Addendum Drawing AAD-02, dated 03-09-17, revising Sheets A3.2A.
   f) Architectural Addendum Drawing AAD-03, dated 03-09-17, revising Sheets A9.2A.
   g) Architectural Addendum Drawing AAD-04, dated 03-09-17, revising Sheets A2.4.

1.3 ELECTRICAL

A. Transformer Pad
1. See included LES transformer pad details with Electrical Engineer notes.

B. The General Note below should be added to all Electrical drawings.
1. Data – Unless otherwise noted on the drawings, all data locations should be cat-6 cabling and shall be routed from the locations shown to the existing data rack in Data 222A.

C. Gym Light Fixture Mounting
1. For clarification, the gym light fixtures (Fixture Type 10) shall be installed per the detail found on Sheet E2.1B.

D. ATTACHMENTS
1. This Addendum includes the following attached Documents:
   a) LES Transformer Details with ETI notes.
2. This Addendum includes the following attached Addendum Drawings:
   a) Electrical Addendum Drawing E1.1A, Attachment 1, dated 3/9/2017
   b) Electrical Addendum Drawing E1.1A, Attachment 2, dated 3/9/2017
   c) Electrical Addendum Drawing E1.1A, Attachment 3, dated 3/9/2017
   d) Electrical Addendum Drawing E1.1B, Attachment 1, dated 3/9/2017
   e) Electrical Addendum Drawing E2.1A, Attachment 1, dated 3/9/2017
   f) Electrical Addendum Drawing E2.1B, Attachment 1, dated 3/9/2017
   g) Electrical Addendum Drawing E2.1B, Attachment 2, dated 3/9/2017
   h) Electrical Addendum Drawing E2.3A, Attachment 1, dated 3/9/2017
   i) Electrical Addendum Drawing E3.0B, Attachment 1, dated 3/9/2017
   j) Electrical Addendum Drawing E3.1A, Attachment 1, dated 3/9/2017
   k) Electrical Addendum Drawing E3.1A, Attachment 2, dated 3/9/2017
   l) Electrical Addendum Drawing E3.1A, Attachment 3, dated 3/9/2017
   m) Electrical Addendum Drawing E3.1A, Attachment 4, dated 3/9/2017
   n) Electrical Addendum Drawing E3.1A, Attachment 5, dated 3/9/2017
   o) Electrical Addendum Drawing E3.1A, Attachment 6, dated 3/9/2017

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p) Electrical Addendum Drawing E3.1B, Attachment 1, dated 3/9/2017
q) Electrical Addendum Drawing E3.2A, Attachment 1, dated 3/9/2017
r) Electrical Addendum Drawing E3.2A, Attachment 2, dated 3/9/2017
s) Electrical Addendum Drawing E3.2A, Attachment 3, dated 3/9/2017
t) Electrical Addendum Drawing E3.2A, Attachment 4, dated 3/9/2017
u) Electrical Addendum Drawing E3.2A, Attachment 5, dated 3/9/2017
v) Electrical Addendum Drawing E3.2A, Attachment 6, dated 3/9/2017
w) Electrical Addendum Drawing E3.3A, Attachment 1, dated 3/9/2017
x) Electrical Addendum Drawing E3.3A, Attachment 2, dated 3/9/2017
y) Electrical Addendum Drawing E4.0, Attachment 1, dated 3/9/2017
z) Electrical Addendum Drawing E4.0, Attachment 2, dated 3/9/2017
aa) Electrical Addendum Drawing E4.0, Attachment 3, dated 3/9/2017
bb) Electrical Addendum Drawing E4.0, Attachment 4, dated 3/9/2017
cc) Electrical Addendum Drawing E4.0, Attachment 5, dated 3/9/2017
dd) Electrical Addendum Drawing E4.1, Attachment 1, dated 3/9/2017
ee) Electrical Addendum Drawing E4.2, Attachment 1, dated 3/9/2017
ff) Electrical Addendum Drawing E4.2, Attachment 2, dated 3/9/2017
gg) Electrical Addendum Drawing E5.0, Attachment 1, dated 3/9/2017
hh) Electrical Addendum Drawing E5.0, Attachment 2, dated 3/9/2017
ii) Electrical Addendum Drawing E5.0, Attachment 3, dated 3/9/2017
jj) Electrical Addendum Drawing E6.1, dated 3/9/2017

PART 2 – PRIOR APPROVAL

2.1 MECHANICAL

A. The following manufacturers have received prior approval for bidding purposes subject to shop drawing review:

1. List Equipment Here	List Manufacturer Here
Wastewater (Sump) Pumps	Weil
Thermometers & Gauges	Miljoco
Check Valves	Titan
Suction Diffusers	Patterson
Expansion Tanks	Patterson
Air/Dirt Separators	Thrush
Hydraulic Separators	Thrush
Diffusers, Registers, and Grilles	Nailor
Air Filters	American Air Filters
Energy Recovery Units	Trane

2.2 ELECTRICAL

A. The following manufacturers have received prior approval for bidding purposes subject to shop drawing review:

1. List Equipment Here	List Manufacturer Here
Light Fixture #5, 6	Metalux
Light Fixture #14, 15,16,17,18	Corelite

PART 3 – SPECIFICATIONS

3.1 GENERAL

A. Section 00 4322 – UNIT PRICE FORM, (reissued).
   1. The Unit Price form was revised to include the unit price for replacing wet roof insulation: The revised Unit Price Form is included with this addendum.
B. Section 00 4323 – ALTERNATES FORM, (reissued).
   1. The Alternates Form was revised to include Alternate number three (3) for eliminating the required testing and re-certification of existing data cabling at the end of the project. The revised Alternates Form is included with this addendum.
C. Section 02 2200 – UNIT PRICES, (not reissued).
   1. Refer to PART 3 EXECUTION, Paragraph 3.1 SCHEDULE OF UNIT PRICES: Add the following:
      a) Unit Price No. 2: Removing and replacing wet roof insulation.

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i. Description: Areas of roofing to be “re-capped” are to be scanned with an infrared scanner to identify any areas of wet insulation. Any wet insulation is to be replaced.
ii. Unit of Measurement: Cubic feet of roof insulation.

D. Section 01 2300 – ALTERNATES, (not reissued).
1. Refer to PART 3 EXECUTION, Paragraph 3.1 SCHEDULE OF ALTERNATES: Add the following:
a) Alternate No. 3: Eliminate testing and certification of all existing data cabling at the end of the project.
i. Base Bid: Re-certification of all existing data cabling at the end of the project is required to be included in the base bid.
ii. Alternate: Eliminate the testing and certification of all existing data cabling at the end of the project.
2. As a clarification, new ceilings, new lighting and HVAC work should **not** be included in the pricing of this alternate as these items will remain in the base bid.

E. Section 01 3233, PHOTOGRAPHIC DOCUMENTATION, (new).
1. This included specification section is new.

3.2 ARCHITECTURAL

A. Section 01 4000 – QUALITY REQUIREMENTS, (not reissued).
1. Paragraph 1.9 Quality Control: Add the following:
a) Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
i. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
ii. Payment for these services will be made by the Owner.
iii. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Section 03 3000 – CAST-IN PLACE CONCRETE, (not reissued).
1. Paragraph 3.14.A Testing and Inspection: The sentence should read; The Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

C. Section 04 2000 – UNIT MASONRY, (not reissued).
1. Paragraph 3.10.A Testing and Inspection: The first sentence should read; The Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

D. Section 06 6400, PLASTIC PANELING, (new).
1. This included specification section is new.

E. Section 07 5216 – STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING, (not reissued).
1. Under PART 3 EXECUTION, add the following:
a) Roof Re-cap Process
i. Perform an infrared moisture scan of the areas to be recapped to determine if there are any areas where the roof insulation is wet. Any wet insulation must be removed and replaced.
ii. Provide a unit price for replacement of wet insulation.
iii. Loose granules are to be swept from the existing cap sheet. Utilize a power sweeper to perform this work.
iv. Prime existing cap sheet with asphaltic primer.
v. Install a venting base sheet in a full bed of asphalt.
vi. Install three plys of glass-fiber base-ply sheets (felts).
vii. Install a new Granule-Surfaced Roofing Cap Sheet.
viii. Provide a 20 year Warranty for these “Re-Capped” areas.
b) See AAD-04 for a plan that highlights the areas to be re-capped.

F. Section 09 6813, TILE CARPETING, (not reissued).
1. Contractor shall assume that three (3) different carpet colors from the same family will be used on the project.

G. Section 23 0548, VIBRATION ISOLATION, (new).
1. This included specification section is new.
2. The generator isolation shall be the General Contractor’s responsibility.

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H. Section 31 1000, SITE CLEARING, (new)
   1. This included specification section is new.
I. Section 31 2000, EARTH MOVING, (new)
   1. This included specification section is new.

PART 4 – DRAWINGS

4.1 ARCHITECTURAL

A. Sheet C1.0 – SITE PLAN (not reissued).
   1. Sheet Specific Notes on this sheet begin with Note 2. Note 1 was not used.
   2. On the east side of the existing Educare Building, north of the north portable classroom is a note regarding the new transformer location. A supplemental drawing has been included with this addendum to clarify the extent of concrete work at this location. See CAD-01 included with this addendum.
B. Sheet C1.1 – ENLARGED SITE PLANS AND DETAILS (not reissued).
   1. Refer to G1 NE Entry Enlarged Plan: Additional notes have been included on the attached supplemental drawing. See CAD-02 included with this addendum.
C. Sheet C1.1 – ENLARGED SITE PLANS AND DETAILS (not reissued).
   1. Refer to A6 Retaining Wall at NE Entry: Additional notes and revisions have been included on the attached supplemental drawing. See CAD-03 included with this addendum.
D. Sheet A8.0 - DOOR SCHEDULE (not reissued).
   1. The following doors are to have a 1 hour fire rating: 183a, 183b, 283a, 283b.
E. Sheet A2.2A – SECOND FLOOR PLAN – Area A (not reissued).
   1. The glass of the window in Mechanical 281M is to have translucent film applied to the interior of the glass. See AAD-01 included with this addendum.
F. Sheet A2.3A – THIRD FLOOR PLAN – Area A (not reissued).
   1. Note for inertia base should read 8”.
G. Sheet A2.4 – ROOF PLAN (not reissued).
   1. The targets shown at roof edges and at the edge of roof drain sumps with a number of inches next to them are indicating the thickness of insulation. The thickness includes only the insulation and not the coverboard.
   2. The insulation thicknesses at the roof sumps need to be increased by 1/2 inch to allow for the limitations of tapered insulation’s minimum thickness. This does not change the base thickness of insulation over the Gymnasium which is to remain at 4 inches.
   3. Portions of the existing roof currently have a modified bitumen roof system. As a part of this project, those portions of roof are to be re-capped. See revisions to specification section 075216 included with this addendum for a description of the re-cap process. Addendum attachment AAD-04 included with this addendum highlights the areas to be re-capped.
H. Sheet A2.3A – THIRD FLOOR PLAN – AREA A (not reissued).
   1. Refer to Generator 382N, note for inertial base is to be revised. The base is to be 8” thick in lieu of 12” as noted on the drawing. See Specification Section 230548 included with this addendum.
I. Sheet A3.2A – SECOND FLOOR REFLECTED CEILING PLAN – AREA A (not reissued).
   1. In the Northeast corner of the Building, Stair ST05, the lay-in ceiling indicated between the two existing bulkheads is to be deleted. The existing plaster ceiling in this location is to remain but will require repair prior to being painted. See AAD-02 included with this addendum.
J. Sheet A5.0– EXTERIOR ELEVATIONS (not reissued).
   1. The glass of the transom above the door (door 382Mb) in Mechanical 382M is to have translucent film applied to the interior of the glass. See AAD-01 included with this addendum.
K. Sheet A9.2– CONSTRUCTION TEMPORARY PARTITION PLANS (not reissued).
   1. Sheet A9.2 indicates the requirement of temporary partitions for each phase of the work. This sheet illustrate examples of the level of separation bidders should anticipate for each phase of the work.
   2. For additional requirements of temporary partitions / Contractor access, see attachment AAD-03 included with this addendum.

4.2 MECHANICAL

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A. Sheet M2.0B – GROUND FLOOR PLAN – AREA B – MECHANICAL, (not reissued).
   1. In view A16 provide bypass and portable water softener connections to make-up water tank.
B. Sheet M3.1A – FIRST FLOOR PLAN – AREA A – HVAC, (not reissued).
   1. Reference Note 46 it should read “Provide fire damper in 10” FA Duct as it exists the chase”. On the floor plan the FD is currently shown on the 9” exhaust duct, and should be shown on the adjacent 10” fresh air duct.
   2. The transfer duct from Multipurpose 120 to Kitchen 121 should have (6) 22 x 22 RA grilles with (3) grilles on each side and connected with a 72 x 16 duct.
C. Sheet M5.1 – MECHANICAL DETAILS
   1. On the Energy Recovery Unit 2 Coil Piping Detail the pipe size should be 4” to match the floor plans.
   2. On the Duplex Sump Pump Detail the discharge piping should be connected into the existing 4” waste piping.
   3. On the Base Mounted Pump Detail the pump number and pipe size should match the floor plans.

4.3 ELECTRICAL

A. Sheet E1.1A FIRST FLOOR PLAN – AREA A – ELECTRICAL DEMOLITION, (not reissued)
   1. See enclosed drawing Sheet E1.1A, Attachment #1, dated 3.9.2017 for removal of old cat5 data.
   2. See enclosed drawing Sheet E1.1A, Attachment #2, dated 3.9.2017 for power and data changes.
   3. See enclosed drawing Sheet E1.1A, Attachment #3, dated 3.9.2017 for removal of old cat5 data.
B. Sheet E1.1B FIRST FLOOR PLAN – AREA B – ELECTRICAL DEMOLITION, (not reissued)
   1. See enclosed drawing Sheet E1.1B, Attachment #1, dated 3.9.2017 for removal of old cat5 data.
C. Sheet E2.1A FIRST FLOOR PLAN – AREA A – LIGHTING, (not reissued)
   1. Junction box for the light switch in Mech. 183M is an existing box (EB).
   2. See enclosed drawing Sheet E2.1A, Attachment #1, dated 3.9.2017 for lighting changes.
D. Sheet E2.1B FIRST FLOOR PLAN – AREA B – LIGHTING, (not reissued)
   1. See enclosed drawing Sheet E2.1B, Attachment #1, dated 3.9.2017 for ALE 100H revision.
   2. See enclosed drawing Sheet E2.1B, Attachment #2, dated 3.9.2017 for exit light replacement.
E. Sheet E2.3A THIRD FLOOR PLAN – AREA A – LIGHTING, (not reissued)
   1. Light switch in Generator 382N should have a “P” designation to indicate switch with lighted handle for pilot.
   2. See enclosed drawing Sheet E2.3A, Attachment #1, dated 3.9.2017 for Cust. 383C light switch clarification.
F. Sheet E3.0B GROUND FLOOR PLAN – AREA B – ELECTRICAL, (not reissued)
   1. See enclosed drawing Sheet E3.0B, Attachment #1, dated 3.9.2017 for added fire alarm devices.
G. Sheet E3.1A FIRST FLOOR PLAN – AREA A – ELECTRICAL, (not reissued)
   1. See enclosed drawing Sheet E3.1A, Attachment #1, dated 3.9.2017 for added notes.
   2. See enclosed drawing Sheet E3.1A, Attachment #2, dated 3.9.2017 for added notes and added fire alarm devices.
   3. See enclosed drawing Sheet E3.1A, Attachment #3, dated 3.9.2017 for added notes.
   4. See enclosed drawing Sheet E3.1A, Attachment #4, dated 3.9.2017 for added notes and added power/data in Storage 122A.
   5. See enclosed drawing Sheet E3.1A, Attachment #5, dated 3.9.2017 for added notes, clarifications and revised layout of Custodial Office/Storage 184C.
   6. See enclosed drawing Sheet E3.1A, Attachment #6, dated 3.9.2017 for added/revised notes.
H. Sheet E3.1B FIRST FLOOR PLAN – AREA B – ELECTRICAL, (not reissued)
   1. See enclosed drawing Sheet E3.1B, Attachment #1, dated 3.9.2017 for clarification and added elevator work and devices.
I. Sheet E3.2A SECOND FLOOR PLAN – AREA A – ELECTRICAL, (not reissued)
   1. Junction box for the intercom call switch in SPED 215 is an existing box (EB).
   2. WAP in 2nd Grade 205 is existing (E).
   3. See enclosed drawing Sheet E3.2A, Attachment #1, dated 3.9.2017 for added notes.
   4. See enclosed drawing Sheet E3.2A, Attachment #2, dated 3.9.2017 for added notes.
   5. See enclosed drawing Sheet E3.2A, Attachment #3, dated 3.9.2017 for added notes.
   6. See enclosed drawing Sheet E3.2A, Attachment #4, dated 3.9.2017 for added notes and revisions.
   7. See enclosed drawing Sheet E3.2A, Attachment #5, dated 3.9.2017 for revisions.
   8. See enclosed drawing Sheet E3.2A, Attachment #6, dated 3.9.2017 for added/revised notes.
J. Sheet E3.3A THIRD FLOOR PLAN – AREA A – ELECTRICAL, (not reissued)
   1. See enclosed drawing Sheet E3.3A, Attachment #1, dated 3.9.2017 for added fire alarm devices and added notes.
   2. See enclosed drawing Sheet E3.3A, Attachment #2, dated 3.9.2017 for added notes.
K. Sheet E4.0 ENLARGED PLANS – ELECTRICAL, (not reissued)
   1. See enclosed drawing Sheet E4.0, Attachment #1, dated 3.9.2017 for added notes.
   2. See enclosed drawing Sheet E4.0, Attachment #2, dated 3.9.2017 for added notes.
   3. See enclosed drawing Sheet E4.0, Attachment #3, dated 3.9.2017 for added notes.
   4. See enclosed drawing Sheet E4.0, Attachment #4, dated 3.9.2017 for added notes.

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5. See enclosed drawing Sheet E4.0, Attachment #5, dated 3.9.2017 for added notes.

L. Sheet E4.1 OVERALL FIRST FLOOR PLAN – ELECTRICAL, (not reissued)
   1. See enclosed drawing Sheet E4.1, Attachment #1, dated 3.9.2017 for revisions and added notes.

M. Sheet E4.2 OVERALL SECOND AND THIRD FLOOR PLAN – ELECTRICAL (not reissued).
   1. See enclosed drawing Sheet E4.2, Attachment #1, dated 3.9.2017 for added/revised notes.
   2. See enclosed drawing Sheet E4.2, Attachment #2, dated 3.9.2017 for added/revised notes.

N. Sheet E5.0 ELECTRICAL SCHEDULES, (not reissued)
   1. See enclosed drawing Sheet E5.0, Attachment #1, dated 3.9.2017 for added/revised panel schedules.
   2. See enclosed drawing Sheet E5.0, Attachment #2, dated 3.9.2017 for revised panel schedules.
   3. See enclosed drawing Sheet E5.0, Attachment #3, dated 3.9.2017 for revised equipment connection schedule and added panel schedule.

O. Sheet E6.1 ELECTRICAL DETAILS, (new)
   1. See enclosed new drawing Sheet E6.1 ELECTRICAL DETAILS, dated 3.9.2017.

P. Sheet E7.0 ELECTRICAL RISER DIAGRAM, (not reissued).
   1. Delete note 20. See architectural spec included in this addendum for generator isolation.

END OF ADDENDUM

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BELMONT ELEMENTARY SCHOOL – INDOOR AIR QUALITY IMPROVEMENTS
PRE-BID CONFERENCE AGENDA – MARCH 7, 2017, 3:30PM.

Introductions

Project Team	ETI -	Dan Thompson, P.E.	Project Manager – Mechanical Eng.
		Tom Ernst, P.E.	Electrical Engineer
		Bryan Rahn	Construction Manager
Owner	LPS Staff -	Scott Wieskamp	Director of Operations
		Gordon Hardle	Assistant Maintenance Supervisor
		Steve DeGarmo	HVAC Superintendent
		John Burbach	Electrical Superintendent
		Polly Bowhay	Belmont Principal

Building Availability and Walk-Thru

1. Minimal time for walk-thru today.
2. Interest in further observations at a later date other than today shall be scheduled with LPS Operations before the bid date.

Bid Information

1. Review specifications and plans for all requirements. Plans are available at A&D Technical Supply, 1822 N Street, Lincoln, NE. 68508. A&D will also have a plan holders list available or go to their website http://ww.adtechplans.com .
2. Bid Date: Thursday March 16, 2017 at 2:00PM at the office of LPS Operations, 800 South 24th Street, Lincoln, NE 68510.
3. Bid Proposal Form is in the Specifications & Project Manual.
4. Each bid proposal must be accompanied by a Certified Check or Bid Bond payable to Lincoln Public Schools in the amount of 5% of the base bid proposal.
5. Performance Bond and Labor and Materials Payment Bond shall be provided in the total amount of the contract.
6. Do not include sales tax in your bid, LPS is exempt.
7. Project will be constructed under a single prime contract per Agreement in the specs.
8. Building Permit process is by the Engineer and plans are currently under review. Contractors will be required to obtain any other special permits.
9. Allowances
    a. Discovery - $100,000
    b. Terrazo Floor Crack Repair - $15,000 – This is for crack repair only, there is some terrazzo work that should be included in the base bid.
10. Addendum #1 is forthcoming.

Overview of Project

The Project consists of the following: This is a multiple phase Project that consists of Indoor Air Quality Improvements. This work includes the removal of the existing HVAC systems and installation of a new ground source heat pump based system. In addition, work will include major upgrades to the electrical system—new service entrance, transformer, emergency generator, and new light fixtures in the entire building. The work also includes additional telecommunication installation and access control work. The General Construction work includes an addition to infill the existing courtyard which will include classrooms, restrooms and a new mechanical room, miscellaneous demolition for new duct and utility pathways, new roofing and ADA upgrades at existing restrooms. Site work includes a new retaining wall south off the Rec Center entrance, reconfiguration of the NE corner of the original building including removal of the below ground cooling tower, new sidewalk paving and other improvements at the main east entrance, and miscellaneous repairs and replacement of walks and steps around the building. All per the plans and specifications.

Alternates are proposed as follows:

1. Delete Replacement of Movable Partitions
    a. Contractor to give deduct pricing to leave movable partitions in place in second floor classrooms.
2. Eliminate Toilet Renovations
    a. Contractor to give deduct pricing for three different restroom groups.

Site Use

1. Contractor use of site will be limited to construction area only. The Owner will be occupying the site during construction.
2. Contractor will be issued keys.
3. Staging Areas (Plan provided in Project Manual)
4. Provide adequate floor and wall protection systems during demolition and construction.

Schedule

1. Contractors may access site once all appropriate contract paperwork is completed.
2. Last day of school is May 24, 2017.
3. Timing of work is critical to complete the project by August 3, 2018.
4. Work out of phase – There will be areas indicated where work will occur outside of the phase indicated. Contractor will be responsible for removing and reinstalling ceilings in these areas.

Misc. Items

1. Existing Data supported by work that will be removed. Data shall be protected in place. Contractor will be responsible for testing and verifying that all data systems are working when project is over.
2. Shop drawings – Time is critical to get steel/long lead items.
3. Phasing – Plans provided in Project Manual. Contractor may at their discretion revise and submit revisions to Owner/Engineer for review. Contractor will be responsible for meeting phasing plan dates.
4. Contractor Identification – Hard hat stickers
5. Dust Control
6. Construction Separation
7. Elevator use will **not** be permitted.
8. Maintaining egress throughout the project.
9. Mold, Asbestos & Lead
10. Construction Waste Management Plan
11. Submittal Exchange
12. Work by Owner – Landscaping, Moving in/out of rooms

Questions

eti Engineering Technologies Inc

SIGN IN SHEET

Lincoln Public Schools - Belmont Elementary School – Indoor Air Quality Improvements
Pre-Bid Conference Sign-In Sheet
ETI Project No. 2016-136
March 7, 2016, 3:30PM

NAME	Company	Phone	Email
Chris Beardslee	Clark Arch	402 253 9805	chris@clark-architects.com
Phil Frank	Midlands Mech	402-739-8583	pfrank@midmechinc.com
Steve DeBaeremaeker	LPS	402-436-1072	sdegaeremaeker@lps.org
Justin Kurtzer	Cheever Const.	402-477-6745	jkurtzer@cheeverconstruction.com
Philip Lamke	KONE	402-594-5232	Philip.Lamke@kone.com
Chris Fogle	Hinges	402 465 4400	CFogle@hingesbuilders.com
Steve Law	Kingery	402-677-5092	"
Brad Wittstruck	ABC Electric	402-435-3514	bradw@abcelectric.net
Jason Houdek	Mechanical Western	(402) 580-2901	jjhoudek@falconheatingac.com
Laura Stephenson	LPS	402-436-1124	lstephe2@lps.org
Jennifer Felton	Clark Architects	402-672-2057	jennifer@clark-architects.com
Kent Oelkers	Rosse Contracting	402-890-0504	kentoo@rossinc.com
Randy Rosse	" "	402-441-3109	randyr@rossinc.com
Mark Didde	CSI	402-661-9009	mdidde@controlservices.com

LINCOLN: 825 M Street, Suite 200, Lincoln, NE 68508 P 402.476.1273 F 402.476.1274
OMAHA: 1111 N. 13rd Street Suite 216, Omaha, NE 68102 P 402.330.2772 F 402.330.2630

eti Engineering Technologies Inc

SIGN IN SHEET

Lincoln Public Schools - Belmont Elementary School – Indoor Air Quality Improvements
Pre-Bid Conference Sign-In Sheet
ETI Project No. 2016-136
March 7, 2016, 3:30PM

NAME	Company	Phone	Email
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TOM ERNST	ETI		
Cary McCoy	Eletech Inc.	402-679-7000	cary@eletechinc.com
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BRIAN GRIMES	SAMPSON	402-434-5419	brian.grimes@sampson-construction.com
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eti Engineering Technologies Inc

SIGN IN SHEET

Lincoln Public Schools - Belmont Elementary School – Indoor Air Quality Improvements
Pre-Bid Conference Sign-In Sheet
ETI Project No. 2016-136
March 7, 2016, 3:30PM

NAME	Company	Phone	Email
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David Jung	Willmar Electric	402-890-2931	djung@willmar-electric.com
Shane Brown	FALCON	402-525-4669	Sbrown@falconheatingac.com
Debbie Ocken	Sprague Roofing	402-467-1949	docken@spragueroofing.com
Kim Rosenthal	LPS	402-436-1124	krosent@lps.org
John Hyland	Hampton	(402) 489-8858	jhyland@hampton1.com
Shane Benes	Benes HVAC	402-610-6555	ShaneBenes@Benes hvac.com
John Schurman	Control Services Inc	402 429 1604	jschurman@controlservices.com
Spencer Beeth	Patriot Steel	402-616-2315	sbeeth@patriotsteelerection.com
Bryan Rahn	ETI	402-476-1273	brahn@eti-engineers.com

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DOCUMENT 00411 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1 BID INFORMATION

A. Bidder: _____.

B. Project Name: Lincoln Public Schools, Belmont IAQ, Bid Number 8768.

1. Project Location: 3425 North 14th Street, Lincoln, NE 68521.

C. Owner: Lincoln Public Schools.

D. Engineer: Engineering Technologies Incorporated. Mechanical and Electrical Engineers.

E. Engineer's Project Number: 2016-136.

1.2 CERTIFICATIONS AND BASE BID

A. Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Engineering Technologies and Engineer's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

1. _____ Dollars ($_____).
2. The above amount may be modified by amounts indicated by the Bidder on the attached

1.3 BID GUARANTEE

A. The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within 10 days after a written Notice of Award, if offered within 60 days after receipt of bids, and on failure to do so agrees to forfeit to Owner the bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the Base Bid amount above:

1. _____ Dollars ($_____).

B. In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the bid bond.

1.4 TIME OF COMPLETION

A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by the Engineer, and shall substantially complete by August 3rd, 2018.

1.5 ACKNOWLEDGEMENT OF ADDENDA

A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

1. Addendum No. 1, dated _____.
2. Addendum No. 2, dated _____.
3. Addendum No. 3, dated _____.
4. Addendum No. 4, dated _____.

1.6 BID SUPPLEMENTS

A. The following supplements are a part of this Bid Form and are attached hereto.

1. Bid Form Supplement – Alternates.
2. Bid Form Supplement - Unit Prices.
3. Bid Form Supplement - Allowances.
4. Bid Form Supplement - Bid Bond Form (AIA Document A310).

1.7 SUBMISSION OF BID

A. Respectfully submitted this ____ day of _____, 2017.

B. Submitted By:_____(Name of bidding firm or corporation).

C. Authorized Signature:_____(Handwritten signature).

D. Signed By:_____(Type or print name).

E. Title:_____(Owner/Partner/President/Vice President).

F. Witness By:_____(Handwritten signature).

G. Attest:_____(Handwritten signature).

H. By:_____(Type or print name).

I. Title:_____(Corporate Secretary or Assistant Secretary).

J. Street Address:_____.

K. City, State, Zip:_____.

L. Phone:_____.

M. License No.:_____.

N. Federal ID No.:_____(Affix Corporate Seal Here).

END OF DOCUMENT 004113

DOCUMENT 004321 - ALLOWANCE FORM

1.1 BID INFORMATION

A. Bidder: _____.

B. Project Name: Lincoln Public Schools, Belmont IAQ, Bid Number 8768.

1. Project Location: 3425 North 14th Street, Lincoln, NE 68521.

C. Owner: Lincoln Public Schools.

D. Engineer: Engineering Technologies Incorporated. Mechanical and Electrical Engineers.

E. Engineer's Project Number: 2016-136.

1.2 BID FORM SUPPLEMENT

A. This form is required to be attached to the Bid Form.

B. The undersigned Bidder certifies that Base Bid submission to which this Bid Supplement is attached includes those allowances described in the Contract Documents and scheduled in Section 012100 "Allowances."

1.3 SUBMISSION OF BID SUPPLEMENT

A. Respectfully submitted this ____ day of _____, 2017.

B. Submitted By:_____(Insert name of bidding firm or corporation).

C. Authorized Signature:_____(Handwritten signature).

D. Signed By:_____(Type or print name).

E. Title:_____(Owner/Partner/President/Vice President).

END OF DOCUMENT 004321

DOCUMENT 004322 - UNIT PRICES FORM

1.1 BID INFORMATION

A. Bidder: _____.

B. Project Identification: Lincoln Public Schools, Belmont Elementary IAQ, Bid Number 8768.

1. Project Location: 3425 North 14th Street, Lincoln, NE 68521

C. Owner: Lincoln Public Schools.

D. Engineer: Engineering Technologies Incorporated. Mechanical and Electrical Engineers

E. Engineer Project Number: 2016-136.

1.2 BID FORM SUPPLEMENT

A. This form is required to be attached to the Bid Form.

B. The undersigned Bidder proposes the amounts below be added to or deducted from the Contract Sum on performance and measurement of the individual items of Work.

C. If the unit price does not affect the Work of this Contract, the Bidder shall indicate "NOT APPLICABLE."

1.3 UNIT PRICES

A. Unit-Price No. 1: Crack repair of Terrazzo Flooring.

1. _____ Dollars ($_____) per unit.

B. Unit-Price No. 2: Removing and replacing wet roof insulation.

1. _____ Dollars ($_____) per unit.

1.4 SUBMISSION OF BID SUPPLEMENT

A. Respectfully submitted this ____ day of _____, 2017.

B. Submitted By:_____(Insert name of bidding firm or corporation).

C. Authorized Signature:_____(Handwritten signature).

D. Signed By:_____(Type or print name).

E. Title:_____(Owner/Partner/President/Vice President).

END OF DOCUMENT 004322

DOCUMENT 004323 - ALTERNATES FORM

1.1 BID INFORMATION

A. Bidder: _____.

B. Project Identification: Lincoln Public Schools, Belmont Elementary IAQ, Bid Number 8768.

1. Project Location: 3425 North 14th Street, Lincoln, NE 68521

C. Owner: Lincoln Public Schools.

D. Engineer: Engineering Technologies Incorporated. Mechanical and Electrical Engineers.

E. Engineer's Consultants: The Engineer has retained the following design professionals who have prepared designated portions of the Contract Documents:

1. Architect: Clark Architects Collaborative, 3330 Woods Ave. Lincoln, NE 68510

2. Structural Engineer: R.O. Youker, 1201 O street, Suite 310, Lincoln NE 68508

1.2 BID FORM SUPPLEMENT

A. This form is required to be attached to the Bid Form.

1.3 DESCRIPTION

A. The undersigned Bidder proposes the amount below be added to or deducted from the Base Bid if particular alternates are accepted by Owner. Amounts listed for each alternate include costs of related coordination, modification, or adjustment.

B. If the alternate does not affect the Contract Sum, the Bidder shall indicate "NO CHANGE."

C. If the alternate does not affect the Work of this Contract, the Bidder shall indicate "NOT APPLICABLE."

D. The Bidder shall be responsible for determining from the Contract Documents the affects of each alternate on the Contract Time and the Contract Sum.

E. Owner reserves the right to accept or reject any alternate, in any order, and to award or amend the Contract accordingly within [**60**] days of the Notice of Award unless otherwise indicated in the Contract Documents.

F. Acceptance or non-acceptance of any alternates by the Owner shall have no affect on the Contract Time unless the "Schedule of Alternates" Article below provides a formatted space for the adjustment of the Contract Time.

1.4 SCHEDULE OF ALTERNATES

A. Alternate No. One: Delete replacement of Moveable Partitions:

1. TOTAL DEDUCT____ NO CHANGE____.
2. _____ Dollars ($_____).

B. Alternate No. Two: Eliminate the work indicated on sheet A4.0, for plans A1 (280B & 280G), A7 (282B & 282G), and K1 (181B & 181G) and the associated mechanical and electrical plans.

1. TOTAL DEDUCT____ NO CHANGE____.
2. _____ Dollars ($_____).

a. Break-out cost for 280B & 280G _____
b. Break-out cost for 282B & 282G_____
c. Break-out cost for 181B & 181G_____

C. Alternate No. Three: Eliminate testing and certification of all existing data cabling:

1. TOTAL DEDUCT____ NO CHANGE____.
2. _____ Dollars ($_____).

1.5 SUBMISSION OF BID SUPPLEMENT

A. Respectfully submitted this ____ day of _____, 2017.

B. Submitted By:_____(Insert name of bidding firm or corporation).

C. Authorized Signature:_____(Handwritten signature).

D. Signed By:_____(Type or print name).

E. Title:_____(Owner/Partner/President/Vice President).

END OF DOCUMENT 004323

DOCUMENT 004393 - BID SUBMITTAL CHECKLIST

1.1 BID INFORMATION

A. Bidder: _____.

B. Project Name: Lincoln Public Schools, Belmont IAQ, Bid Number 8768.

1. Project Location: 3425 North 14th Street, Lincoln, NE 68521.

C. Owner: Lincoln Public Schools.

D. Engineer: Engineering Technologies Incorporated. Mechanical and Electrical Engineers.

E. Engineer's Project Number: 2016-136.

1.2 BIDDER'S CHECKLIST

A. In an effort to assist the Bidder in properly completing all documentation required, the following checklist is provided for the Bidder's convenience. The Bidder is solely responsible for verifying compliance with bid submittal requirements.

B. Attach this completed checklist to the outside of the Submittal envelope.

1. Used the Bid Form provided in the Project Manual.
2. Prepared the Bid Form as required by the Instructions to Bidders.
3. Indicated on the Bid Form the Addenda received.
4. Attached to the Bid Form: Bid Supplement Form - Allowances.
5. Attached to the Bid Form: Bid Supplement Form - Unit Prices.
6. Attached to the Bid Form: Bid Supplement Form - Alternates
7. Attached to the Bid Form: Bid Bond.
8. Bid envelope shows name and address of the Bidder.
9. Bid envelope shows name of Project being bid.
10. Bid envelope shows time and day of Bid Opening.
11. Verified that the Bidder can provide executed Performance Bond and Labor and Material Bond.
12. Verified that the Bidder can provide Certificates of Insurance in the amounts indicated.

END OF DOCUMENT 004393

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Preconstruction video recordings.

B. Related Requirements:

1. Section 017700 "Closeout Procedures" for submitting photographic documentation as Project Record Documents at Project closeout.
2. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.
3. Section 024119 "Selective Demolition" for photographic documentation before selective demolition operations commence.
4. Section 311000 "Site Clearing" for photographic documentation before site clearing operations commence.

1.3 INFORMATIONAL SUBMITTALS

A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph and video recording. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

B. Digital Photographs: Submit image files within three days of taking photographs.

1. Submit photos by uploading to web-based project software site. Include copy of key plan indicating each photograph's location and direction.

C. Video Recordings: Submit video recordings within [**seven**] <**Insert number**> days of recording.

1. Submit video recordings by uploading to web-based project software site. Include copy of key plan indicating each video's location and direction.

1.4 FORMATS AND MEDIA

A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with minimum sensor size of 12 megapixels, and at an image resolution of not less than 3200 by 2400 pixels. Use flash in low light levels or backlit conditions.

B. Digital Video Recordings: Provide high-resolution, digital video in MPEG format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full high-definition mode with vibration-reduction technology. Provide supplemental lighting in low light levels or backlit conditions.

C. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

D. Metadata: Record accurate date and timefrom camera.

E. File Names: Name media files with date Project area and sequential numbering suffix.

1.5 CONSTRUCTION PHOTOGRAPHS

A. Photographer: Engage a qualified photographer to take construction photographs.

B. General: Take photographs with maximum depth of field and in focus.

1. Maintain key plan with each set of construction photographs that identifies each photographic location.

C. Preconstruction Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Engineer.

1. Flag construction limits before taking construction photographs.
2. Take as many photographs as required to show existing conditions adjacent to property before starting the Work.
3. Take as many photographs as required of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

1.6 CONSTRUCTION VIDEO RECORDINGS

A. Video Recording Photographer: Engage a qualified videographer to record construction video recordings.

B. Narration: Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed, recent events, and planned activities. At each change in location, describe vantage point, location, direction (by compass point), and elevation or story of construction.

1. Confirm date and time at beginning and end of recording.

2. Begin each video recording with name of Project, Contractor's name, videographer's name, and Project location.

C. Preconstruction Video Recording: Before starting construction, record video recording of Project site and surrounding properties from different vantage points, as directed by the Engineer.

1. Flag construction limits before recording construction video recordings.
2. Show existing conditions adjacent to Project site before starting the Work.
3. Show existing buildings either on or adjoining Project site to accurately record physical conditions at the start of construction.
4. Show protection efforts by Contractor.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013233

SECTION 066400 - PLASTIC PANELING

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. Plastic sheet paneling.
2. Factory-laminated plastic sheet paneling.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For plastic paneling and trim accessories, in manufacturer's standard sizes.

1.4 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install plastic paneling until spaces are enclosed and weathertight and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain plastic paneling and trim accessories from single manufacturer.

2.2 PLASTIC SHEET PANELING

A. Glass-Fiber-Reinforced Plastic Paneling: Gelcoat-finished, glass-fiber-reinforced plastic panels complying with ASTM D 5319.

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

a. Crane Composites, Inc.
b. Glasteel.
c. Marlite.
d. Newcourt, Inc.
e. Nudo Products, Inc.

2. Surface-Burning Characteristics: As follows when tested by a qualified testing agency according to ASTM E 84. Identify products with appropriate markings of applicable testing agency.

a. Flame-Spread Index: 25 or less.
b. Smoke-Developed Index: 450 or less.

3. Nominal Thickness: Not less than 0.09 inch (2.3 mm).
4. Surface Finish: Pebbled.
5. Color: As selected by Architect.

2.3 ACCESSORIES

A. Trim Accessories: Manufacturer's standard one-piece vinyl extrusions designed to retain and cover edges of panels. Provide division bars, inside corners, outside corners, and caps as needed to conceal edges.

1. Color: As selected by Architect.

B. Exposed Fasteners: Nylon drive rivets recommended by panel manufacturer.

C. Adhesive: As recommended by plastic paneling manufacturer.

D. Sealant: Mildew-resistant, single-component, neutral-curing or acid-curing silicone sealant recommended by plastic paneling manufacturer and complying with requirements in Section 079200 "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

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

3.2 PREPARATION

A. Remove materials that might interfere with adhesive bond.

B. Prepare substrate by sanding high spots and filling low spots as needed to provide flat, even surface for panel installation.

C. Clean substrates of substances that could impair adhesive bond, including oil, grease, dirt, and dust.

D. Condition panels by unpacking and placing in installation space before installation according to manufacturer's written recommendations.

E. Lay out paneling before installing. Locate panel joints where indicated.

1. Mark plumb lines on substrate at trim accessory locations for accurate installation.
2. Locate trim accessories to allow clearance at panel edges according to manufacturer's written instructions.

3.3 INSTALLATION

A. Install plastic paneling according to manufacturer's written instructions.

B. Install trim accessories with adhesive and nails or staples. Do not fasten through panels.

C. Fill grooves in trim accessories with sealant before installing panels, and bed inside corner trim in a bead of sealant.

D. Maintain uniform space between panels and wall fixtures. Fill space with sealant.

E. Remove excess sealant and smears as paneling is installed. Clean with solvent recommended by sealant manufacturer and then wipe with clean dry cloths until no residue remains.

END OF SECTION 066400

SECTION 230548 –VIBRATION ISOLATION FOR EMERGENCY GENERATOR

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. Inertia base for emergency generator.

B. Related Sections:

1. Section 220548 "Vibration and Seismic Controls for Mechanical Piping & Equipment" for vibration control f mechanical piping and equipment.
2. Section 263213 “Engine Generators” for specified emergency generator requiring inertia base.

1.3 ACTION SUBMITTALS

A. All vibration isolation systems shall be by one manufacturer.

B. Provide submittal drawings for all devices specified herein and as indicated and scheduled on the drawings. Submittals shall indicate full compliance with the device specification in Part 2. Any deviation shall be specifically noted and subject to engineer approval. Submittals shall include device dimensions, placement, attachment and anchorage requirements.

C. Provide Finite Element Analysis (FEA) of customized restraints, snubbers, and support structures such as equipment bases at Engineer’s request. A summary report from the analyses shall be made available to the Engineer and shall indicate compliance with the design forces for the project – including all gravity, wind and seismic loads. The report shall show locations of maximum stress and explain any allowances given for localized yielding along with safety factors.

D. Stamped submittal package shall be project and product specific. Generic stamped calculations are not acceptable.

E. Datasheets for spring isolators and rubber isolators shall include load/deflection curves based on manufacturer testing; test reports shall be available on request.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Inertia Bases: Manufacturer's standard galvanized steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or red baked-enamel finish.

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

a. Kinetics Noise Control.
b. Vibro-Acoustics

2.2 VIBRATION ISOLATION AND RESTRAINTS:

A. Springs: All springs shall have a minimum additional travel to solid equal to 50% of the rated deflection. All springs except internal nested springs shall have an outside diameter not less than 0.8 of the compressed height of the spring. Ends of springs shall be square and ground for stability. Laterally stable springs shall have k_x/k_y ratios of at least 0.8. All springs shall be fully color-coded to indicate capacity – color striping is not considered adequate.

B. Corrosion Protection: All springs shall be powder-coated enamel. Isolator housings shall be powder-coated enamel for indoor use and hot-dip galvanized for outdoor use. Bases and steel frames shall be prime painted for indoor use and hot dip galvanized for outdoor use.

C. Provide restraint devices as required, specified, and as scheduled for isolated and non-isolated systems and equipment. Provide calculations to determine restraint loadings for all restrained systems and equipment resulting from seismic forces.

D. Bases:

1. Concrete Inertia Base: Inertia bases shall be of welded steel construction with concrete in-fill supplied by the installing contractor on site and shall incorporate minimum #4 (or 10M) reinforcing bars, welded 12” (300 mm) to 18” (455 mm) maximum on centers each way. Inertia bases shall be of sufficient size to accommodate requirements of the isolated equipment. The weight of each inertia base shall be at least equal to the weight of the equipment mounted thereon. Inertia bases shall be of minimum 8” (200 mm) thickness. Height-saving brackets or welded steel pockets shall be incorporated to ensure a 1-1/2” (40 mm) minimum clearance under each base.

a. Type CIB – Rectangular frame concrete inertia base configuration
b. Base Thickness: 8 inches (200mm)
c. Base Dimensions: 48 x 106 inches (1200 x 2650 mm)
d. Spring Isolators: Six (6) isolators required.

1) Isolators are to be recessed into the base so as not to encroach into the required clearance around the emergency generator.

2. Restrained Spring Floor Mounted Isolators: Type CSR – Laterally stable, vertically restrained spring isolators with welded steel housings and heavy top plates for supporting equipment. Springs shall be supported with a neoprene cup with a steel insert. Housings shall include vertically restraining limit stops. Minimum clearance around the restraining bolts and between the housing and the spring shall be 1/2" (13mm). Top plate and restraining bolts shall be out of contact with the housing during normal operation and neoprene grommets shall be incorporated to minimize short-circuiting of restraining bolts.

E. Concrete Anchor Bolts:

1. Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Do not damage existing reinforcing or embedded items during coring or drilling. Notify the structural engineer if reinforcing steel or other embedded items are encountered during drilling. Locate and avoid pre- or post-tensioned tendons, electrical and telecommunications conduit, and gas lines.
2. Do not drill holes in concrete until concrete, has achieved full design strength.
3. Mechanical Anchors: Protect threads from damage during anchor installation. Heavy-duty sleeve anchors shall be installed with sleeve fully engaged in the structural element to which anchor is to be fastened.
4. Adhesive Anchors: Clean holes to remove loose material and drilling dust prior to installation of adhesive. Place adhesive in holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
5. Set anchors to manufacturer's recommended torque, using a torque wrench.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas where diffusers, registers, and grilles are to be installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.

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

3.2 INSTALLATION

A. Install inertia base isolator in accordance with Manufacturers written instructions.

3.3 INSPECTION AND CERTIFICATION:

A. After installation, arrange and pay for the vibration isolation product manufacturer, or representative, to visit the site to verify that the vibration isolation systems are installed and operating properly, and shall submit a certificate so stating. Verify that isolators are adjusted, with springs perpendicular to bases or housing, adjustment bolts are tightened up on equipment mountings, and hangers are not cocked.

END OF SECTION 233713

SECTION 311000 - SITE CLEARING

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. Protecting existing vegetation to remain.
2. Removing existing vegetation.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Disconnecting, capping or sealing, and removing site utilities.
7. Temporary erosion and sedimentation control.

1.3 DEFINITIONS

A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.

B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.

C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; and free of weeds, roots, toxic materials, or other nonsoil materials.

D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.

E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.

F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.5 MATERIAL OWNERSHIP

A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.6 INFORMATIONAL SUBMITTALS

A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.

1. Use sufficiently detailed photographs or video recordings.
2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plant designated to remain.

B. Topsoil stripping and stockpiling program.

C. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.7 FIELD CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.

B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises as directed.

C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

D. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place.

E. Tree- and Plant-Protection Zones: Protect according to requirements in this section.

F. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."

1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.

B. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

C. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

A. Protect trees and plants remaining on-site.

B. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

3.4 EXISTING UTILITIES

A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed.

1. Arrange with utility companies to shut off indicated utilities.
2. Owner will arrange to shut off indicated utilities when requested by Contractor.

B. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Engineer not less than three days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's written permission.

C. Excavate for and remove underground utilities indicated to be removed.

3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.

a. Owner will remove trees and shrubs indicated.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200 mm), and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to depth of 6 inches (150 mm) in a manner to prevent intermingling with underlying subsoil or other waste materials.

1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; trash, debris, weeds, roots, and other waste materials.

C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

1. Limit height of topsoil stockpiles to 72 inches (1800 mm).
2. Do not stockpile topsoil within protection zones.
3. Stockpile surplus topsoil to allow for respreading deeper topsoil.

3.7 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

B. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials, and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

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.

B. Benesch, performed geotechnical testing for the addition that is a part of this contract. Boring logs from the 1991 addition done by HWS were also utilized and are included in the current report.

1.2 SUMMARY

A. Section Includes:

1. Preparing subgrades for slabs-on-grade, walks, pavements, turf, grasses and plants.
2. Excavating and backfilling for buildings and structures.
3. Drainage course for concrete slabs-on-grade.
4. Excavating and backfilling trenches for utilities and pits for buried utility structures.

B. Related Sections:

1. Section 015000 "Temporary Facilities and Controls" for temporary controls, utilities, and support facilities; also for temporary site fencing if not in another Section.
2. Section 311000 "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.

1.3 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

G. Fill: Soil materials used to raise existing grades.

H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.

J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

K. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified testing agency.

B. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:

1. Classification according to ASTM D 2487.
2. Laboratory compaction curve according to ASTM D 698.

1.5 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E 329 and ASTM D 3740 for testing indicated.

B. Preexcavation Conference: Conduct conference at project site.

1.6 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

B. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth moving operations.

C. Do not commence earth moving operations until temporary erosion- and sedimentation-control measures, specified in are in place.

D. Do not commence earth moving operations until plant-protection measures are in place.

E. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

F. Do not direct vehicle or equipment exhaust towards protection zones.

G. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: To be determined by Geotechnical Engineer.

C. Unsatisfactory Soils: To be determined by Geotechnical Engineer.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.

F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

I. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.

J. Sand: ASTM C 33; fine aggregate.

K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.2 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.

B. Protect and maintain erosion and sedimentation controls during earth moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.3 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.4 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
2. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.

B. Excavations at Edges of Tree- and Plant-Protection Zones:

1. Excavate by hand to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

3.5 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.6 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.

B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.

C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. For pipes and conduit less than 6 inches in nominal diameter, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
2. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe or conduit circumference. Fill depressions with tamped sand backfill.
3. For flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support conduit on an undisturbed subgrade.
4. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

D. Trench Bottoms: Excavate trenches 4 inches deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells of pipe.

1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

E. Trenches in Tree- and Plant-Protection Zones:

1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3.7 SUBGRADE INSPECTION

A. Notify Engineer when excavations have reached required subgrade.

B. If Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

C. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades. Geotechnical Engineer to be present during proof-rolling.

1. Completely proof-roll subgrade in one direction repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.

D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.8 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.

1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.9 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.10 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for Record Documents.
3. Testing and inspecting underground utilities.

4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.11 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings.

D. Trenches under Roadways: Provide 4-inch thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course.

E. Backfill voids with satisfactory soil while removing shoring and bracing.

F. Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

G. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of 12 inches over the pipe or conduit. Coordinate backfilling with utilities testing.

H. Place and compact final backfill of satisfactory soil to final subgrade elevation.

I. Controlled Low-Strength Material: Place final backfill of controlled low-strength material to final subgrade elevation.

J. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.12 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.
2. Under walks and pavements, use satisfactory soil material.
3. Under steps and ramps, use engineered fill.
4. Under building slabs, use engineered fill.
5. Under footings and foundations, use engineered fill.

C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.13 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.14 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698 :

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
4. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent in unpaved areas and 95% in paved areas.

3.15 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Turf or Unpaved Areas: Plus or minus 1 inch.
2. Walks: Plus or minus 1 inch.
3. Pavements: Plus or minus 1/2 inch.

C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.16 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:

1. Install separation geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
2. Place base course material over subbase course under hot-mix asphalt pavement.
3. Shape subbase course and base course to required crown elevations and cross-slope grades.
4. Place subbase course and base course 6 inches or less in compacted thickness in a single layer.
5. Place subbase course and base course] that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
6. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

C. Pavement Shoulders: Place shoulders along edges of subbase course and base course to prevent lateral movement. Construct shoulders, at least 12 inches wide, of satisfactory soil materials and compact simultaneously with each subbase and base layer to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.17 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
2. Determine that fill material and maximum lift thickness comply with requirements.
3. Determine, at the required frequency, that in-place density of compacted fill complies with requirements.

B. Testing Agency: Engage a qualified geotechnical engineering testing agency to perform tests and inspections. It is the Contractor's responsibility to contact owner or architect to schedule inspections.

C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.

E. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:

1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests.
2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 100 feet or less of wall length, but no fewer than two tests.
3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 150 feet or less of trench length, but no fewer than two tests.

F. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.18 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.

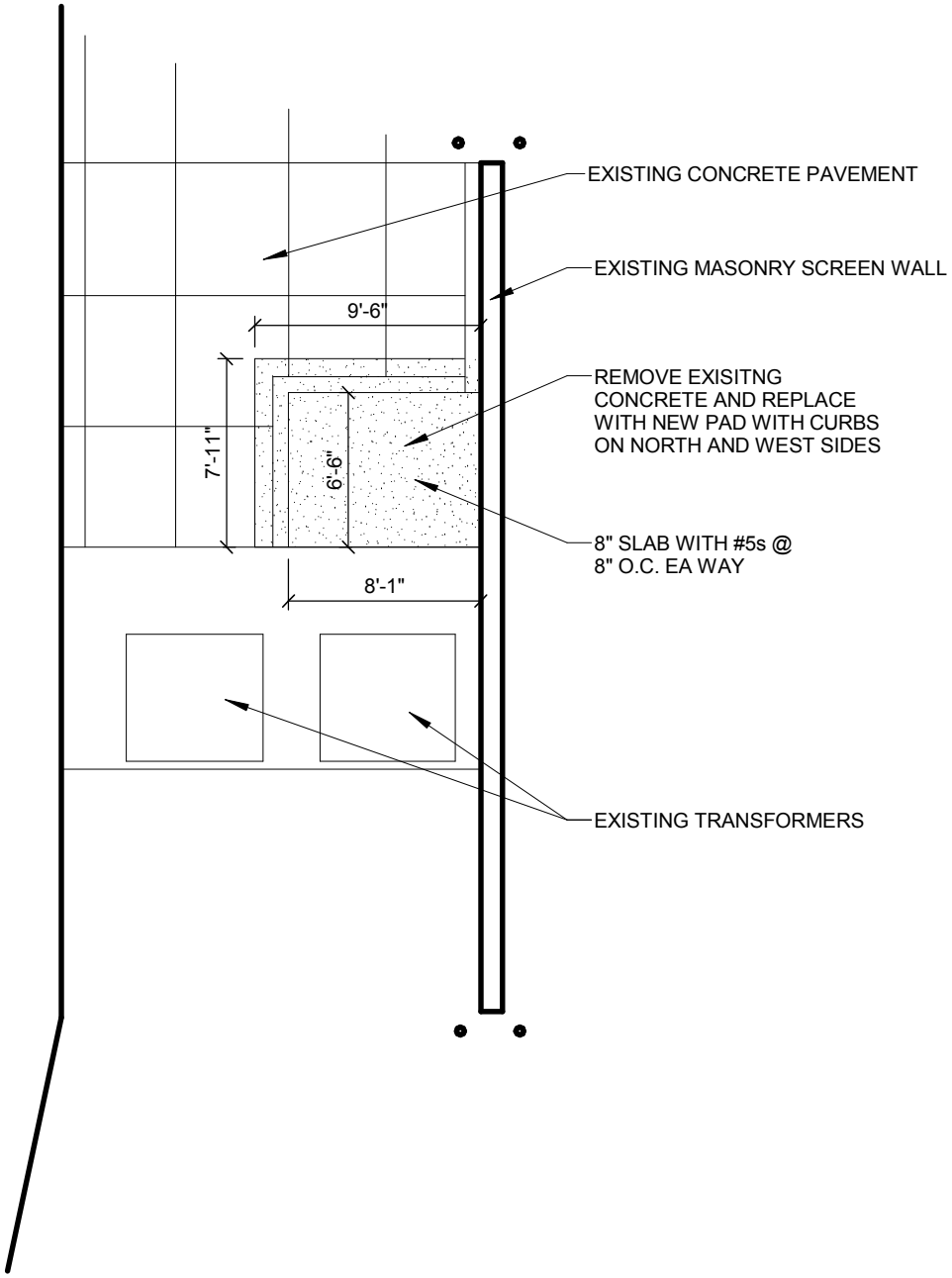
C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000



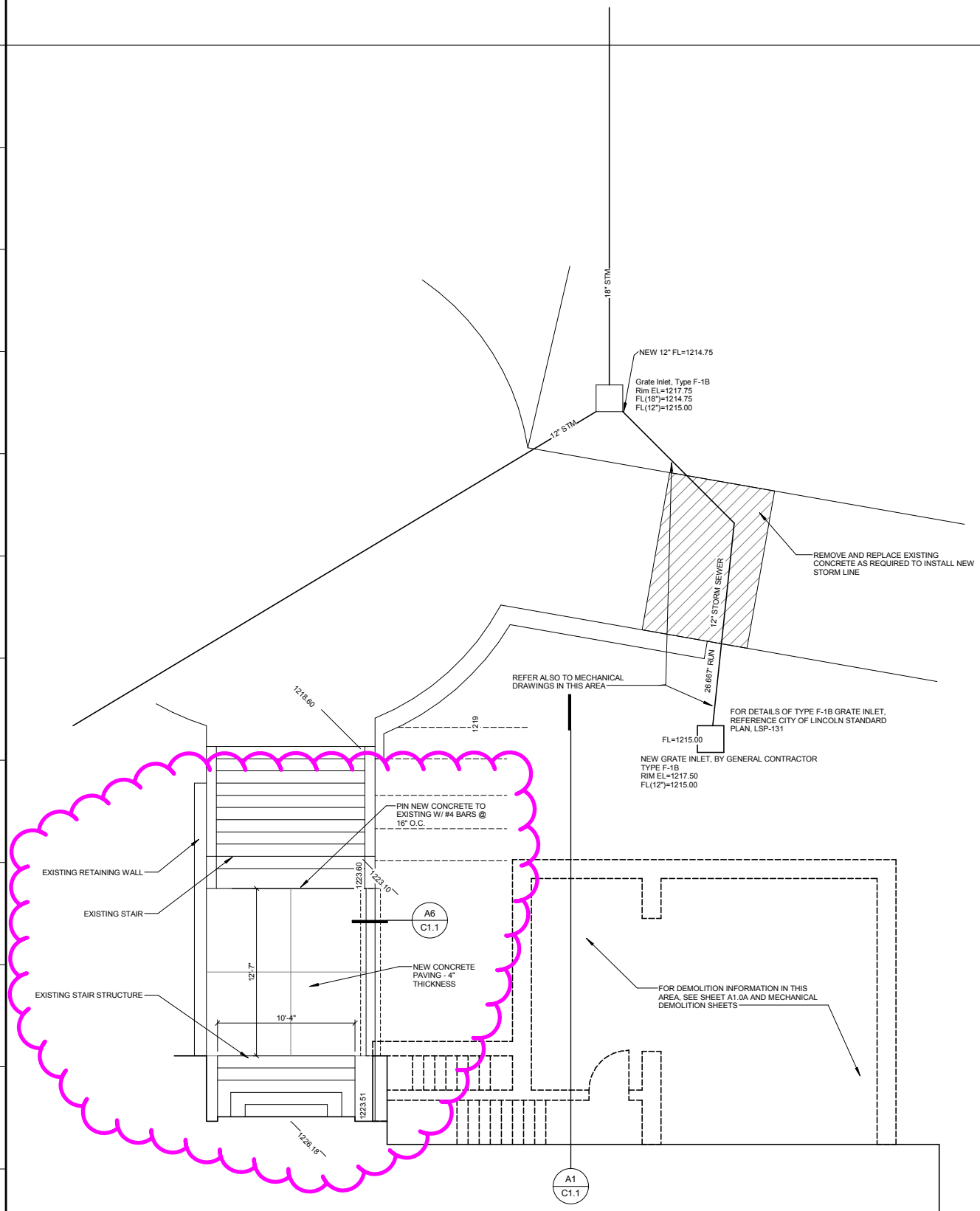
NORTH

TRANSFORMER PAD PLAN

SCALE 1/8" = 1'-0"

CAD-01

03-09-17

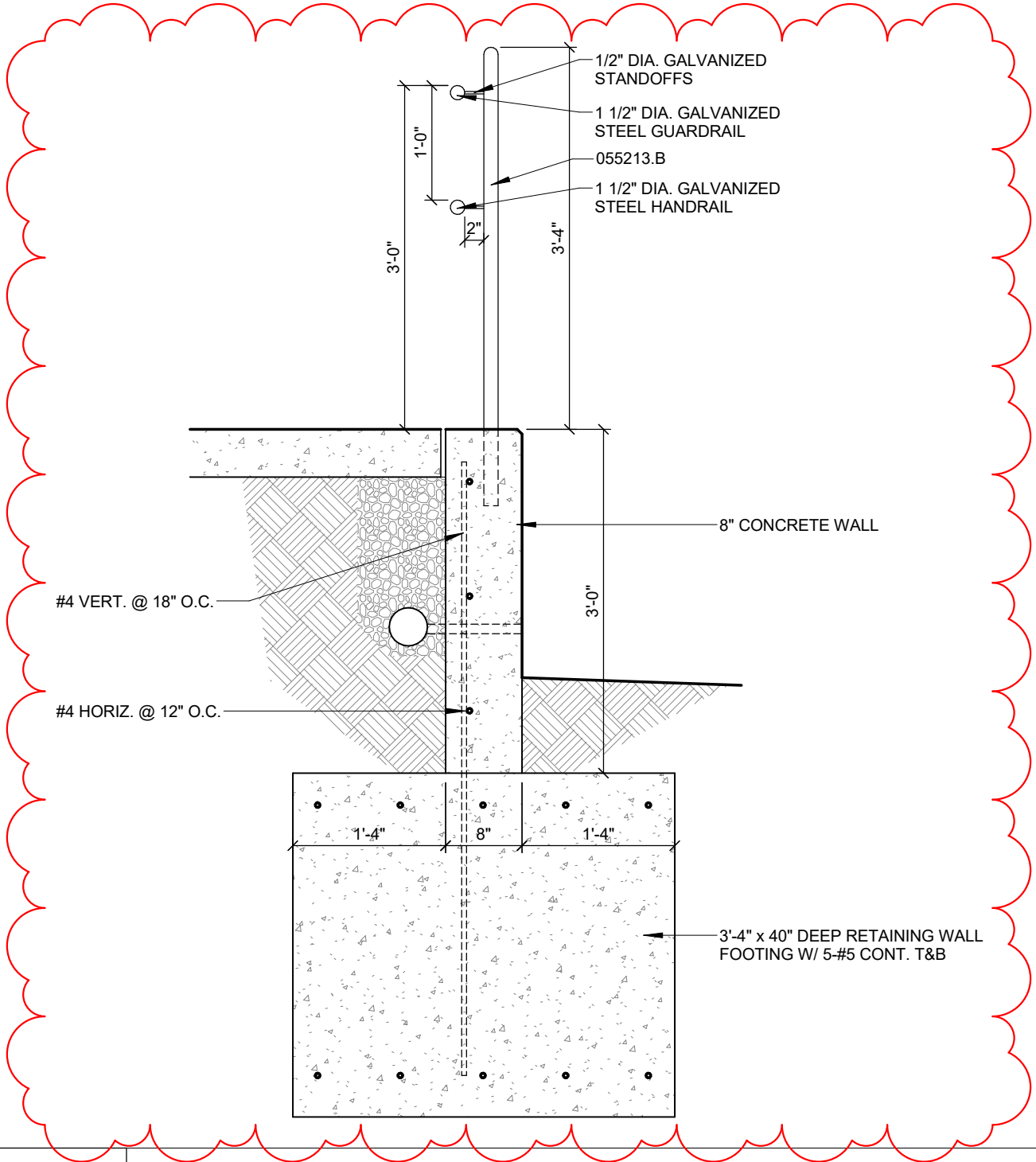


G1 NE ENTRY ENLARGED PLAN F9

SCALE: 3/16" = 1'-0" SCALE: 1/8" = 1

CAD-02

03-09-17



A6 RETAINING WALL AT NE ENTRY

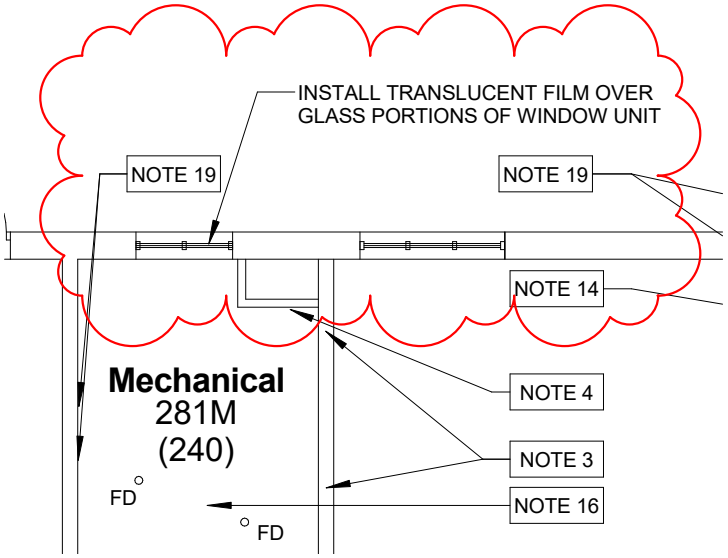
SCALE: 3/4" = 1'-0"

6 7 8 9

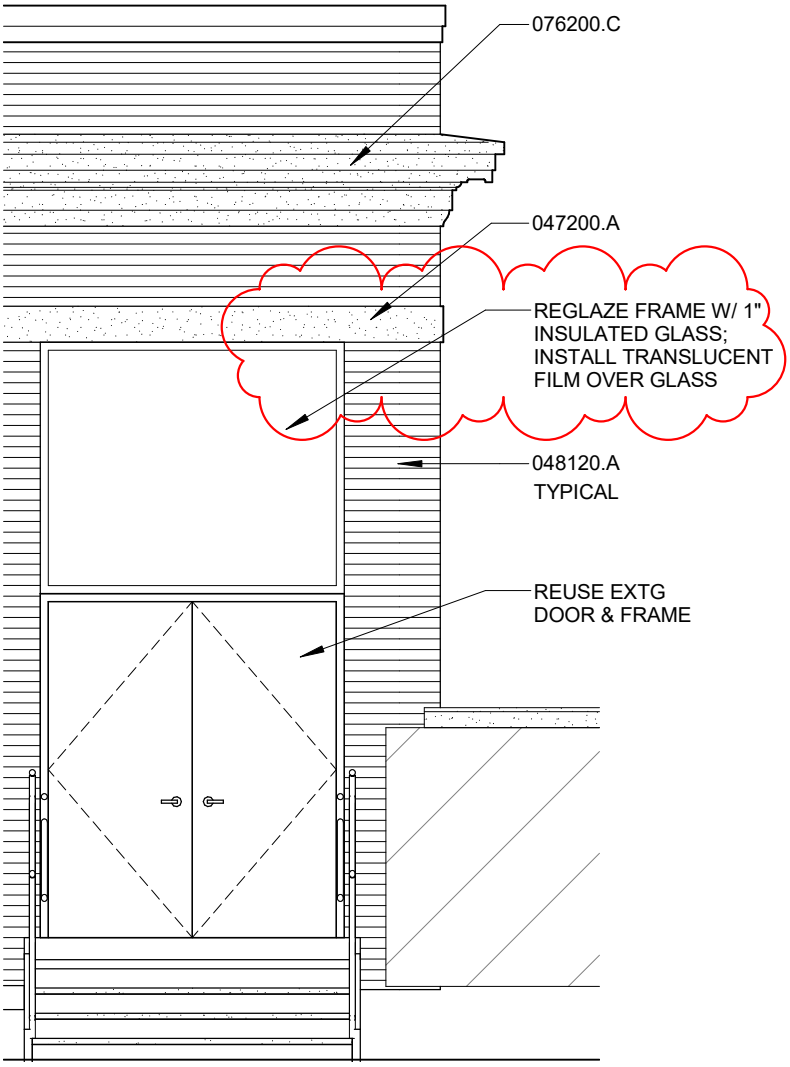
CAD-03

03-09-17

A1/A2.2A



H1/A5.0
DOOR 382Mb



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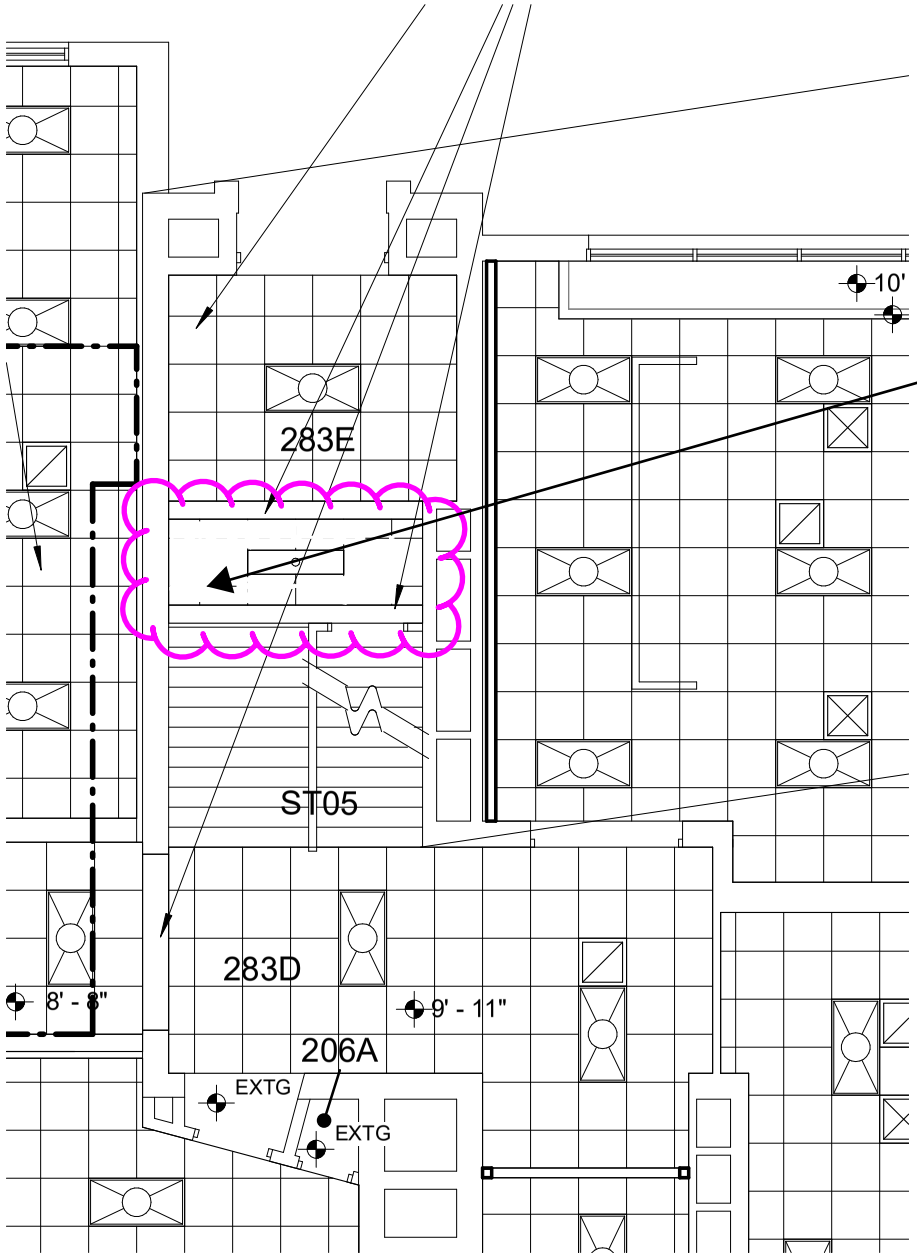
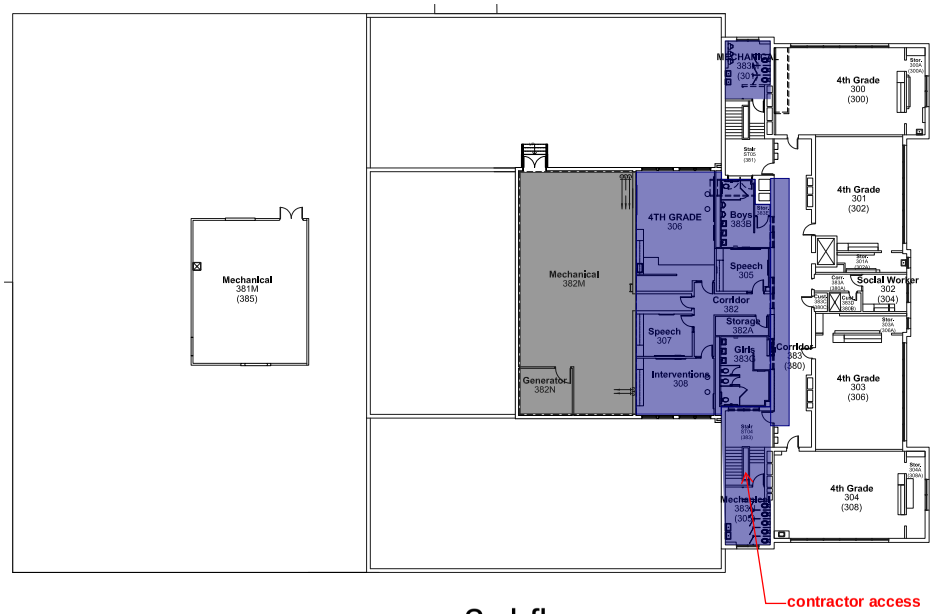
3-9-17



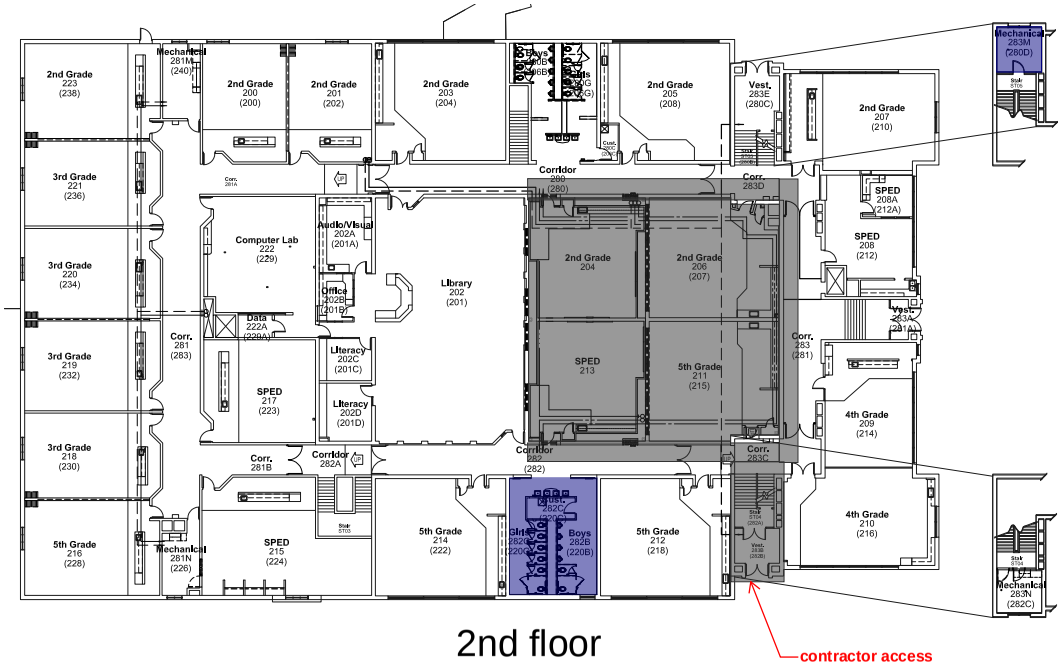
ELIMINATE LAY-IN CEILING FROM BETWEEN EXISTING BULKHEADS. REPAIR EXISTING PLASTER CEILING - PAINT FINISH

AAD-02

03-09-17

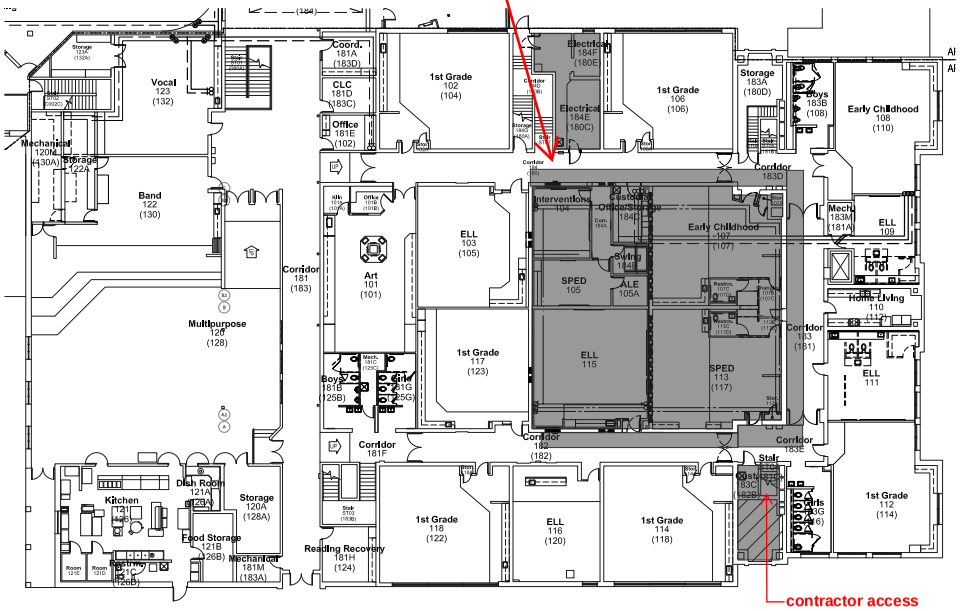


3rd floor



2nd floor

Coordinate construction crossing through public hallway



1st floor

MAY 26, 2017 - AUG. 4 2017

MAY 26, 2017 - OCT. 9, 2017

MAY 26, 2017 - NOV. 6, 2017

OCT. 16, 2017 - NOV. 6, 2017

NOV. 13, 2017 - DEC. 4, 2017

DEC. 11, 2017 - JAN. 22, 2018

JAN. 28, 2018 - MARCH 4, 2018

MARCH 11, 2018 - APRIL 15, 2018

APRIL 22, 2018 - AUG. 3, 2018

MAY 28, 2018 - AUG. 3, 2018

SCHOOL IS OUT MAY 24, 2017
AND BACK AUG. 14, 2017

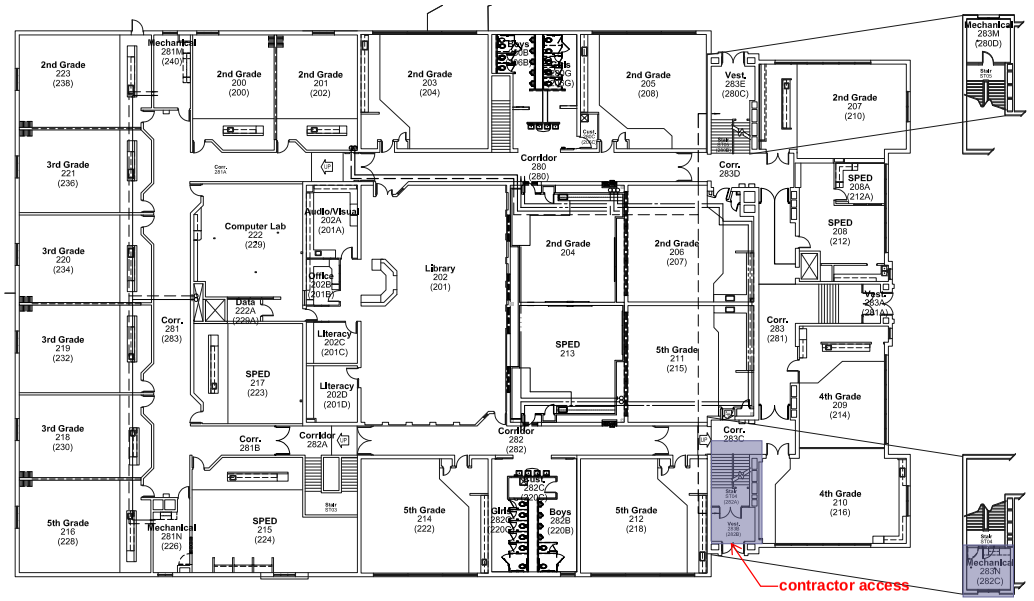
Contractor Access Diagrams

03/09/17

AAD-03

03-09-17

3rd floor



2nd floor

MAY 26, 2017 - AUG. 4 2017

MAY 26, 2017 - OCT. 9, 2017

MAY 26, 2017 - NOV. 6, 2017

OCT. 16, 2017 - NOV. 6, 2017

NOV. 13, 2017 - DEC. 4, 2017

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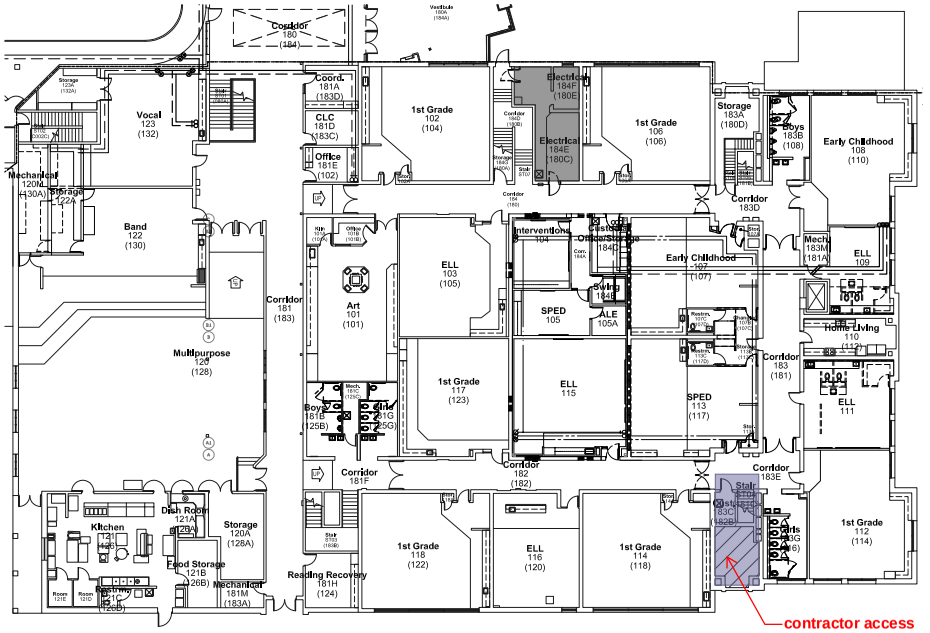
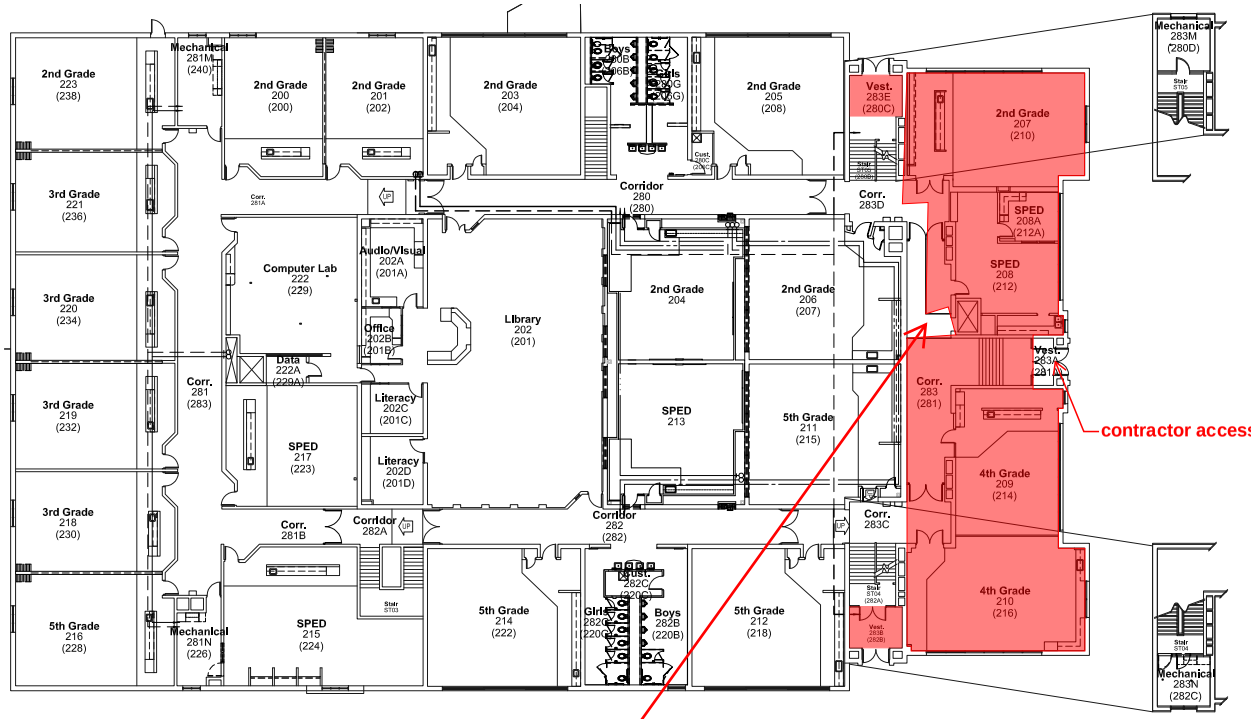
SCHOOL IS OUT MAY 24, 2017
AND BACK AUG. 14, 2017



1st floor

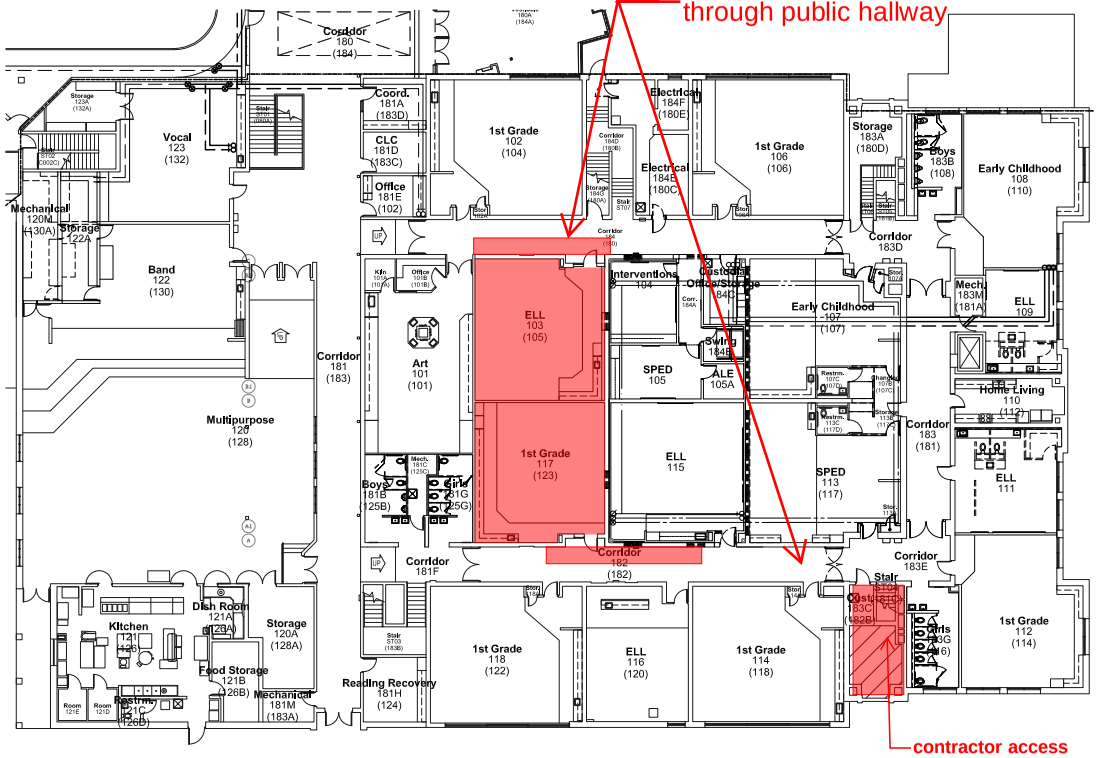
Contractor Access Diagrams

2nd floor



Coordinate construction crossing through public hallway

1st floor



MAY 26, 2017 - AUG. 4 2017

MAY 26, 2017 - OCT. 9, 2017

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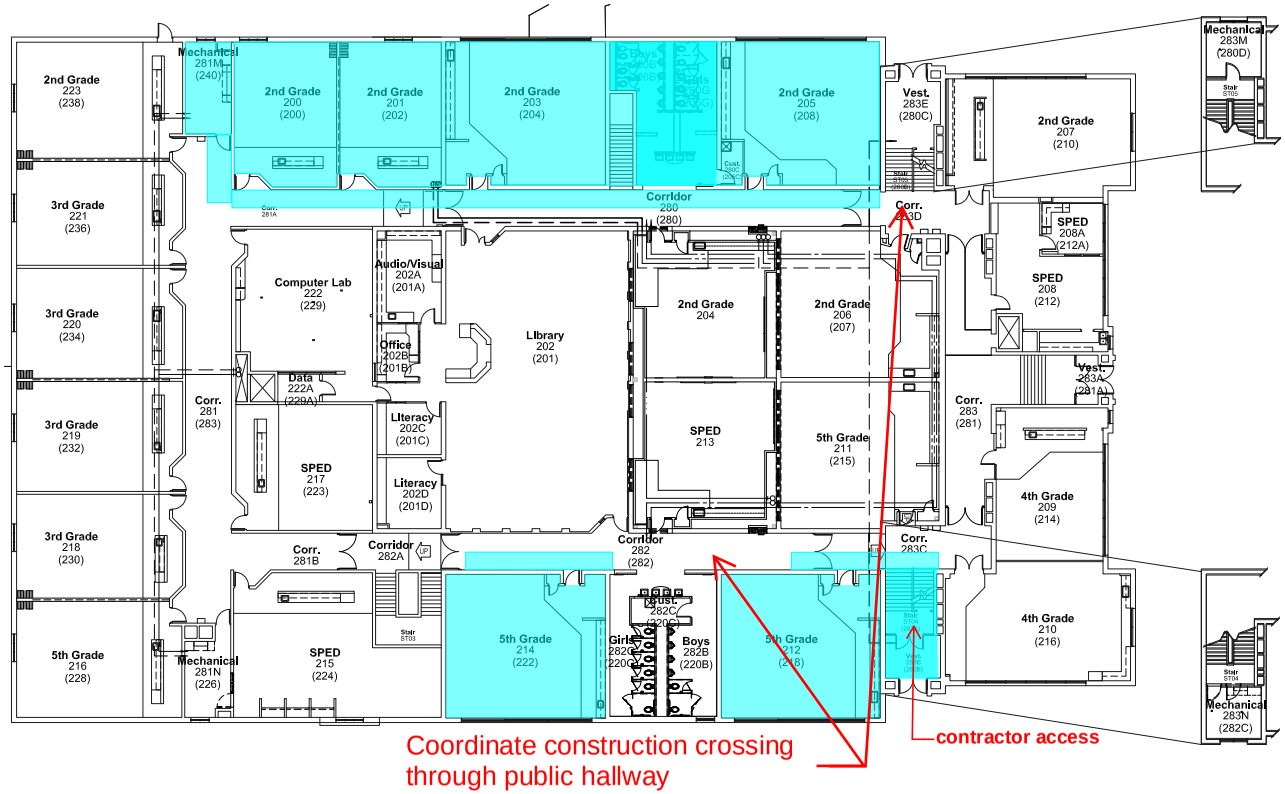
MAY 28, 2018 - AUG. 3, 2018

SCHOOL IS OUT MAY 24, 2017
AND BACK AUG. 14, 2017

Contractor Access Diagrams

2nd floor



MAY 26, 2017 - AUG. 4 2017

MAY 26, 2017 - OCT. 9, 2017

MAY 26, 2017 - NOV. 6, 2017

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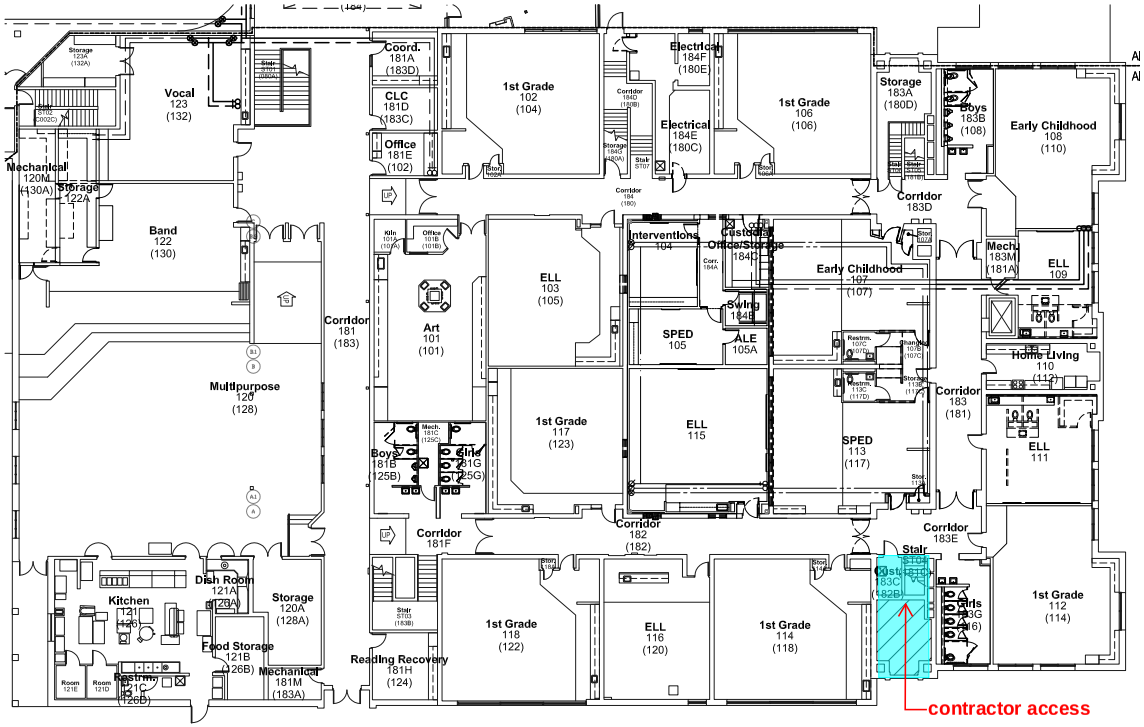
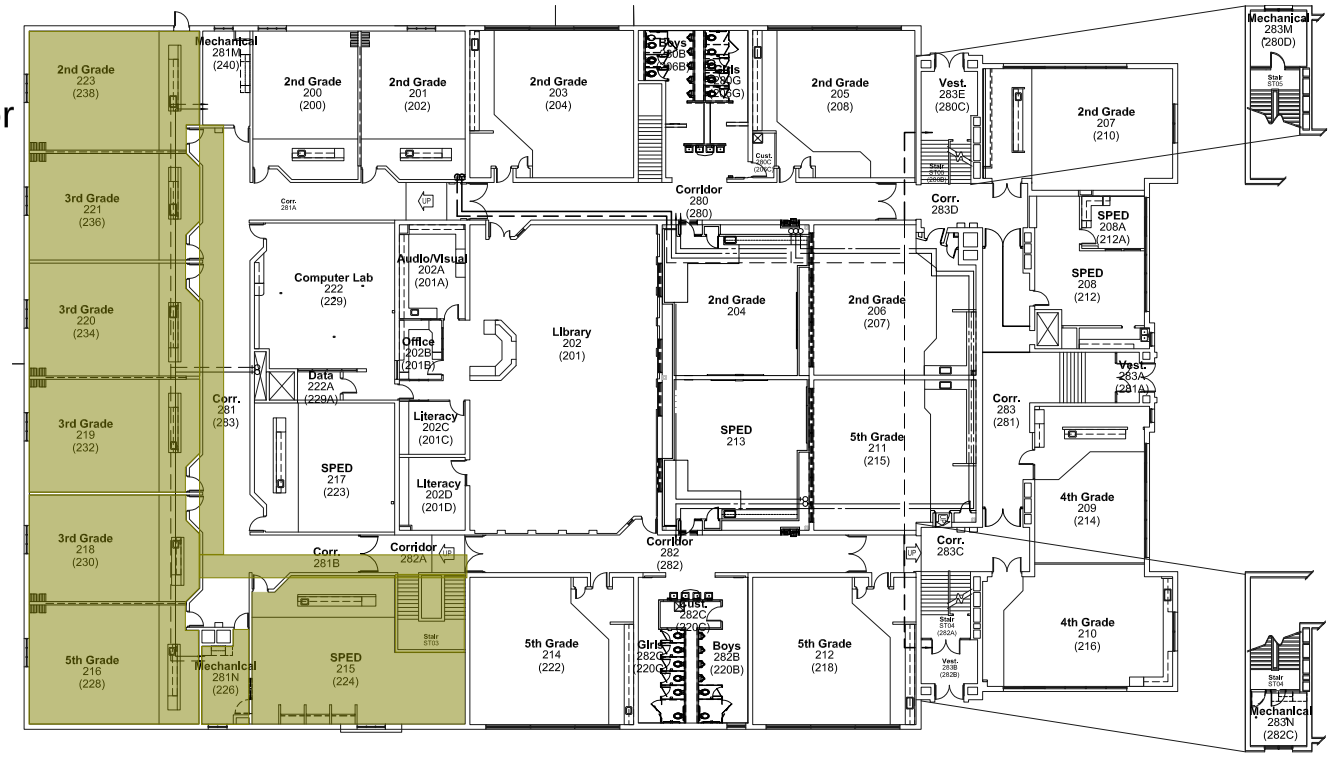
SCHOOL IS OUT MAY 24, 2017
AND BACK AUG. 14, 2017

1st floor



Contractor Access Diagrams

2nd floor



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MAY 26, 2017 - OCT. 9, 2017

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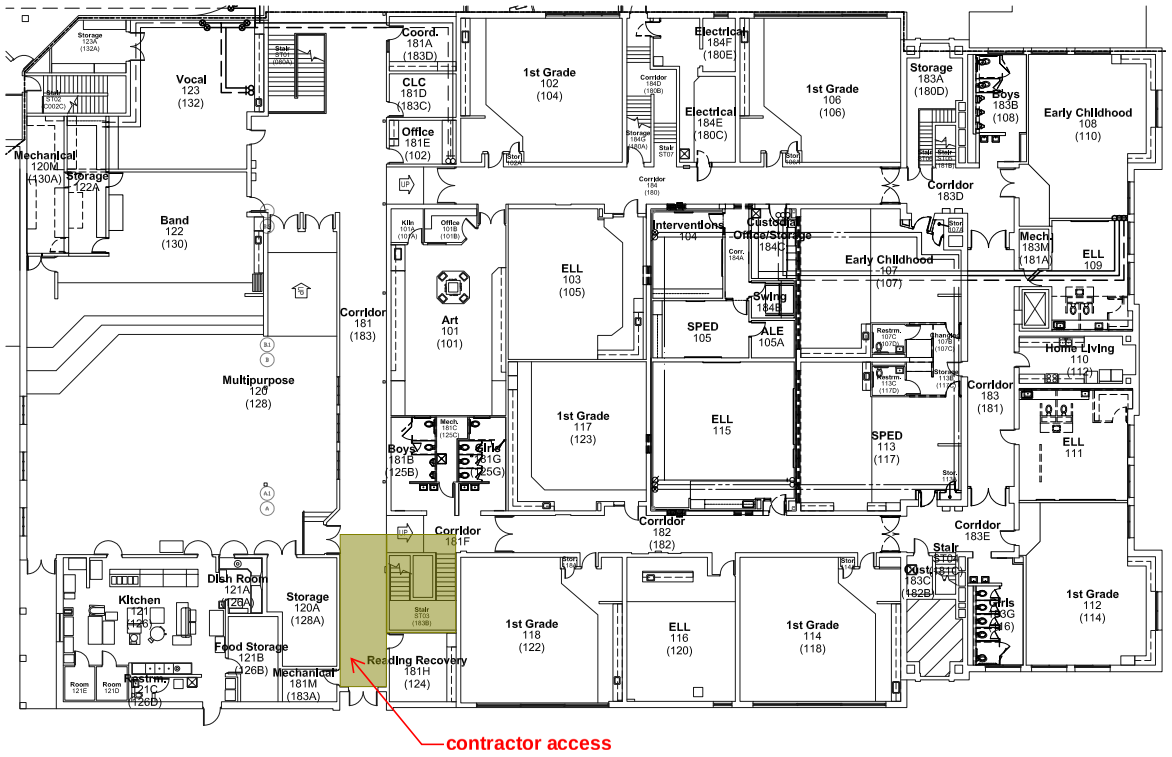
MAY 28, 2018 - AUG. 3, 2018

1st floor



SCHOOL IS OUT MAY 24, 2017
AND BACK AUG. 14, 2017

Contractor Access Diagrams

MAY 26, 2017 - AUG. 4 2017

MAY 26, 2017 - OCT. 9, 2017

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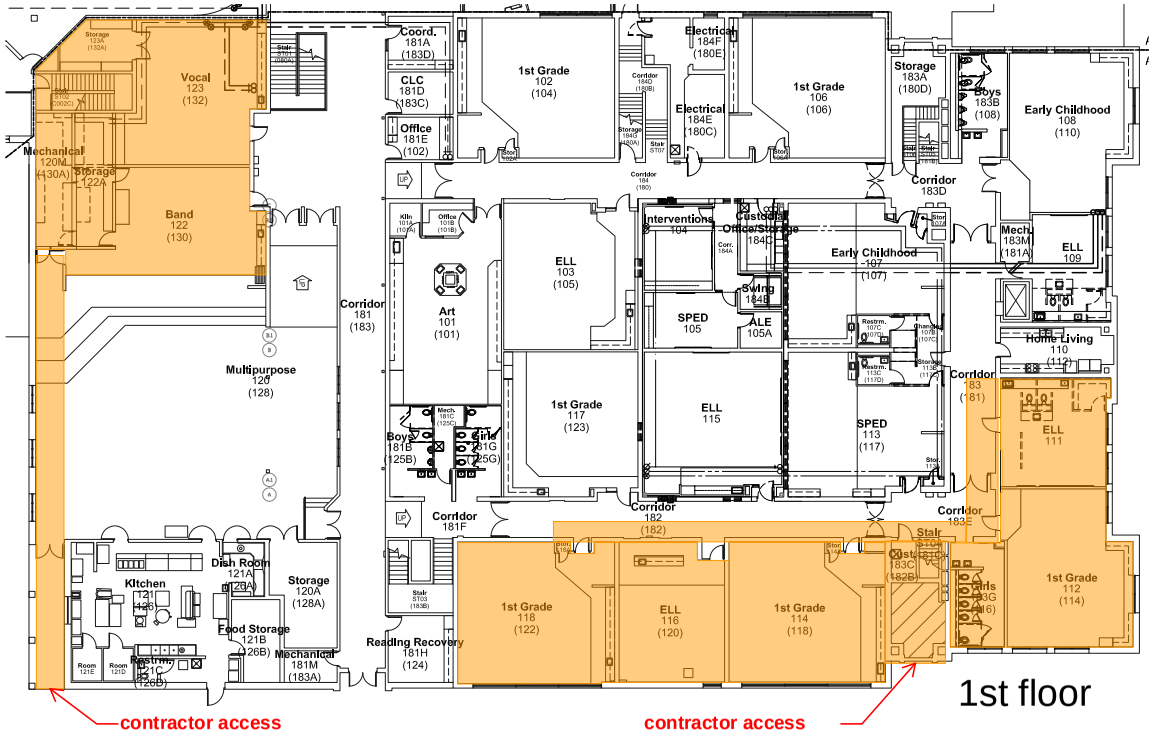

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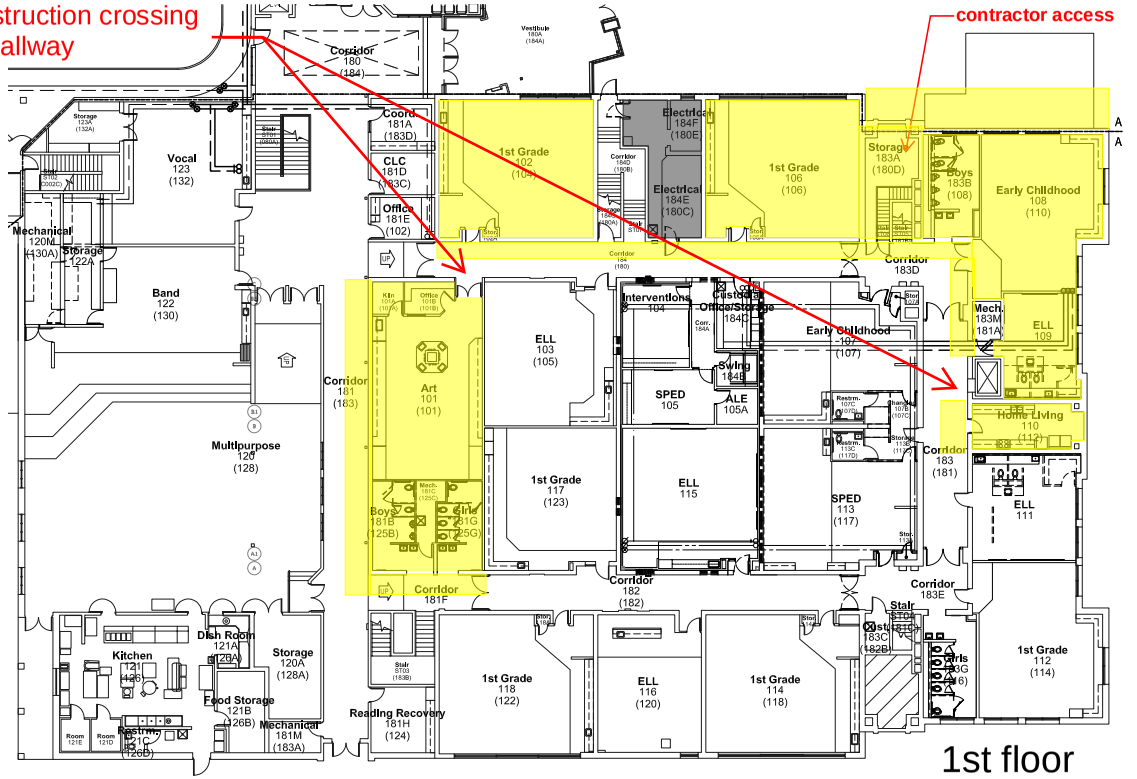
Coordinate construction crossing through public hallway



Contractor Access Diagrams

ADD. ORIG.

HATCHED ROOF AREAS ARE TO BE RE-CAPPED.

012 X 1956 ADD.

EXTG ROOFING TO REMAIN

EXISTING REC CENTER EXHAUST FAN TO REMAIN

NEW MODIFIED BITUMEN ROOFING SYSTEM

REMOVE AND REINSTALL EXTG ROOF LADDER

EXTG ROOFING TO REMAIN 075216.H

EXTG ROOF DRAIN

PRECAST CONCRETE SPLASH BLOCK

EXTG BASE FLASHING TO REMAIN

NEW BASE FLASHING BETWEEN ROOF AND WALL CONSTRUCTION

075216.H EXTG ROOFING TO REMAIN

CAP OVER EXTG CHIMNEY - SEE DETAIL

EXTG ROOFING TO REMAIN 075216.H

NEW MECHANICAL UNITS; SEE MECHANICAL

EXTG BASE FLASHING BETWEEN ROOF AND EXTG PARAPET TO REMAIN

INFILL OPENINGS IN WALLS AT FORMER DUCT PENETRATIONS

GENERATOR EXHAUST; SEE MECHANICAL

TAPERED INSULATION TO SLOPE TOWARD DRAIN @ 1/4" / FT

NEW MODIFIED BITUMEN ROOFING SYSTEM

EXTG VENT TO BE REMOVED AND RELOCATED; PATCH & REPAIR AS NEEDED

EXTG HOOD TO REMAIN

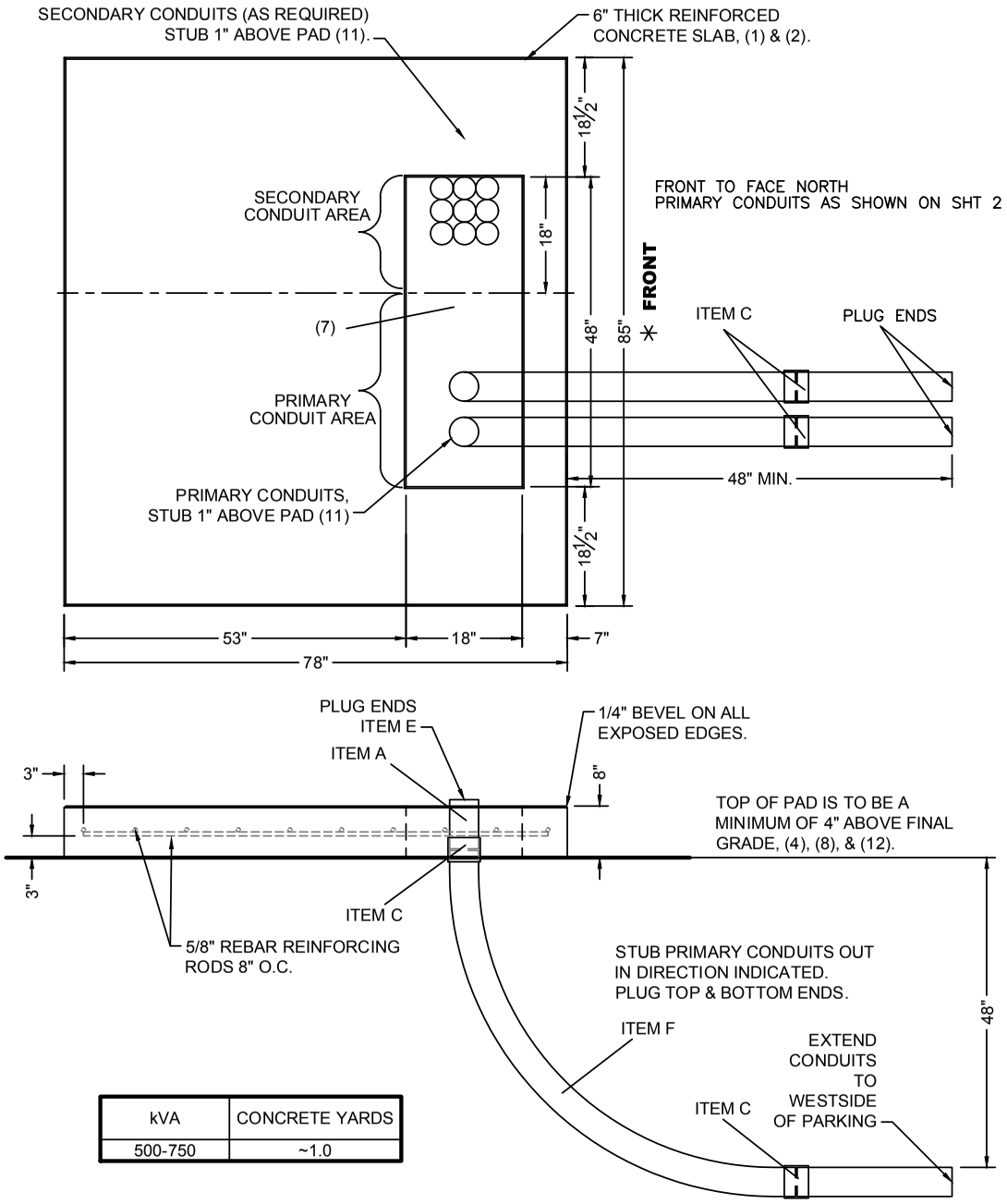
EXTG ACCESS HATCH

DEMO +/- 8" AT COLUMN LOCATIONS FOR COLUMN/B PLATE PLACEMENT; REFER TO STRUCTURAL DRAWINGS. AFTER COLUMNS ARE SET, PATCH UNDERLAYMENT AND REROOF.

STRUCTURE SLOPES AT 1/4" PER FT

AAD-04

03/09/17



kVA	CONCRETE YARDS
500-750	~1.0

LOCATION: Belmont Heat - Preliminary Not Final

SIGNED: _____

NETWORK NUMBER: _____
(REQUIRED TO PICK UP MATERIAL)

* FRONT OF TRANSFORMER TO FACE _____
(DIRECTION)

STUB PRIMARY CONDUITS OUT _____
(DIRECTION)

LES PROVIDED MATERIALS: (INSTALLED BY CONTRACTOR)

ITEM	MATERIAL DESCRIPTION	SAP MATERIAL	UNIT	QUANTITY
A	EXTENSION, PVC, SCH40, 4", 12" LENGTH	9502	EA.	
B	EXTENSION, PVC, SCH40, 4", 24" LENGTH	9502	EA.	
C	COUPLING, PVC, 4"	9570	EA.	
E	PLUG, PVC, 4"	9649	EA.	
F	SWEEPS, 90°, PVC, SCH40, 4", 48" RADIUS	9710	EA.	

TO BE PICKED UP AT THE LES STOREROOM - 27TH & FAIRFIELD STREET.

NOTES:

(1) MINIMUM COMPACTION UNDER PAD SHALL BE 90% OF MAXIMUM DENSITY OF THE MATERIAL AS DETERMINED BY ASTM STANDARD METHOD D698-78. FROZEN BACKFILL, SAND OR GRAVEL SHALL NOT BE USED.

(2) MINIMUM OF 3500 PSI, 28 DAY TEST CONCRETE.

(3) REFER TO TRANSFORMER PAD LOCATION SPEC. 2051._ FOR LOCATING TRANSFORMER PAD NEXT TO BUILDINGS AND CLEARANCE FROM OBSTRUCTIONS.

(4) FINAL GRADE TO SLOPE AWAY FROM TRANSFORMER PAD AND BUILDING.

(5) METERING SHALL NOT BE MOUNTED ON LES EQUIPMENT.

(6) IF TELEPHONE CONDUIT IS REQUIRED, STUB UP APPROX. 12" FROM SIDE OF TRANSFORMER PAD. TRANSFORMER OPENING MUST NOT BE OBSTRUCTED. VERIFY LOCATION WITH TELEPHONE COMPANY.

(7) LEAVE THIS AREA OPEN FOR CABLE ENTRANCE (18" x 48" PAD OPENING).

(8) TOP OF FOUNDATION TO BE SMOOTH, LEVEL AND CLEARED OF ALL FRAMING MATERIAL AFTER CONCRETE HARDENS.

(9) THIS PAD IS PROVIDED, OWNED & MAINTAINED BY THE OWNER OF THE PROPERTY.

(10) PAD MUST BE LOCATED A MINIMUM OF 3' FROM ANY GAS METER AND A MINIMUM OF 10' FROM ANY FUEL TANK.

(11) INSTALL CONDUITS IN PAD OPENING AS INDICATED. PRIMARY CONDUITS TO BE CENTERED IN THE PRIMARY CONDUIT AREA. SECONDARY CONDUITS TO BE PLACED ALONG OUTSIDE EDGE OF PAD OPENING IN SECONDARY CONDUIT AREA.

(12) TOP OF TRANSFORMER PAD TO BE LOCATED A MINIMUM OF 1' ABOVE 100 YEAR FLOOD PLAIN AND OUTSIDE FLOODWAYS AND FLASH FLOOD AREAS (SEE SPEC. 2051.A).

REVISIONS					
		DRAWN BY	R LIEB	02/25/91
01/24/05	REVISE DETAIL	ENGINEER	A CAMERON	01/15/92
11/14/03	ADD PVC EXTENSIONS	CHECKED BY	S WOSTREL	01/15/92
04/19/00	CHANGE TO SAP MATERIAL NUMBER	CHECKED BY	E TUREK	01/15/92
08/22/97	ADD NOTE 12	APPROVED BY	J MILLER	01/16/92

LINCOLN ELECTRIC SYSTEM

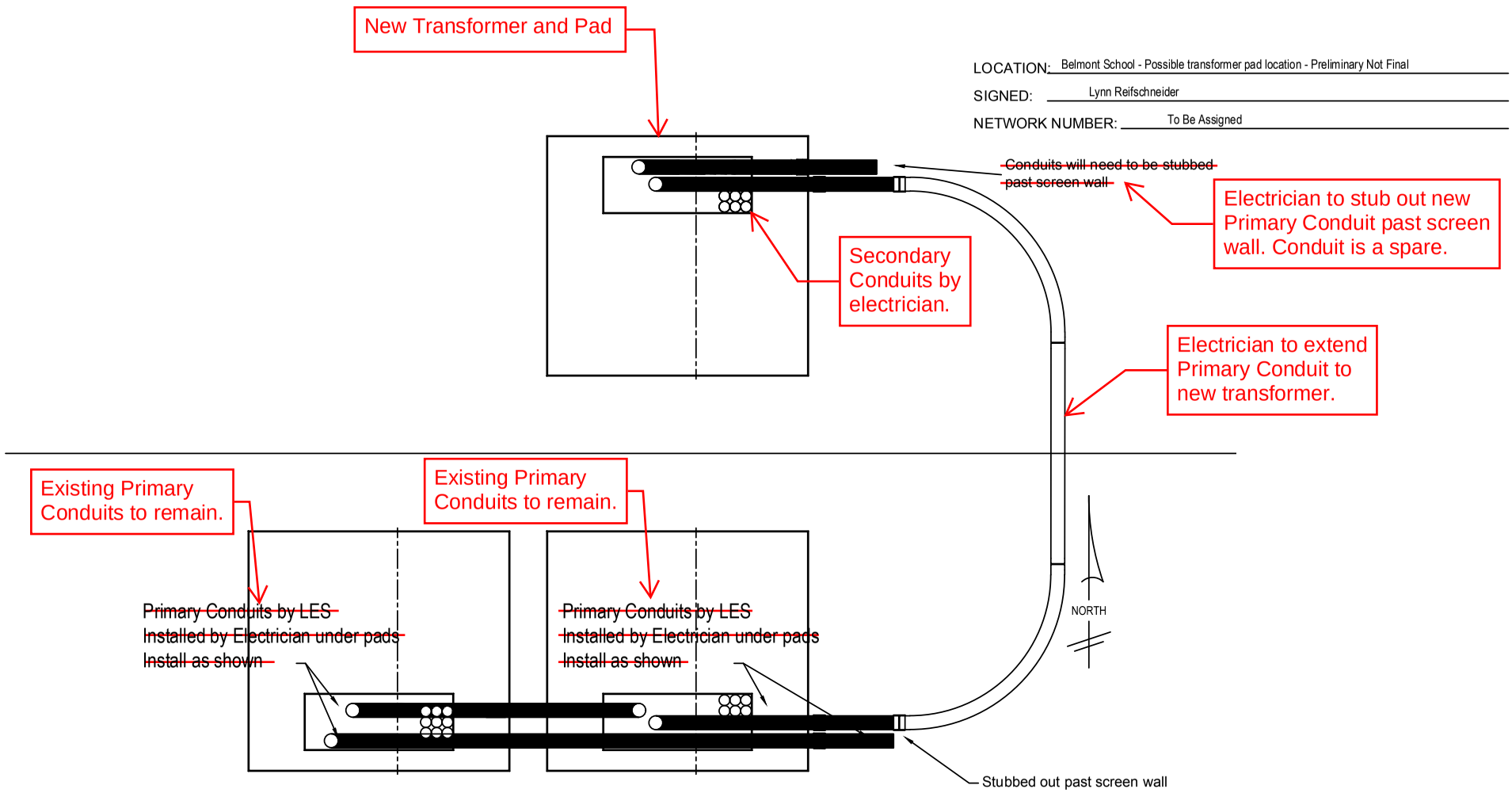
PAD DIMENSION FOR 3ø TRANSFORMERS 500–750 kVA 2640.Bx

SCALE: NONE

DRAWING NO.: 2640.Bx

SHT. 1 of 1

L:\ED\T&D Design\Customer Service\LReifschneider\LincolnPublicSchools\BelmontHeat\PadSpecs2017.dwg 2640.Bx Feb 24, 2017 - 10:21



Markups in Red by Thomas Ernst, P.E., ETI for Belmont Addendum #1 3.9.2017

REVISIONS						
			DRAWN BY			LINCOLN ELECTRIC SYSTEM
01/24/05	REVISE DETAIL		ENGINEER			PAD DIMENSION FOR 3ø TRANSFORMERS 500–750 kVA 2640.Bx
11/14/03	ADD PVC EXTENSIONS		CHECKED BY			SCALE: NONE
04/19/00	CHANGE TO SAP MATERIAL NUMBER		CHECKED BY			DRAWING NO.: 2640.Bx SHT. 1 of 2
08/22/97	ADD NOTE 12		APPROVED BY			

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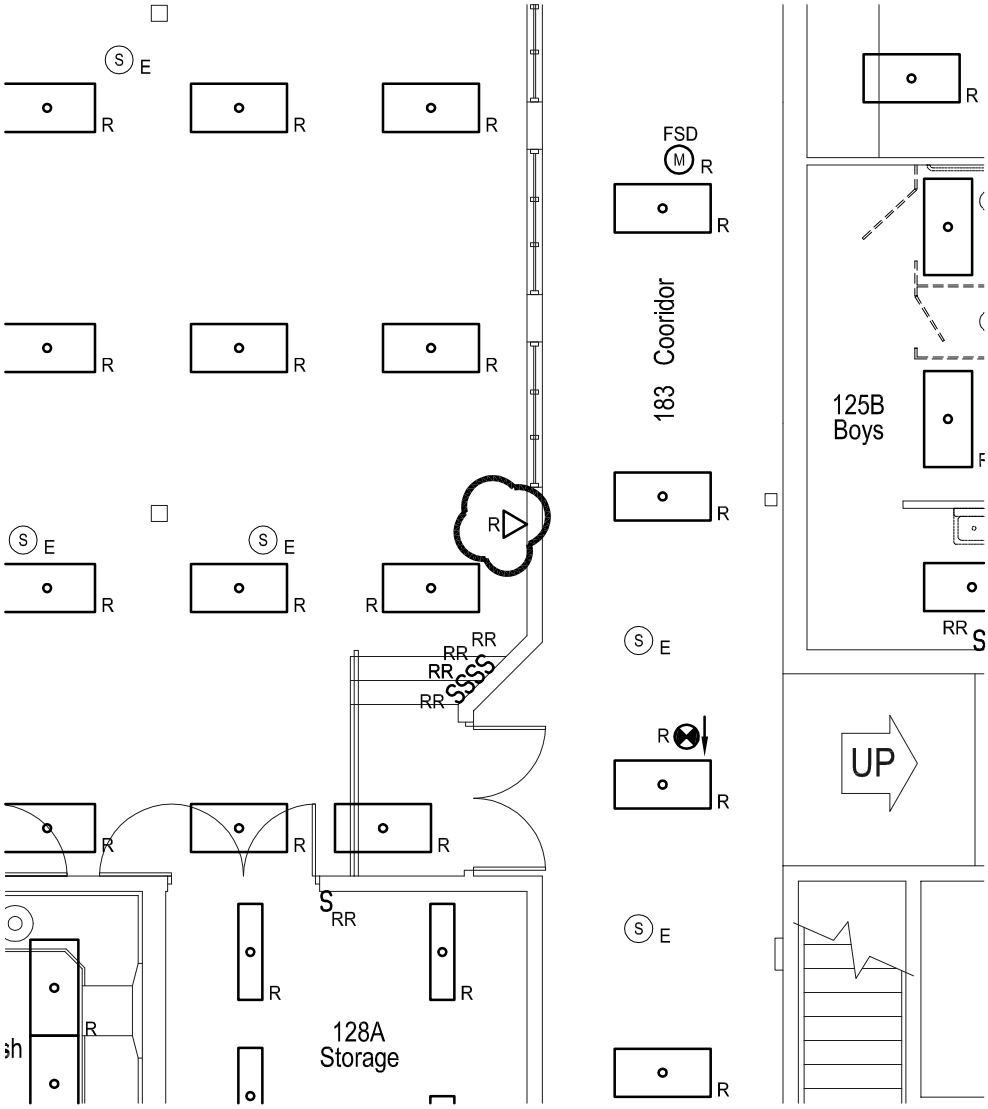


BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN-
AREA A - ELECTRICAL DEMO

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

MAB

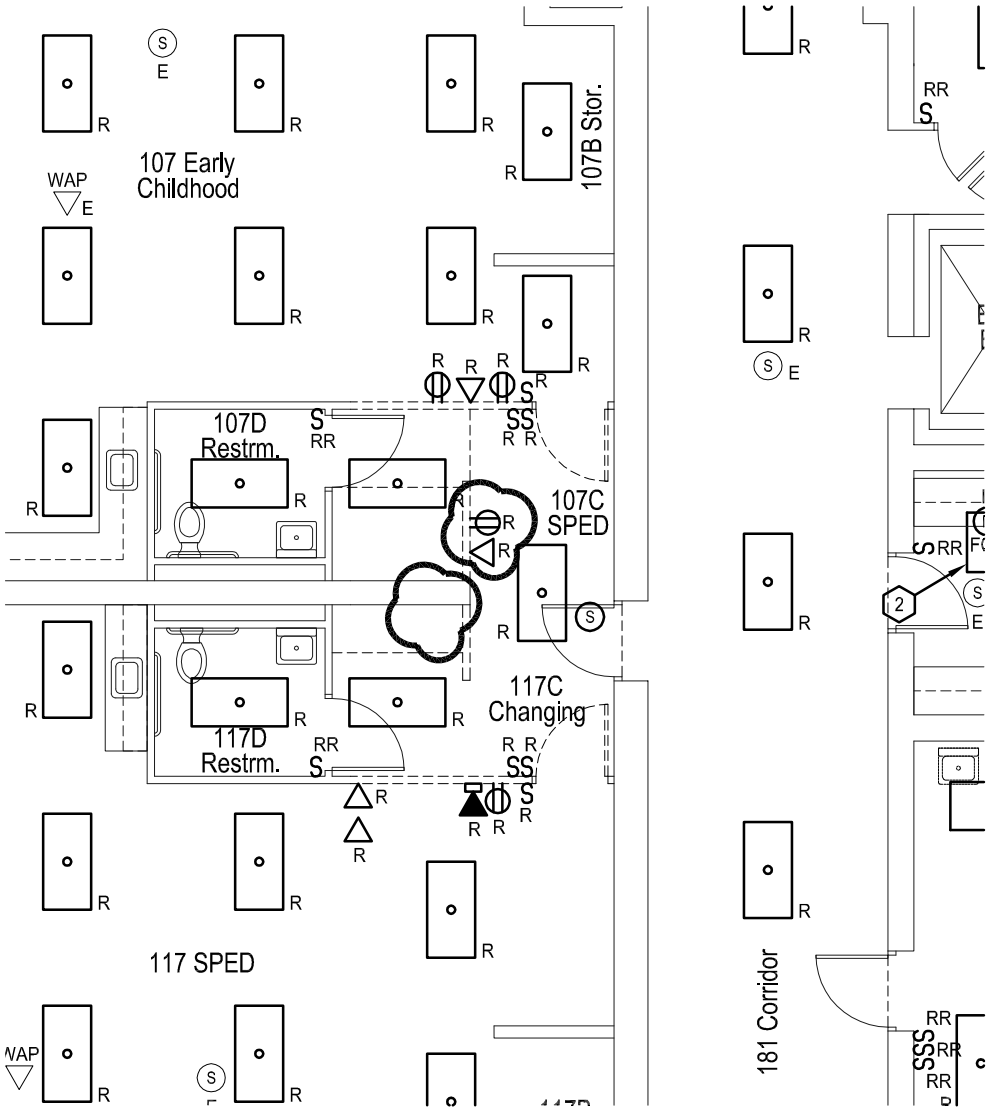
Engineering Technologies Inc.
Mechanical & Electrical Building Solutions
825 M Street, Suite 200 I Lincoln, NE 68508
P 402.476.1273 I F 402.476.1274
1111 N. 13th Street, Suite 216 I Omaha, NE 68102 I P 402.330.2772 I F 402.330.2630
ETI Project No: (2016-136)

ADD #1

SHEET
E1.1A

ATTACHMENT NO.
1

03/09/2017



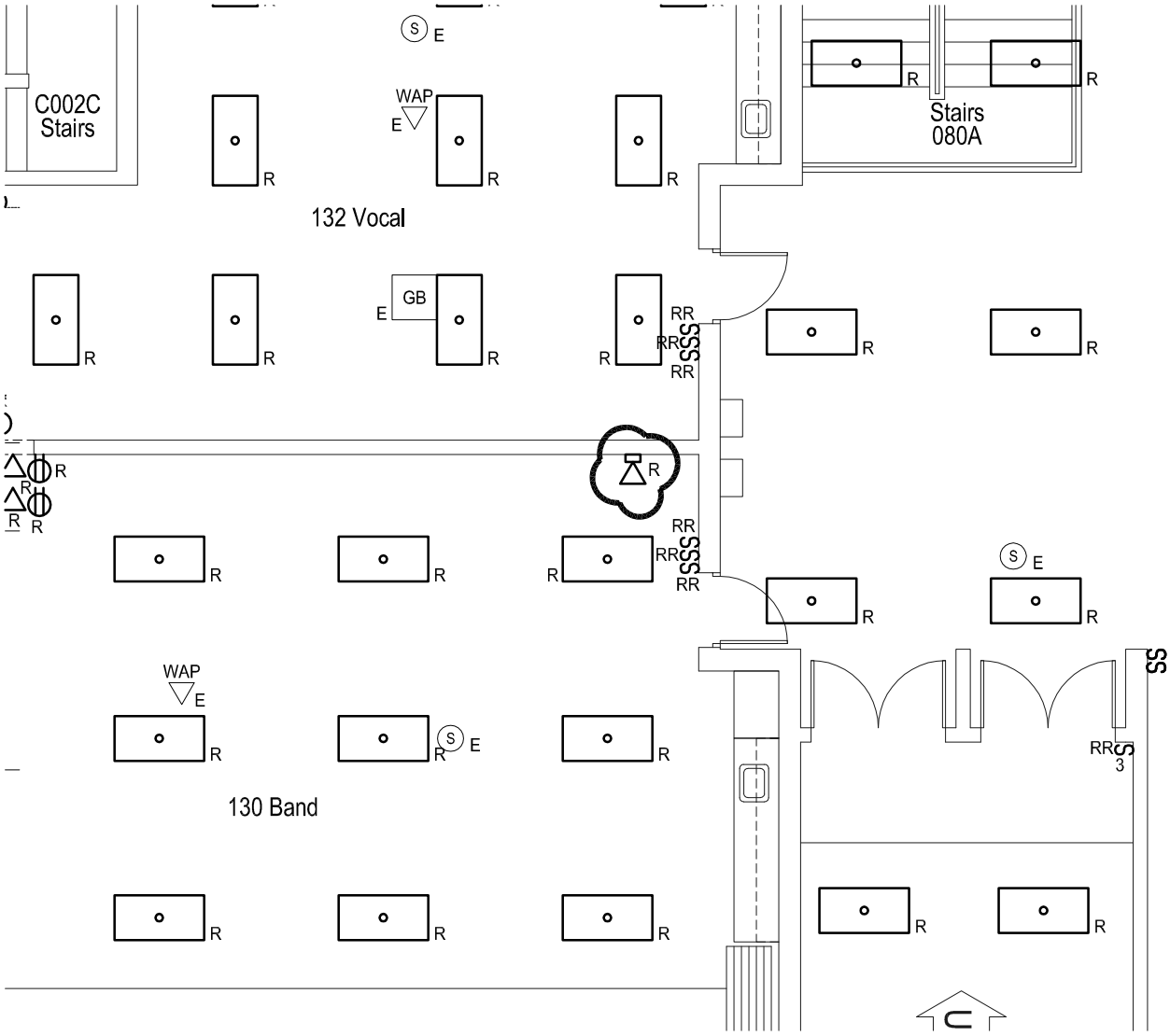
BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA A - ELECTRICAL DEMO

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

Engineering Technologies Inc.
Mechanical & Electrical Building Solutions
825 M Street, Suite 200 I Lincoln, NE 68508
P 402.476.1273 I F 402.476.1274
1111 N. 13th Street, Suite 216 I Omaha, NE 68102 I P 402.330.2772 I F 402.330.2630

ETI Project No: (2016-136)

ADD #1
SHEET E1.1A
ATTACHMENT NO. 2
03/09/2017



BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN-
AREA A - ELECTRICAL DEMO

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

MAB

Engineering Technologies Inc.
Mechanical & Electrical Building Solutions
825 M Street, Suite 200 I Lincoln, NE 68508
P 402.476.1273 I F 402.476.1274
1111 N. 13th Street, Suite 216 I Omaha, NE 68102 I P 402.330.2772 I F 402.330.2630
ETI Project No: (2016-136)

ADD #1

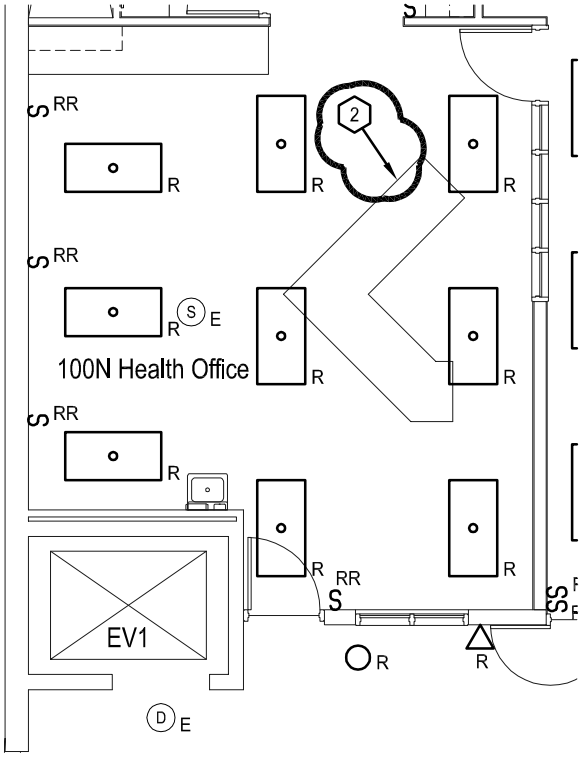
SHEET
E1.1A

ATTACHMENT NO.
3

03/09/2017

(#) SHEET NOTES

1. REMOVE ELECTRICAL CONNECTION, COMBINATION MOTOR STARTER, AND BRANCH CIRCUIT FOR AIR HANDLING UNIT BACK TO SOURCE OF POWER.
2. REMOVE ALL EXISTING CAT-5 AND PHONE CABLING. ALL EXISTING CAT-6 TO REMAIN.



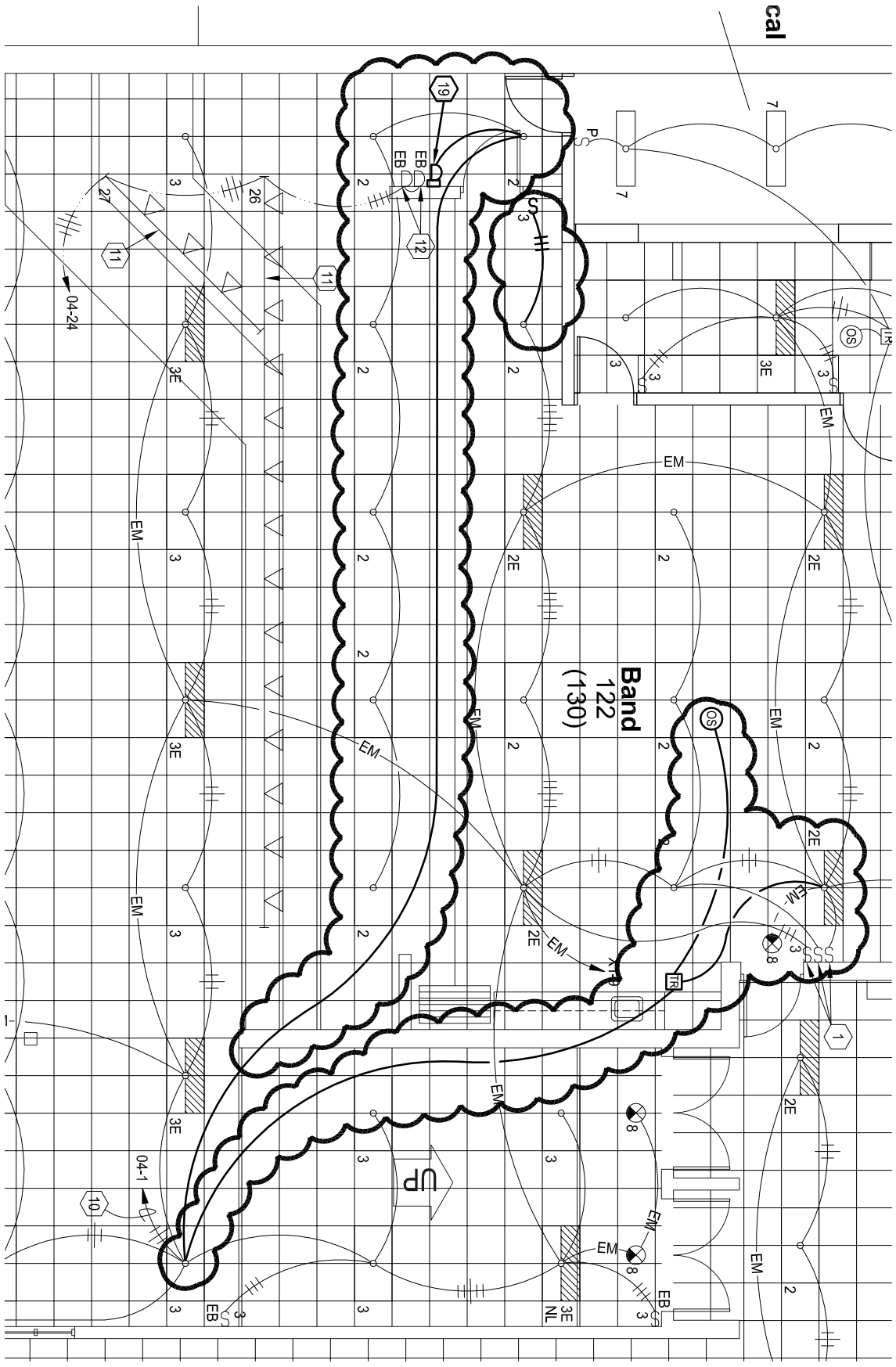
BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA B - ELECTRICAL DEMO

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

Engineering Technologies Inc.
Mechanical & Electrical Building Solutions
825 M Street, Suite 200 I Lincoln, NE 68508
P 402.476.1273 I F 402.476.1274
1111 N. 13th Street, Suite 216 I Omaha, NE 68102 I P 402.330.2772 I F 402.330.2630

ETI Project No: (2016-136)

ADD #1
SHEET E1.1B
ATTACHMENT NO. 1
03/09/2017



SHEET NOTES

#1

19. PROVIDE 0-10 VOLT DIMMER SWITCH WITH SLIDER CONTROL AND PRESET SWITCH. LEVITON IP710-LF2 WITH IPKIT-NG COLOR CHANGING KIT.

BELMONT ELEMENTARY IAQ - FIRST FLOOR PLAN- AREA A - LIGHTING

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

MAB

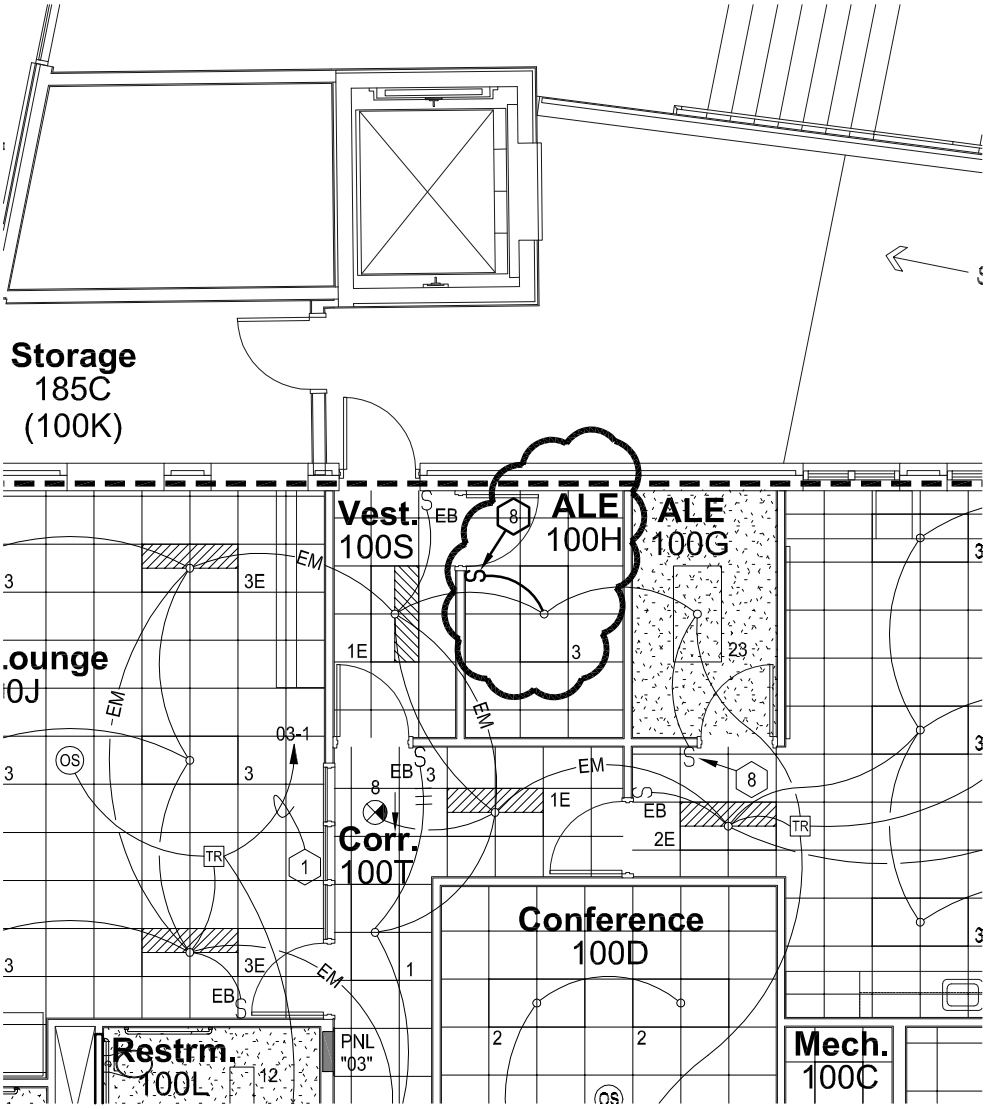
Engineering Technologies Inc.
Mechanical & Electrical Building Solutions
825 M Street, Suite 200 | Lincoln, NE 68508
P 402.476.1273 | F 402.476.1274
1111 N. 13th Street , Suite 216 | Omaha, NE 68102 | P 402.330.2772 | F 402.330.2630
ETI Project No: (2016-136)

ADD #1

SHEET
E2.1A

ATTACHMENT NO.
1

03/09/2017



BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA B - LIGHTING

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

MAB

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Mechanical & Electrical Building Solutions
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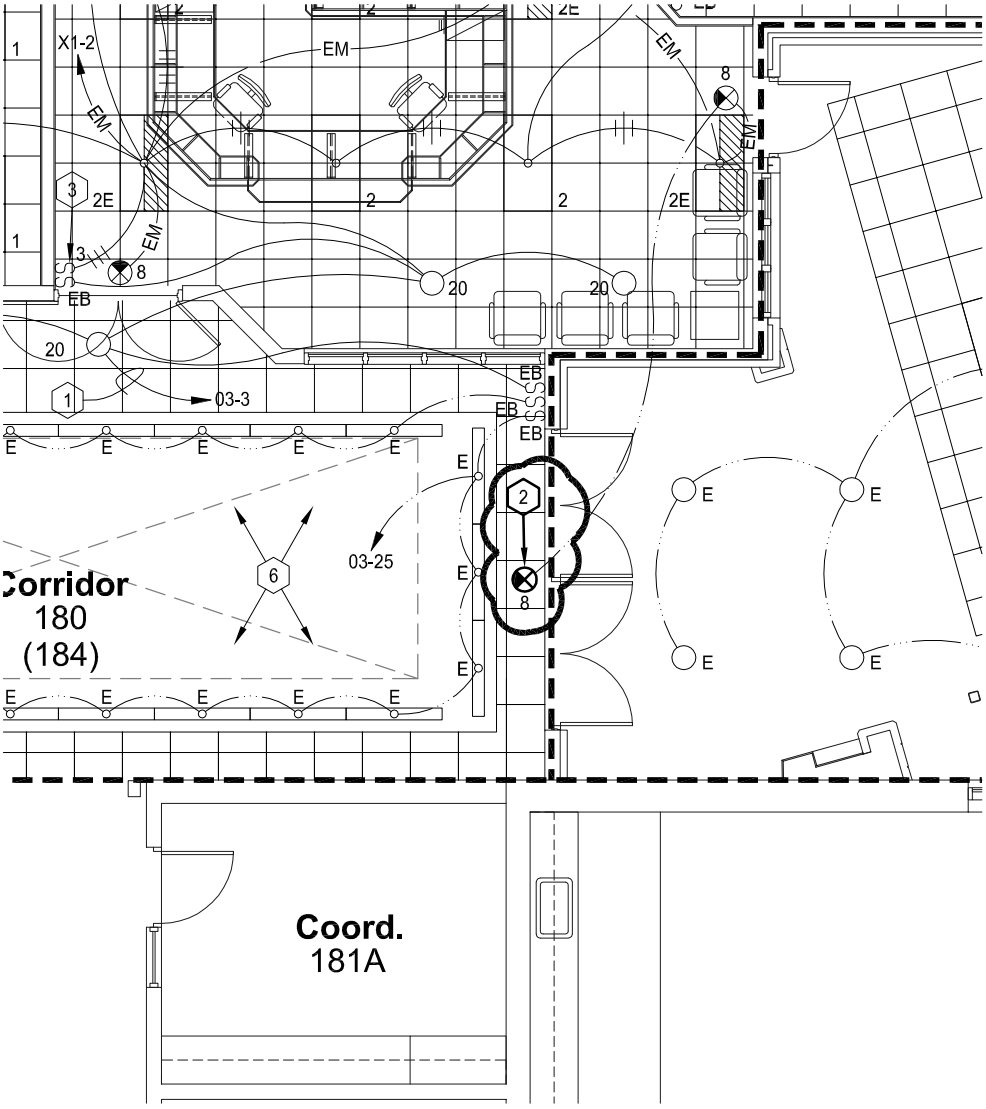
ETI Project No: (2016-136)

ADD #1

SHEET
E2.1B

ATTACHMENT NO.
1

03/09/2017



BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA B - LIGHTING

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

MAB

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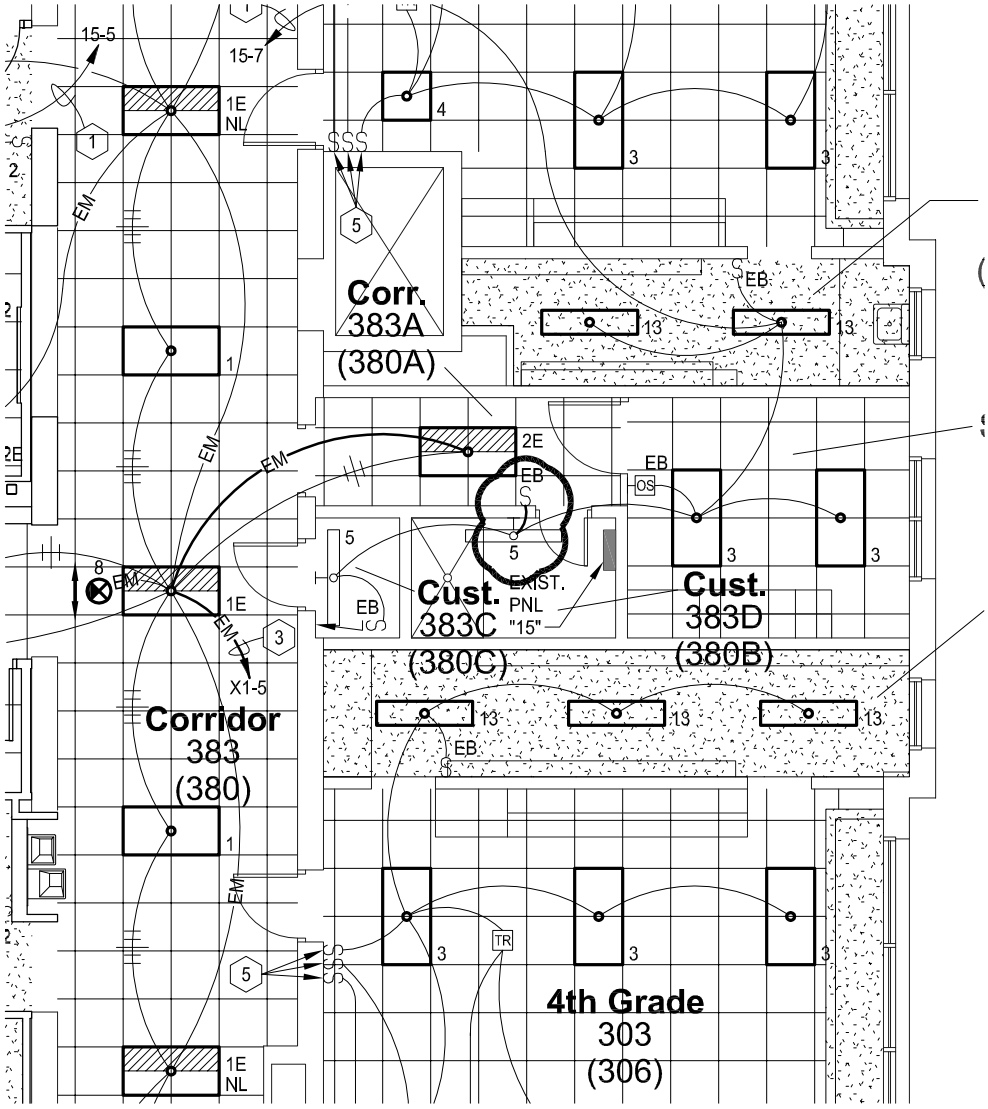
ETI Project No: (2016-136)

ADD #1

SHEET
E2.1B

ATTACHMENT NO.
2

03/09/2017



BELMONT ELEMENTARY
IAQ - THIRD FLOOR PLAN- AREA A - LIGHTING

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

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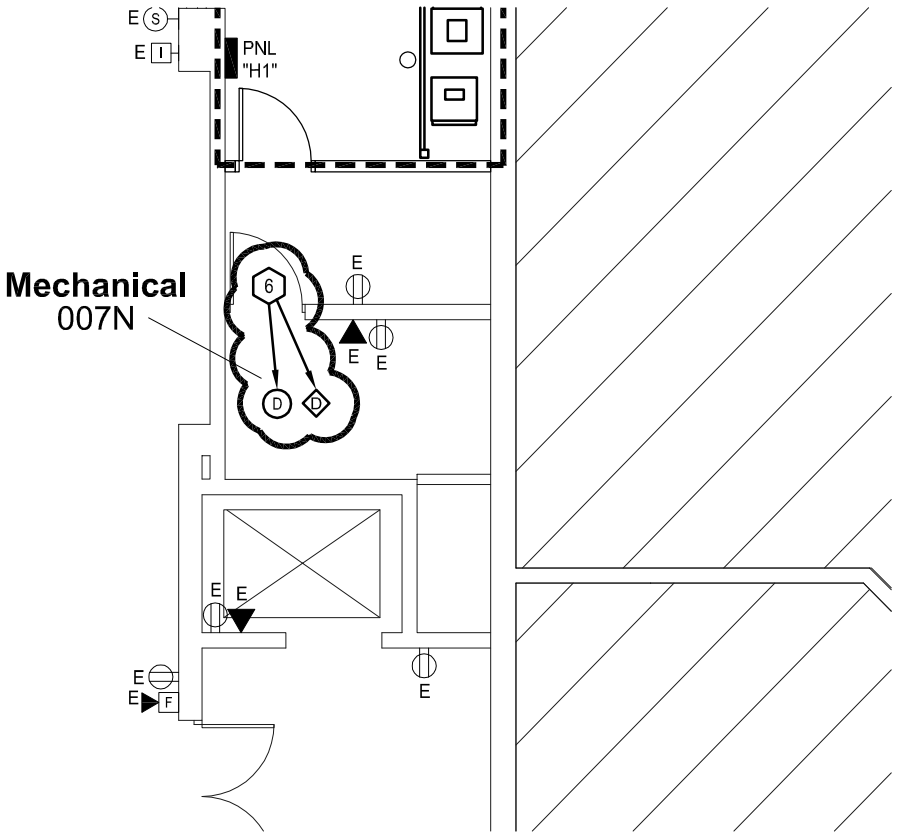
ADD #1
SHEET E2.3A
ATTACHMENT NO. 1
03/09/2017

SHEET NOTES

6. NEW FIRE ALARM DEVICE.



BELMONT ELEMENTARY
IAQ - GROUND FLOOR
PLAN - AREA B - ELECTRICAL

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

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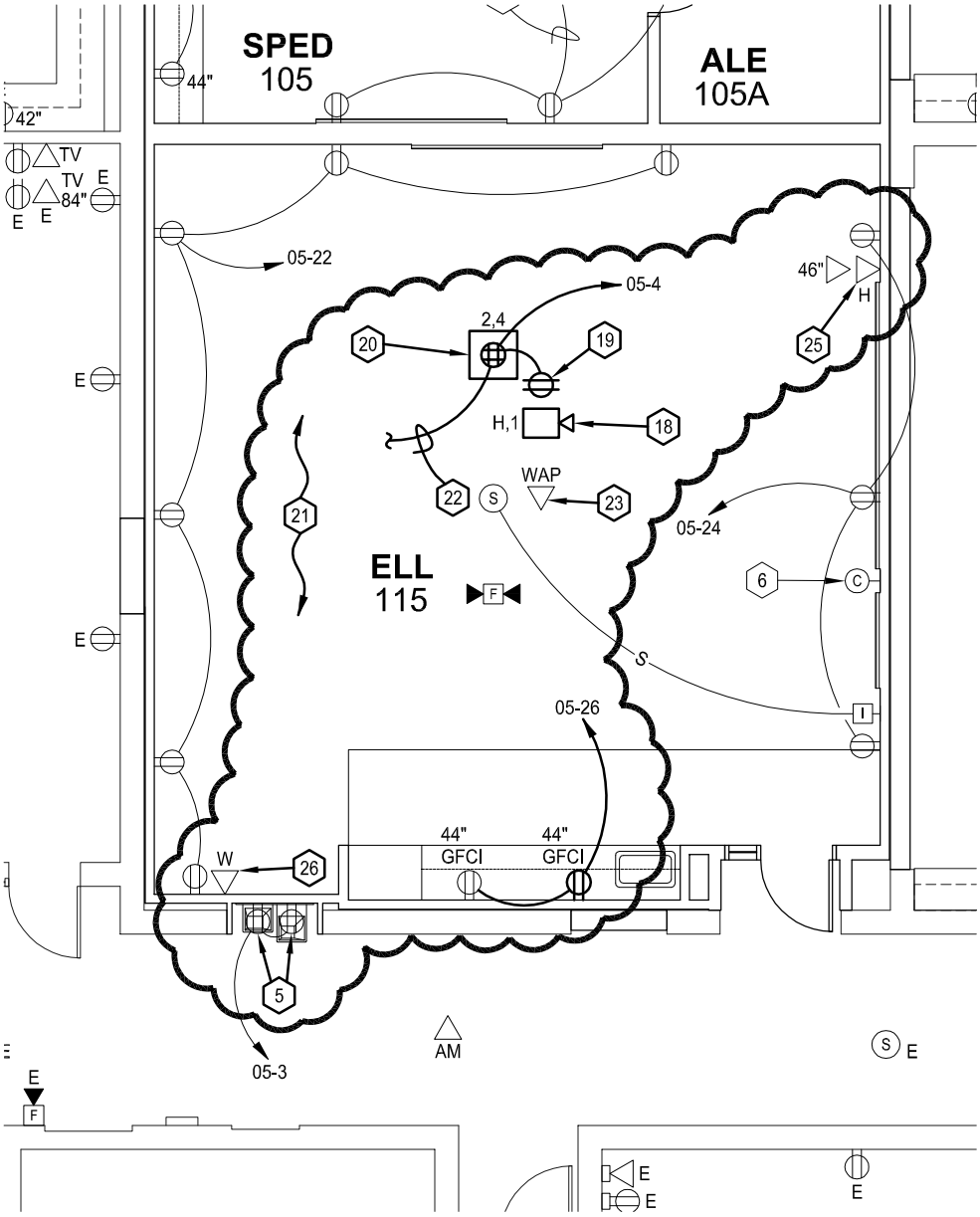
ETI Project No: (2016-136)

ADD #1

SHEET
E3.0B

ATTACHMENT NO.
1

03/09/2017



BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA "A" - ELECTRICAL

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

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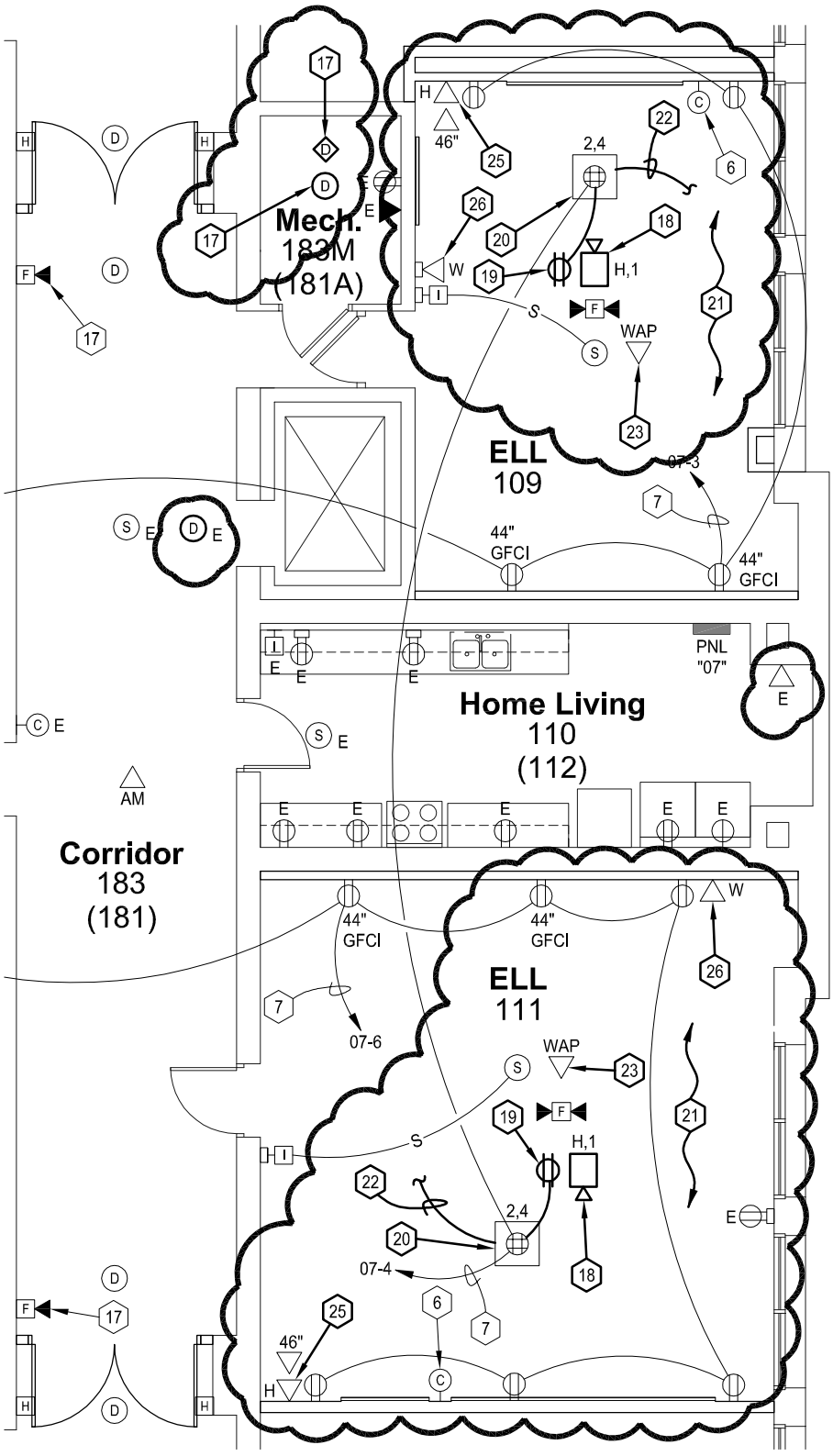
ETI Project No: (2016-136)

ADD #1

SHEET
E3.1A

ATTACHMENT NO.
1

03/09/2017



BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA "A" - ELECTRICAL

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

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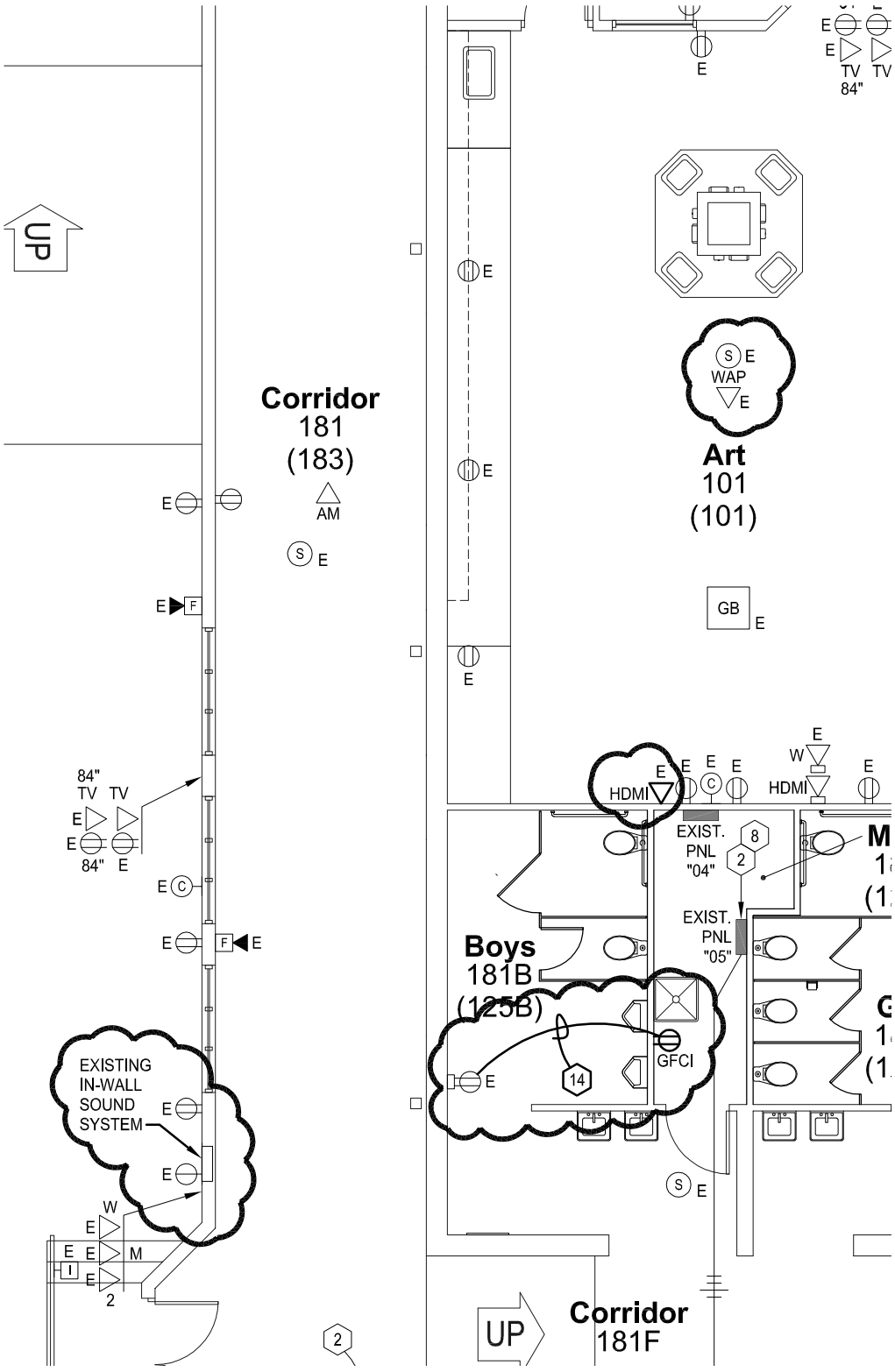
ETI Project No: (2016-136)

ADD #1

SHEET
E3.1A

ATTACHMENT NO.
2

03/09/2017



BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA "A" - ELECTRICAL

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

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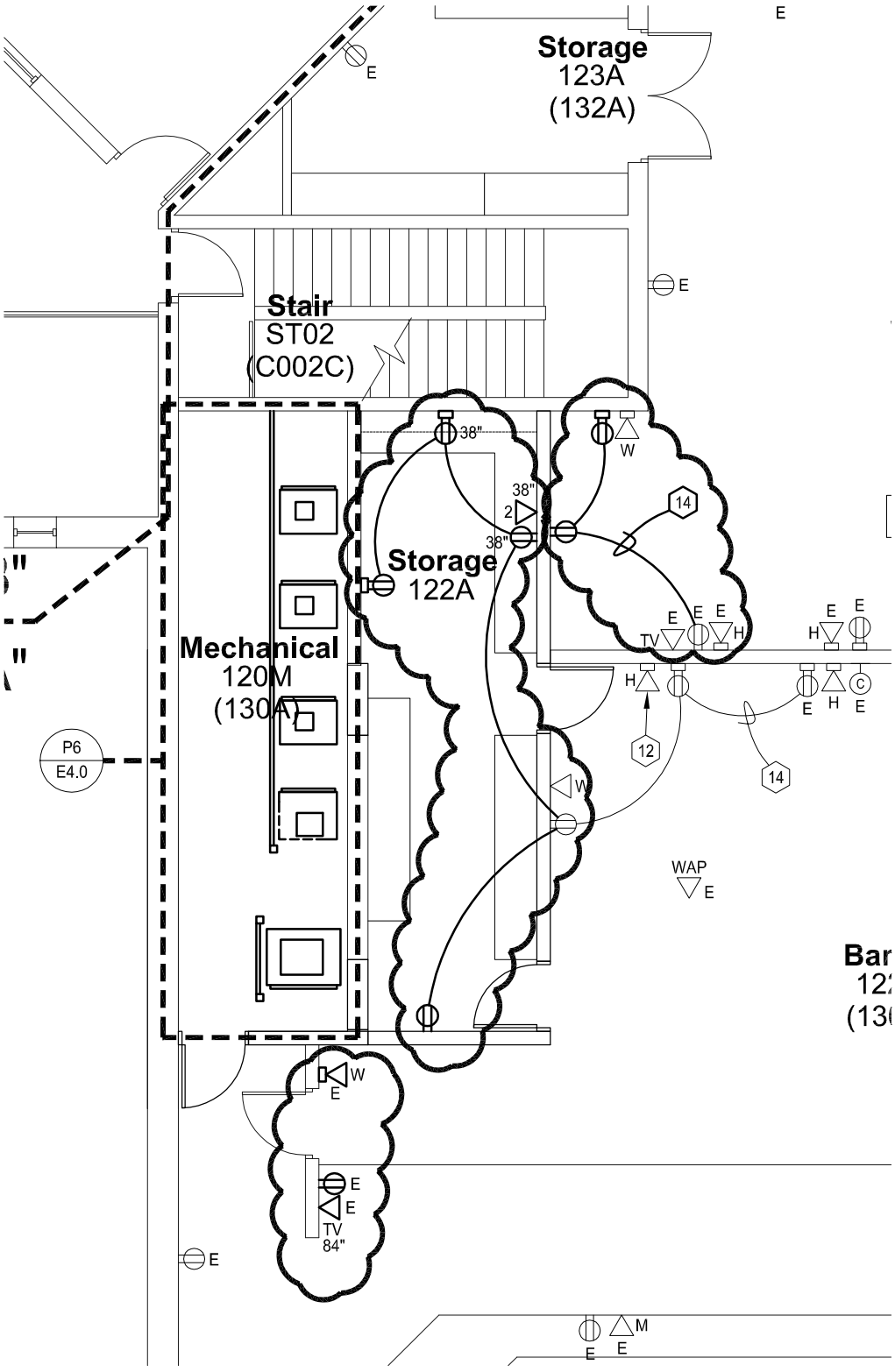
ETI Project No: (2016-136)

ADD #1
SHEET
E3.1A
ATTACHMENT NO.
3
03/09/2017



BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA "A" - ELECTRICAL

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

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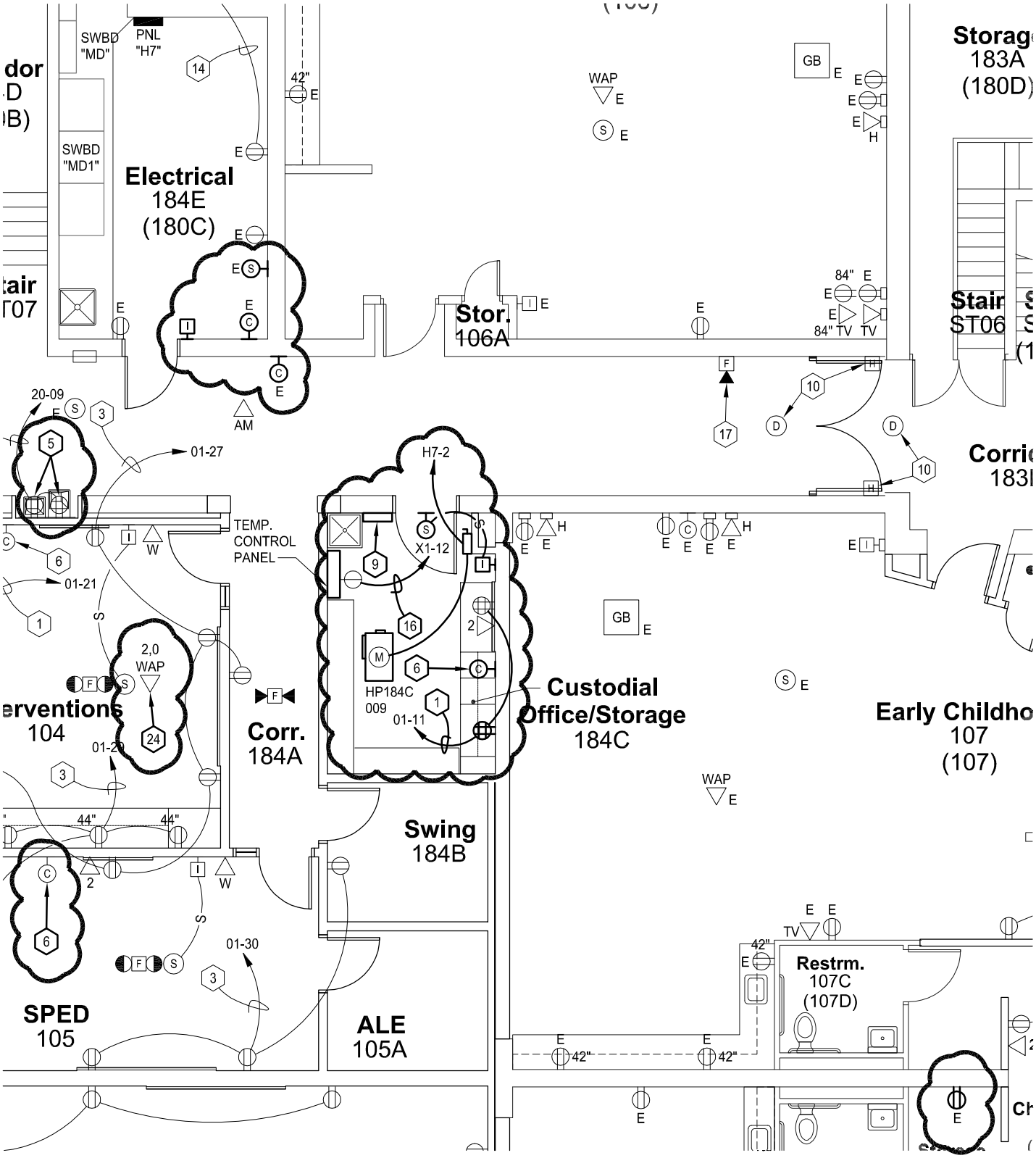
ETI Project No: (2016-136)

ADD #1

SHEET
E3.1A

ATTACHMENT NO.
4

03/09/2017



BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA "A" - ELECTRICAL

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

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ETI Project No: (2016-136)

ADD #1	
SHEET	E3.1A
ATTACHMENT NO.	5
	03/09/2017

(#) SHEET NOTES

1. CONNECT TO SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "01".
2. REMOVE EXISTING PANEL INTERIOR, AND CIRCUIT BREAKER. EXTEND ALL BRACH CIRCUITS AND FEEDER TO NEW PANEL "05" IN STORAGE 120A. EXISTING PANEL ENCLOSURE TO BE REUSED AS A JUNCTION BOX. CONNECT BRANCH CIRCUITS TO NEW CIRCUIT BREAKERS AS REQUIRED. PANEL "05" IS TO REMAIN UNDER ALTERNATE #2.
3. PROVIDE NEW 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "01" AND CONNECT BRANCH CIRCUIT TO NEW CIRCUIT BREAKER.
4. CONNECT TO NEW GFCI 20A/1P CIRCUIT BREAKER IN PANEL "01". PROVIDE NEW CIRCUIT BREAKER.
5. RECEPTACLES FOR WATER COOLERS. COORDINATE MOUNTING WITH PLUMBER. CONCEAL RECEPTACLES BEHIND WATER COOLER.
6. CONNECT CLOCK TO EXISTING DUKANE STARCALL SYSTEM. (TYPICAL ALL CLOCKS).
7. CONNECT TO SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "07".
8. IF ALTERNATE #2 IS ACCEPTED REMOVE CIRCUIT BREAKER 05-3 AND 05-5. PROVIDE IN THESE SPACES TWO 20 AMP 1 POLE GFCI TYPE CIRCUIT BREAKERS.
9. GENERATOR ANNUNCIATOR PANEL. COORDINATE EXACT MOUNTING LOCATION IN FIELD.
10. NEW LOCATION OF EXISTING FIRE ALARM DEVICE. EXTEND WIRING AND REINSTALL TO FA SYSTEM AS REQUIRED.
11. RECONNECT NEW WATER HEATER TO EXISTING CIRCUIT MADE AVAILABLE BY DEMOLITION OF EXISTING WATER HEATER. PROVIDE RECEPTACLE AS REQUIRED.
12. RELOCATE EXISTING HDMI TO THIS LOCATION.
13. MECHANICAL CONTRACTOR TO REMOVE AND REPLACE EXISTING EXHAUST FAN. THIS CONTRACTOR TO REMOVE EXISTING ELECTRICAL CONNECTION AND RECONNECT THE EXISTING CIRCUIT TO NEW EXHAUST FAN.
14. CONNECT TO EXISTING CIRCUIT.
15. SWITCHBOARD CANNOT EXCEED 6'-6" IN WIDTH AND 2'-0" IN DEPTH.
16. CONNECT TEMPERATURE CONTROL PANEL TO SPARE 20A/1P CIRCUIT BREAKER IN PANEL "X1".
17. NEW FIRE ALARM DEVICE.
18. NEW CEILING MOUNT PROJECTOR LOCATION. ROUTE ONE CAT-6 CABLE FROM A/V GEARBOX TO PROJECTOR AND ROUTE ONE HDMI CABLE FROM PROJECTOR TO HDMI OUTLET LOCATION IN THIS ROOM DESIGNATED BY NOTE 25 PROVIDE 6'-0" OF SLACK CABLE ABOVE ACCESSIBLE CEILING.
19. CEILING MOUNTED RECEPTACLE FOR PROJECTOR.
20. CEILING MOUNTED A/V GEAR BOX. BOX SHALL BE INSTALLED IN LIEU OF ONE 2'X2' ACOUSTICAL CEILING TILE. PROVIDE A QUAD-PLEX RECEPTACLE INSIDE THE A/V GEAR BOX AND CIRCUIT AS SHOWN. REFER TO A/V GEAR BOX DETAIL ON SHEET E6.0 FOR MORE INFORMATION.
21. REFER TO TECHNOLOGY READY CLASSROOM CABLING DETAIL, DETAIL 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
22. ROUTE 2-CAT-6A CABLES AND FOUR CAT-6 CABLES TO CEILING MOUNTED A/V GEAR BOX FROM DATA RACK.
23. WIRELESS ACCESS POINT. ROUTE TWO CAT-6A PATCH CABLES FROM A/V GEAR BOX TO WIRELESS ACCESS POINT. LOCATE WAP AS CLOSE TO CENTER OF ROOM AS CONDITIONS WILL ALLOW. REFER TO DETAIL 6 AND DETAIL 7 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
24. WIRELESS ACCESS POINT. ROUTE TWO CAT-6A CABLES FROM EXISTING DATA RACK TO WIRELESS ACCESS POINT. REFER TO DETAIL 7 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
25. A/V OUTLET LOCATION. ROUTE ONE HDMI CABLE FROM THE JUNCTION BOX TO THE PROJECTOR LOCATION. PROVIDE JUNCTION BOX AT 18" AFF. REFER TO DETAILS 2 AND 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
26. TEACHING DESK LOCATION. ROUTE ONE CAT-6 PATCH CABLE FROM A/V GEAR BOX TO THIS LOCATION. PROVIDE JUNCTION BOX MOUNTED AT 46" AFF. REFER TO DETAILS 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.

BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA "A" - ELECTRICAL

SCALE: NONE | MAB

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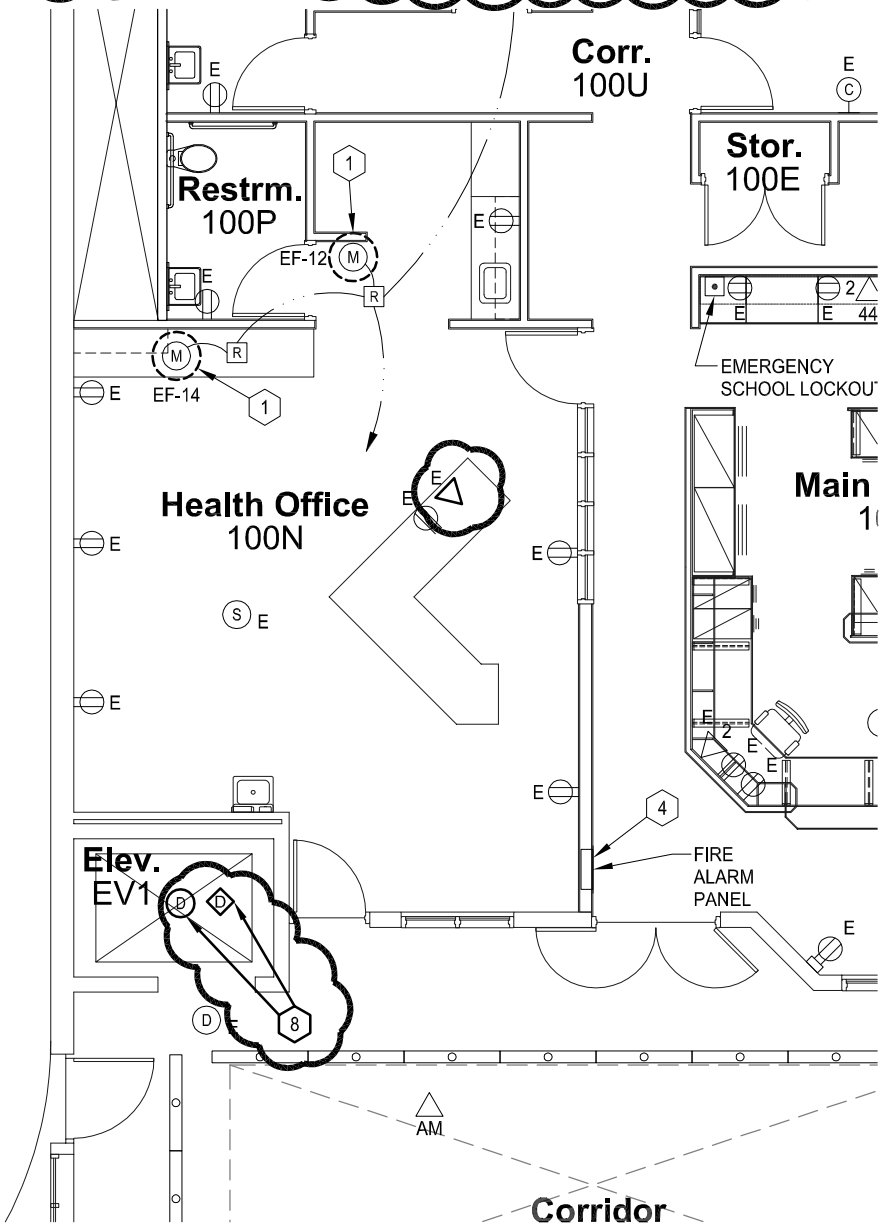
ETI Project No: (2016-136)

ADD #1
SHEET E3.1A
ATTACHMENT NO. 6
03/09/2017

SHEET NOTES

8. EXISTING ELEVATOR DOES NOT CURRENTLY HAVE RECALL. RECALL SHALL BE ADDED IN THIS PROJECT. MAKE ALL FIRE ALARM AND ELECTRICAL CONNECTIONS AS REQUIRED. NEW FIRE ALARM DEVICES AT TOP OF ELEVATOR SHAFT.



BELMONT ELEMENTARY
IAQ - FIRST FLOOR PLAN- AREA "B" - ELECTRICAL

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

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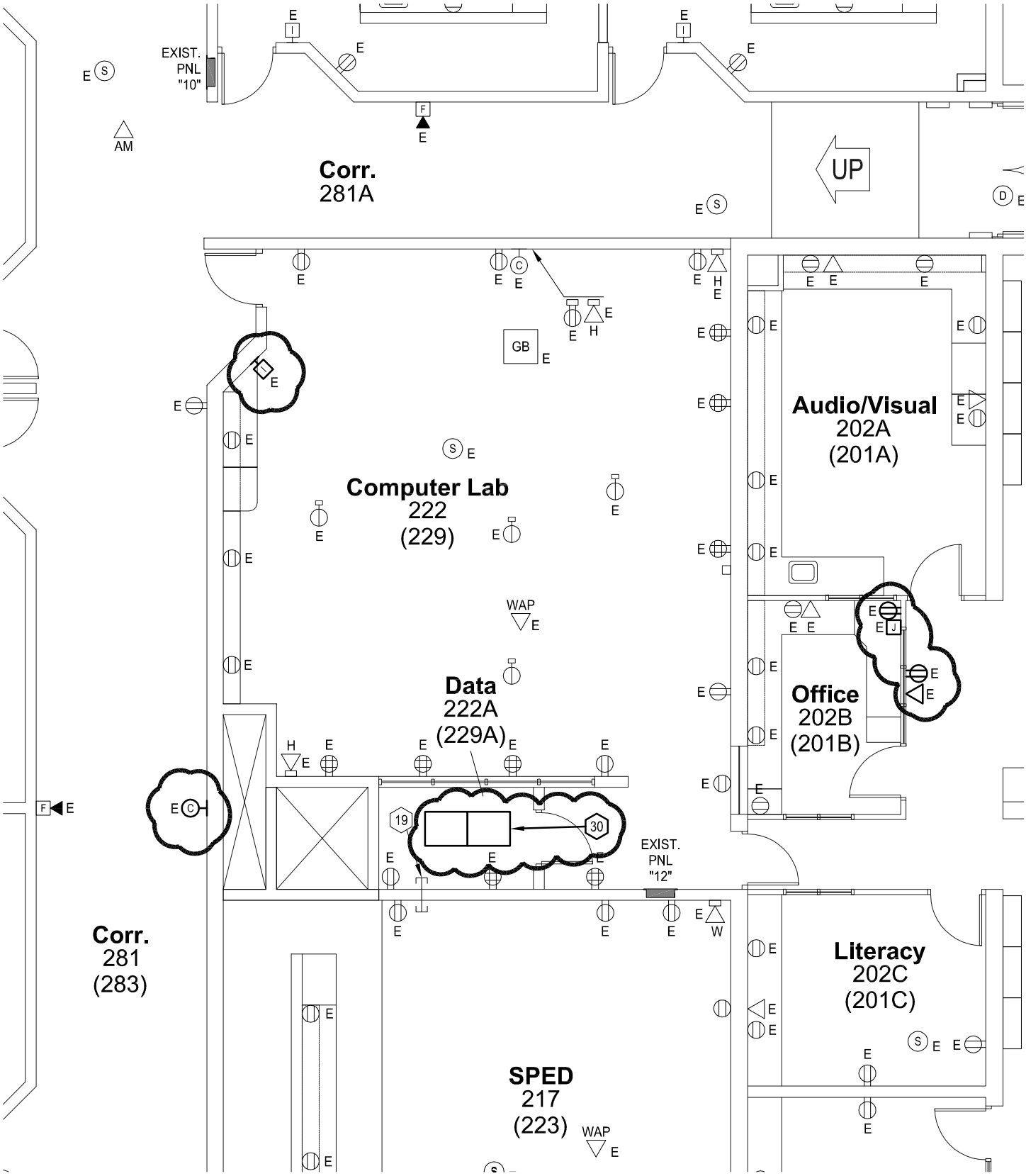
ETI Project No: (2016-136)

ADD #1
SHEET
E3.1B
ATTACHMENT NO.
1
03/09/2017



BELMONT ELEMENTARY
IAQ - SECOND FLOOR
PLAN - AREA A - ELECTRICAL

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

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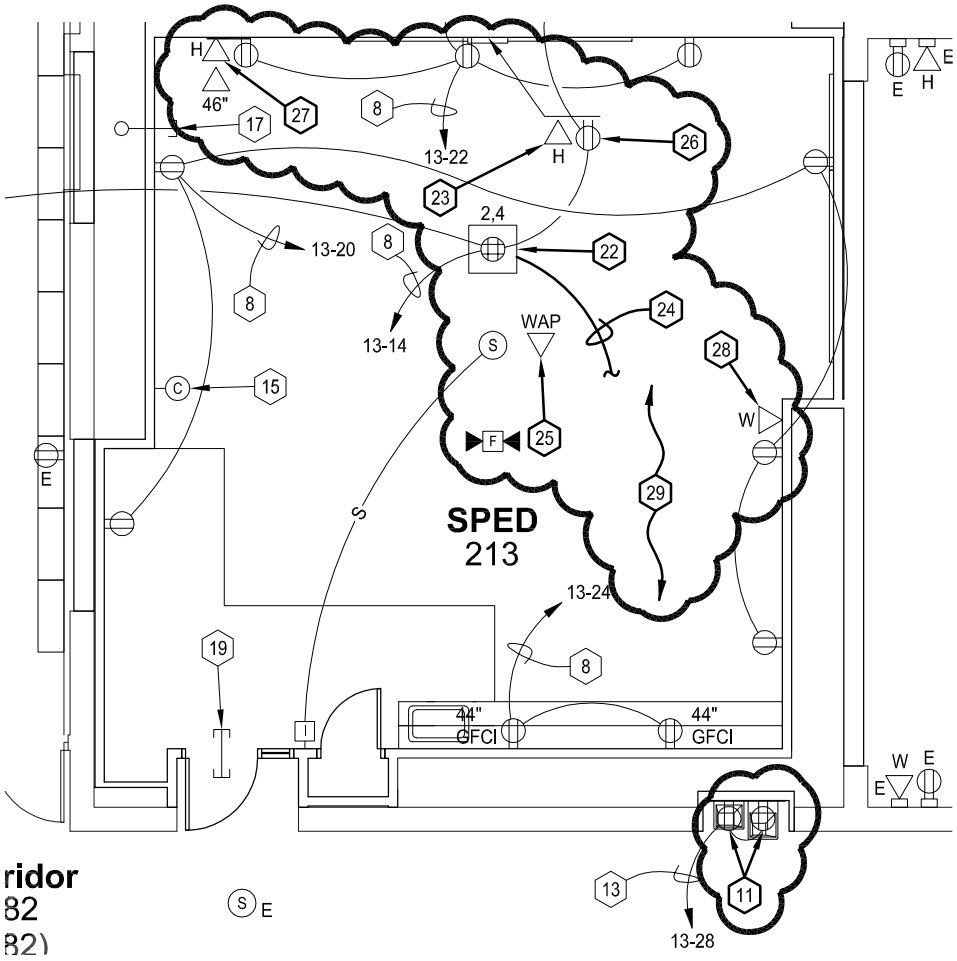
ETI Project No: (2016-136)

ADD #1
SHEET E3.2A
ATTACHMENT NO. 1
03/09/2017



BELMONT ELEMENTARY
IAQ - SECOND FLOOR
PLAN - AREA A - ELECTRICAL

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

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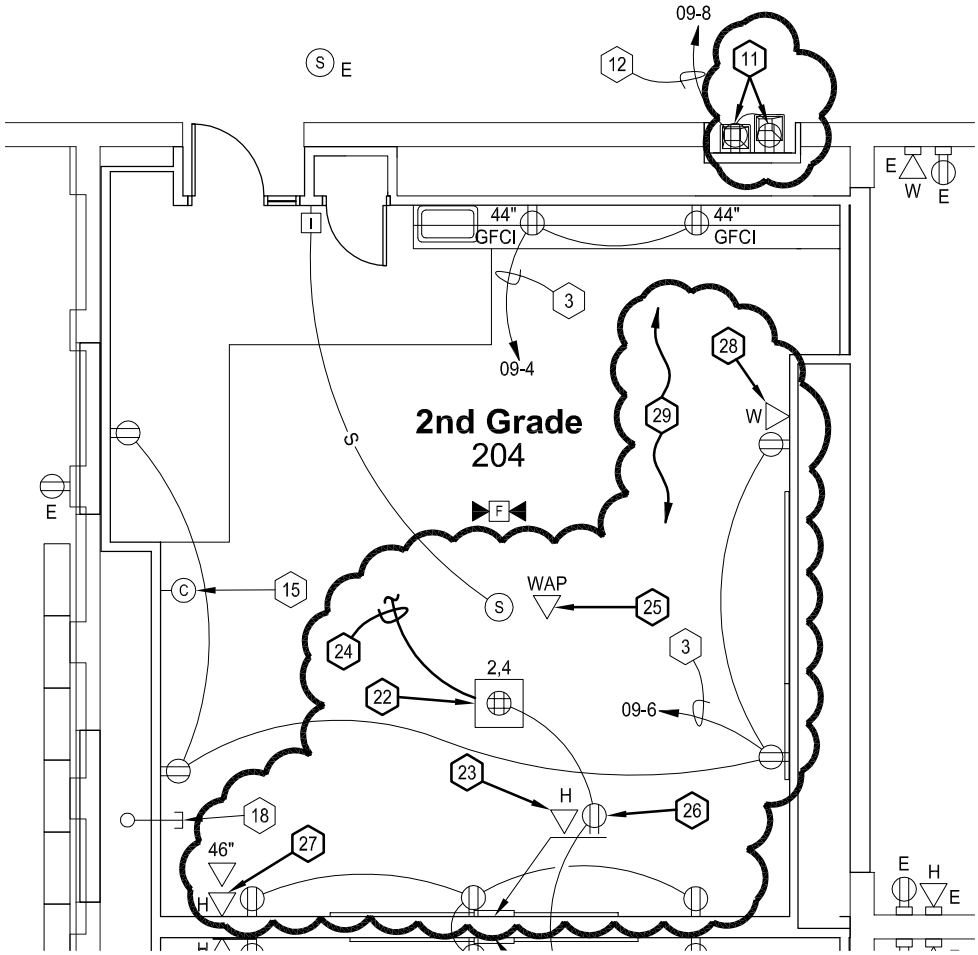
ETI Project No: (2016-136)

ADD #1

SHEET
E3.2A

ATTACHMENT NO.
2

03/09/2017



BELMONT ELEMENTARY
IAQ - SECOND FLOOR
PLAN - AREA A - ELECTRICAL

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

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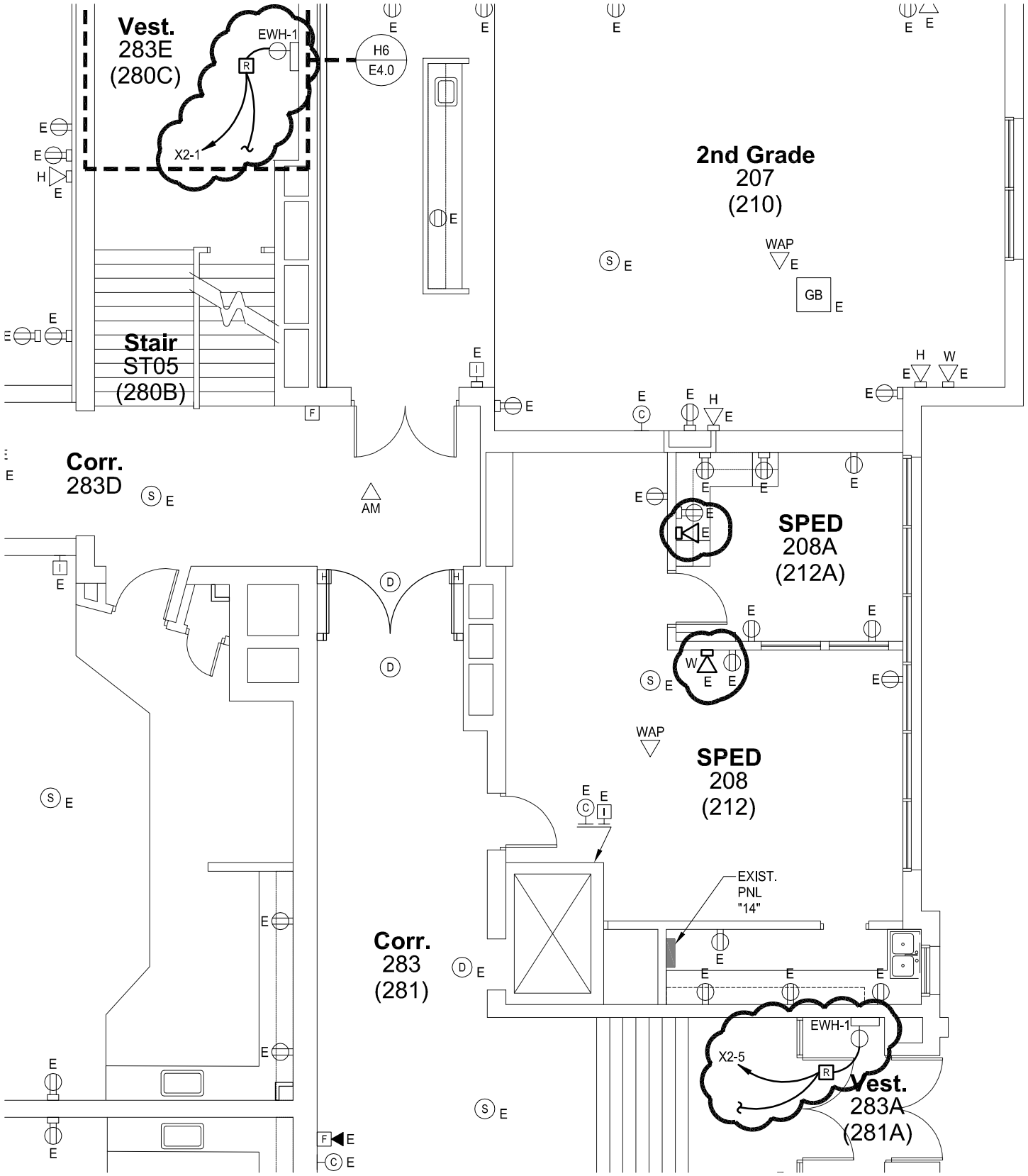
ETI Project No: (2016-136)

ADD #1

SHEET
E3.2A

ATTACHMENT NO.
3

03/09/2017



BELMONT ELEMENTARY
IAQ - SECOND FLOOR
PLAN - AREA A - ELECTRICAL

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

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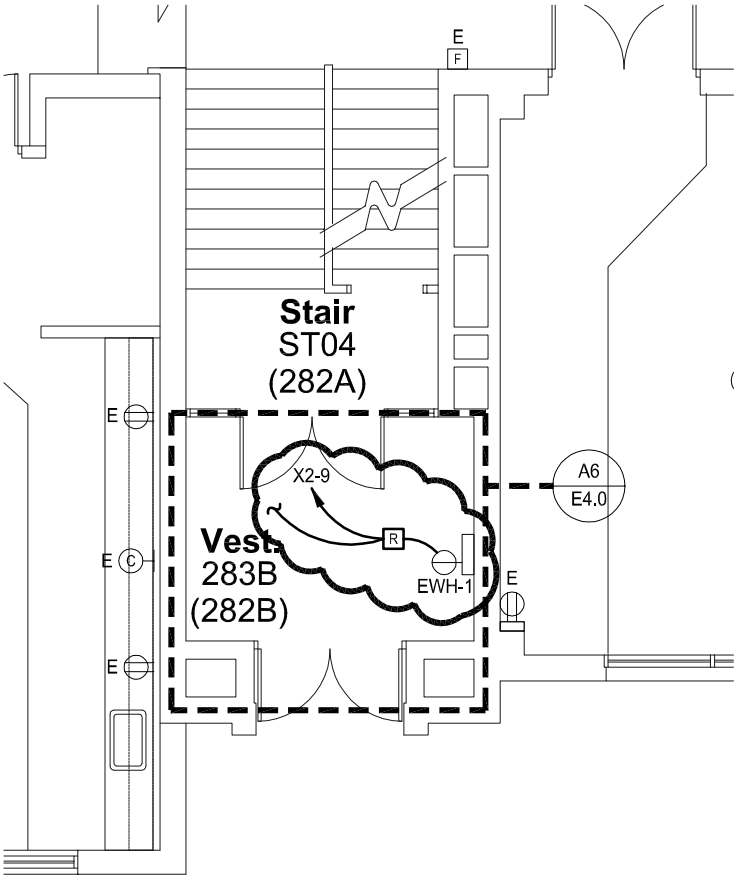
ADD #1
SHEET
E3.2A
ATTACHMENT NO.
4
03/09/2017



BELMONT ELEMENTARY
IAQ - SECOND FLOOR
PLAN - AREA A - ELECTRICAL

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

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ETI Project No: (2016-136)

ADD #1

SHEET
E3.2A

ATTACHMENT NO.
5

03/09/2017

SHEET NOTES

1. REMOVE CIRCUIT BREAKER 09-2 AND 09-8. PROVIDE IN THESE SPACES TWO 20 AMP 1 POLE GFCI TYPE CIRCUIT BREAKERS.
2. PROVIDE RECEPTACLE FOR WASH BASIN TRANSFORMER. COORDINATE EXACT MOUNTING LOCATION WITH MECHANICAL CONTRACTOR. CONNECT CIRCUIT TO NEW 20 AMP 1 POLE GFCI CIRCUIT BREAKER IN EXISTING PANEL "09". CONCEAL RECEPTACLES BEHIND WASH BASIN.
3. CONNECT TO SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "09" MADE SPARE AFTER DEMOLITION.
4. RECEPTACLES AND DATA OUTLETS TO BE PROVIDED UNDER BASE BID. RECEPTACLES AND DATA OUTLETS WILL NOT BE PROVIDED IF WALLS ARE NOT REPLACED UNDER ALTERNATE. DATA OUTLET SHALL BE BOX AND CONDUIT TO ABOVE CEILING AND BLANK PLATE. DO NOT PROVIDE CABLE.
5. CONNECT TO EXISTING SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "10".
6. CONNECT TO EXISTING SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "11".
7. PROVIDE RECEPTACLE FOR WASH BASIN TRANSFORMER. COORDINATE EXACT MOUNTING LOCATION WITH MECHANICAL CONTRACTOR. CONNECT CIRCUIT TO NEW 20 AMP 1 POLE GFCI CIRCUIT BREAKER IN EXISTING PANEL "13". CONCEAL RECEPTACLES BEHIND WASH BASIN.
8. CONNECT TO EXISTING SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "13".
9. REMOVE CIRCUIT BREAKER 13-6 AND 13-28. PROVIDE IN THESE SPACES TWO 20 AMP 1 POLE GFCI TYPE CIRCUIT BREAKERS.
10. PROVIDE NEW DEVICES IN NEW CASEWORK. COORDINATE EXACT LAYOUT WITH CASEWORK SUPPLIER. REUSE EXISTING CIRCUITS.
11. RECEPTACLES FOR WATER COOLERS. COORDINATE MOUNTING LOCATION WITH PLUMBER. CONCEAL RECEPTACLES BEHIND WATER COOLER.
12. CONNECT CIRCUIT TO NEW 20 AMP 1 POLE GFCI CIRCUIT BREAKER IN EXISTING PANEL "09".
13. CONNECT CIRCUIT TO NEW 20 AMP 1 POLE GFCI CIRCUIT BREAKER IN EXISTING PANEL "13".
14. NEW CEILING MOUNT PROJECTOR. ROUTE ONE CAT-6 CABLE FORM A/V GEARBOX TO PROJECTOR. REUSE EXISTING HDMI CABLE IF POSSIBLE. IF EXISTING HDMI CABLE WILL NOT REACH NEW LOCATIONS PROVIDE NEW CABLE. VERIFY EXISTING CONDITIONS IN FIELD.
15. CONNECT NEW CLOCK TO EXISTING DUKANE STARCALL SYSTEM. (TYPICAL ALL CLOCKS).
16. NEW FIRE ALARM DEVICE.
17. STUB 3-4" CONDUIT TO FIRST FLOOR AND OPEN END ABOVE CEILING ON FIRST FLOOR AND ABOVE CEILING ON 2ND FLOOR FOR DATA CABLING. PROVIDE BUSHINGS ON ENDS.
18. STUB 3-4" CONDUITS UP INTO MECHANICAL 382M FOR DATA CABLING. COORDINATE WITH DUCTWORK IN CHASE AND HEAT PUMPS ABOVE. STUB UP TO 5'-0 AFF IN MECHANICAL 382M AND ABOVE CEILING AND SECOND FLOOR. PROVIDE BUSHINGS ON BOTH ENDS.
19. PROVIDE 3-4" SLEEVES ABOVE CEILING THROUGH WALL FOR DATA CABLING. PROVIDE BUSHINGS ON ENDS.
20. REUSE CIRCUIT THAT FED RECEPTACLES THAT WERE REMOVED FORM THIS LOCATION.
21. NEW RECEPTACLE IN CEILING FOR PROJECTOR.
22. CEILING MOUNTED A/V GEAR BOX. BOX SHALL BE INSTALLED IN LIEU OF ONE 2'X2' ACOUSTICAL CEILING TILE. PROVIDE A QUAD-PLEX RECEPTACLE INSIDE THE A/V GEAR BOX AND CIRCUIT AS SHOWN. REFER TO A/V GEAR BOX DETAIL ON SHEET E6.0 FOR MORE INFORMATION.
23. WALL MOUNTED PROJECTOR LOCATION. ROUTE ONE CAT-6 PATCH CABLE FROM A/V GEAR BOX AND ROUTE ONE HDMI CABLE FROM JUNCTION BOX DESIGNATED BY NOTE #27 TO NEW JUNCTION BOX LOCATED ABOVE WHITEBOARD. REFER TO DETAIL 2 AND DETAIL 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
24. ROUTE 2-CAT-6A CABLES AND FOUR CAT-6 CABLES TO CEILING MOUNTED A/V GEAR BOX FROM DATA RACK.
25. WIRELESS ACCESS POINT. ROUTE TWO CAT-6A PATCH CABLES FROM A/V GEAR BOX TO WIRELESS ACCESS POINT. LOCATE WAP AS CLOSE TO CENTER OF ROOM AS CONDITIONS WILL ALLOW. REFER TO DETAIL 6 AND DETAIL 7 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
26. PROVIDE DUPLEX RECEPTACLE IN NEW JUNCTION BOX MOUNTED ABOVE WHITE BOARD FOR POWER CONNECTION TO WALL MOUNTED PROJECTOR AND CIRCUIT AS SHOWN. REFER TO DETAIL 2 AND DETAIL 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
27. A/V OUTLET LOCATION ROUTE ONE HDMI CABLE FROM THE JUNCTION BOX TO THE PROJECTOR LOCATION. PROVIDE JUNCTION BOX AT 18" AFF. REFER TO DETAILS 2 AND 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
28. TEACHING DESK LOCATION. ROUTE ONE CAT-6 PATCH CABLE FROM A/V GEAR BOX TO THIS LOCATION. PROVIDE JUNCTION BOX MOUNTED AT 46" AFF. REFER TO DETAILS 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
29. REFER TO TECHNOLOGY READY CLASSROOM CABLING DETAIL, DETAIL 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
30. LOCATION OF EXISTING DATA RACK TO SERVE ALL NEW DATA DROPS IN THIS PROJECT. CONTRACTOR TO PROVIDE ADDITIONAL CAT-6 AND CAT-6A PATCH PANELS FOR ALL NEW DATA DROPS.

BELMONT ELEMENTARY
IAQ - SECOND FLOOR
PLAN - AREA A - ELECTRICAL

SCALE: NONE | MAB

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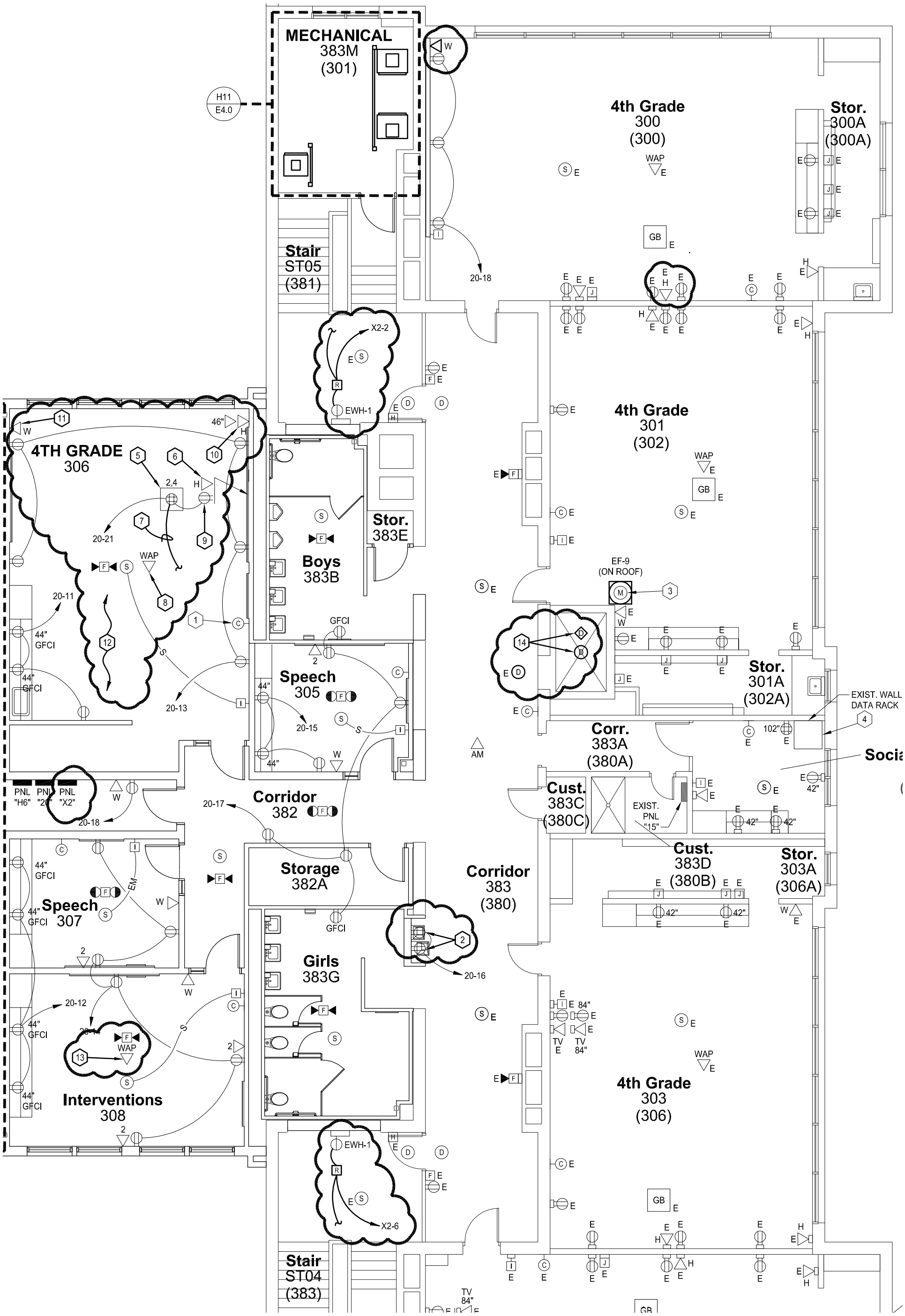
ETI Project No: (2016-136)

ADD #1
SHEET E3.2A
ATTACHMENT NO. 6
03/09/2017



BELMONT ELEMENTARY IAQ - THIRD FLOOR PLAN- AREA A - ELECTRICAL

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

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ETI Project No: (2016-136)

ADD #1

SHEET
E3.3A

ATTACHMENT NO.
1

03/09/2017

(#) SHEET NOTES

1. CONNECT CLOCK TO EXISTING DUKANE STARCALL SYSTEM. (TYPICAL ALL NEW CLOCKS)
2. RECEPTACLES FOR WATER COOLERS. COORDINATE MOUNTING WITH PLUMBER. CONCEAL RECEPTACLES BEHIND WATER COOLER.
3. MECHANICAL CONTRACTOR TO REMOVE AND REPLACE EXISTING EXHAUST FAN. THIS CONTRACTOR TO REMOVE EXISTING ELECTRICAL CONNECTION AND RECONNECT THE EXISTING CIRCUIT TO NEW EXHAUST FAN.
4. DO NOT RUN ANY NEW DATA TO THIS RACK. ALL NEW DATA SHALL RUN TO DATA 2ZZA.
5. CEILING MOUNTED A/V GEAR BOX. BOX SHALL BE INSTALLED IN LIEU OF ONE 2'X2' ACOUSTICAL CEILING TILE. PROVIDE A QUAD-PLEX RECEPTACLE INSIDE THE A/V GEAR BOX AND CIRCUIT AS SHOWN. REFER TO A/V GEAR BOX DETAIL ON SHEET E6.0 FOR MORE INFORMATION.
6. WALL MOUNTED PROJECTOR LOCATION. ROUTE ONE CAT-6 PATCH CABLE FROM A/V GEAR BOX AND ROUTE ONE HDMI CABLE FROM JUNCTION BOX DESIGNATED BY NOTE #10 TO NEW JUNCTION BOX LOCATED ABOVE WHITEBOARD. REFER TO DETAIL 2 AND DETAIL 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
7. ROUTE 2-CAT-6A CABLES AND FOUR CAT-6 CABLES TO CEILING MOUNTED A/V GEAR BOX FROM DATA RACK.
8. WIRELESS ACCESS POINT. ROUTE TWO CAT-6A PATCH CABLES FROM A/V GEAR BOX TO WIRELESS ACCESS POINT. LOCATE WAP AS CLOSE TO CENTER OF ROOM AS CONDITIONS WILL ALLOW. REFER TO DETAIL 6 AND DETAIL 7 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
9. PROVIDE DUPLEX RECEPTACLE IN NEW JUNCTION BOX MOUNTED ABOVE WHITE BOARD FOR POWER CONNECTION TO WALL MOUNTED PROJECTOR AND CIRCUIT AS SHOWN. REFER TO DETAIL 2 AND DETAIL 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
10. A/V OUTLET LOCATION ROUTE ONE HDMI CABLE FROM THE JUNCTION BOX TO THE PROJECTOR LOCATION. PROVIDE JUNCTION BOX AT 18" AFF. REFER TO DETAILS 2 AND 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
11. TEACHING DESK LOCATION. ROUTE ONE CAT-6 PATCH CABLE FROM A/V GEAR BOX TO THIS LOCATION. PROVIDE JUNCTION BOX MOUNTED AT 46" AFF. REFER TO DETAILS 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
12. REFER TO TECHNOLOGY READY CLASSROOM CABLING DETAIL, DETAIL 6 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
13. WIRELESS ACCESS POINT. ROUTE TWO CAT-6A CABLES FROM EXISTING DATA RACK TO WIRELESS ACCESS POINT. REFER TO DETAIL 7 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.
14. NEW FIRE ALARM DEVICE LOCATED AT TOP OF ELEVATOR SHAFT.

BELMONT ELEMENTARY
IAQ - THIRD FLOOR PLAN - AREA A - ELECTRICAL

SCALE: NONE | MAB

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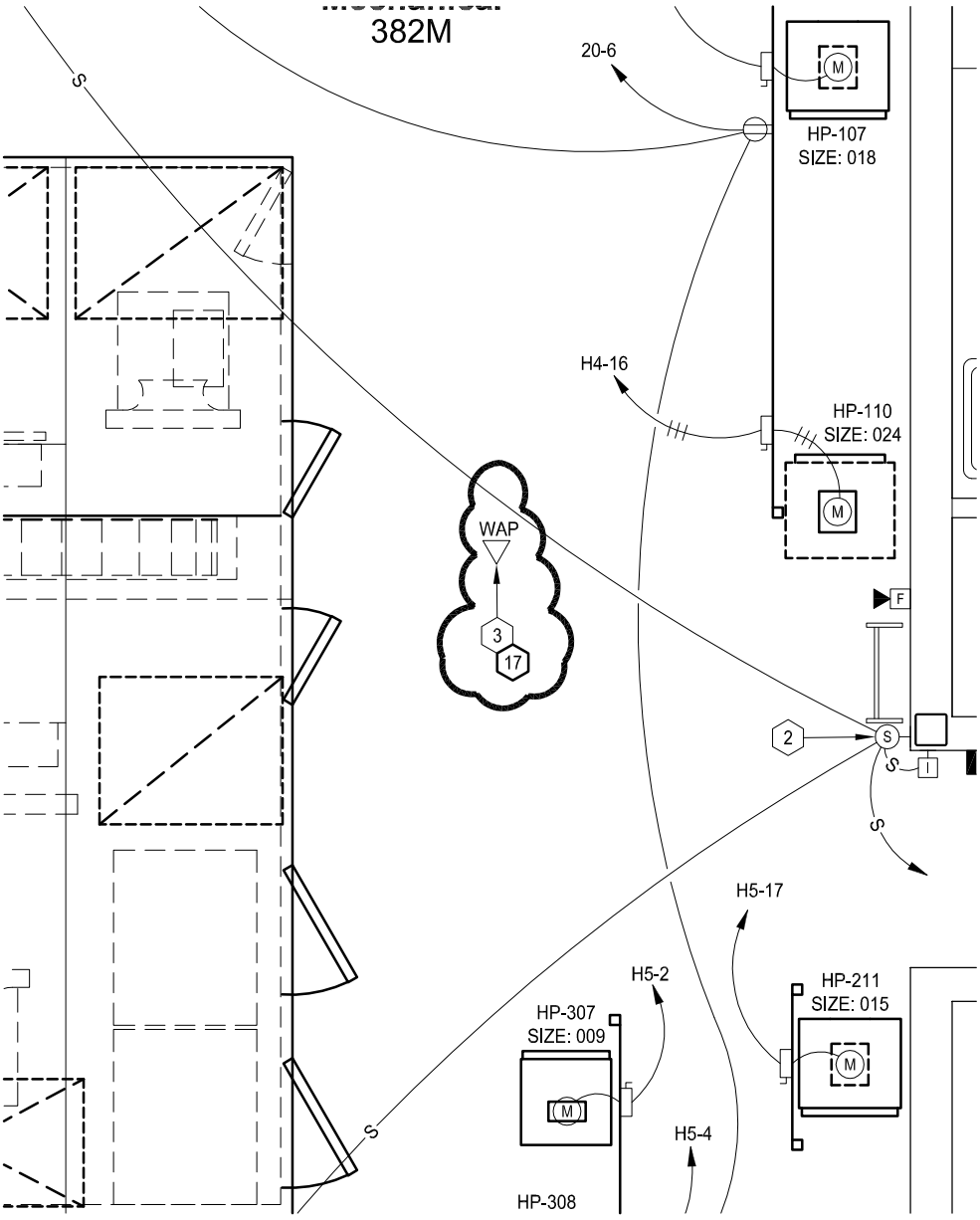
ETI Project No: (2016-136)

ADD #1
SHEET E3.3A
ATTACHMENT NO. 2
03/09/2017



BELMONT ELEMENTARY
IAQ - ENLARGED PLANS - ELECTRICAL

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

MAB

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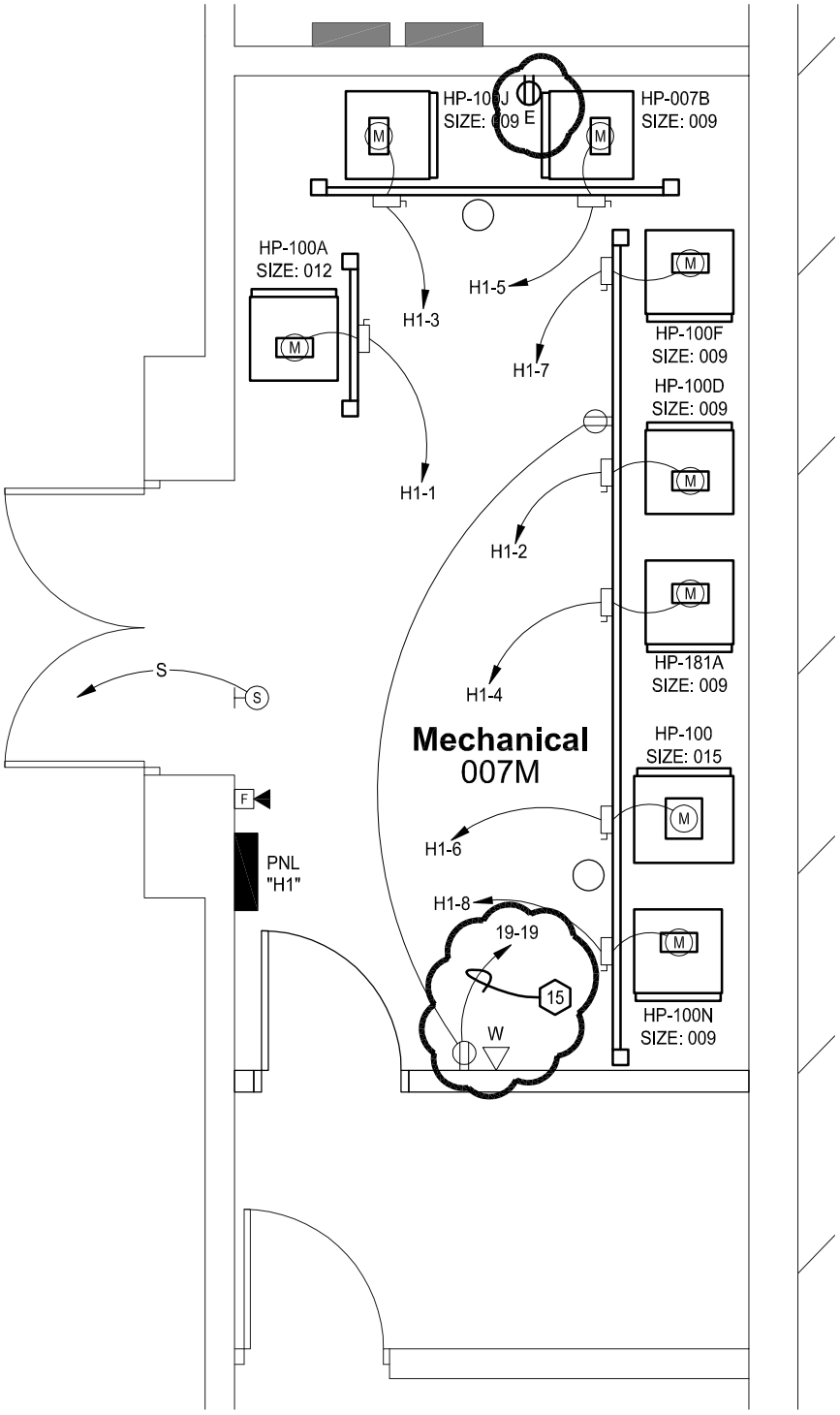
ETI Project No: (2016-136)

ADD #1

SHEET
E4.0

ATTACHMENT NO.
1

03/09/2017



BELMONT ELEMENTARY
IAQ - ENLARGED PLANS - ELECTRICAL

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

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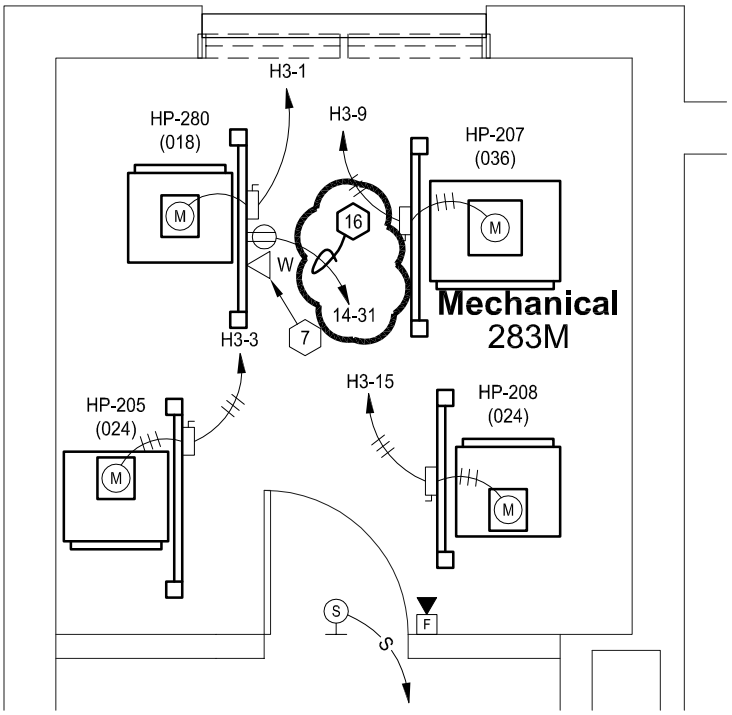
ETI Project No: (2016-136)

ADD #1

SHEET
E4.0

ATTACHMENT NO.
2

03/09/2017



BELMONT ELEMENTARY
IAQ - ENLARGED PLANS - ELECTRICAL

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

MAB

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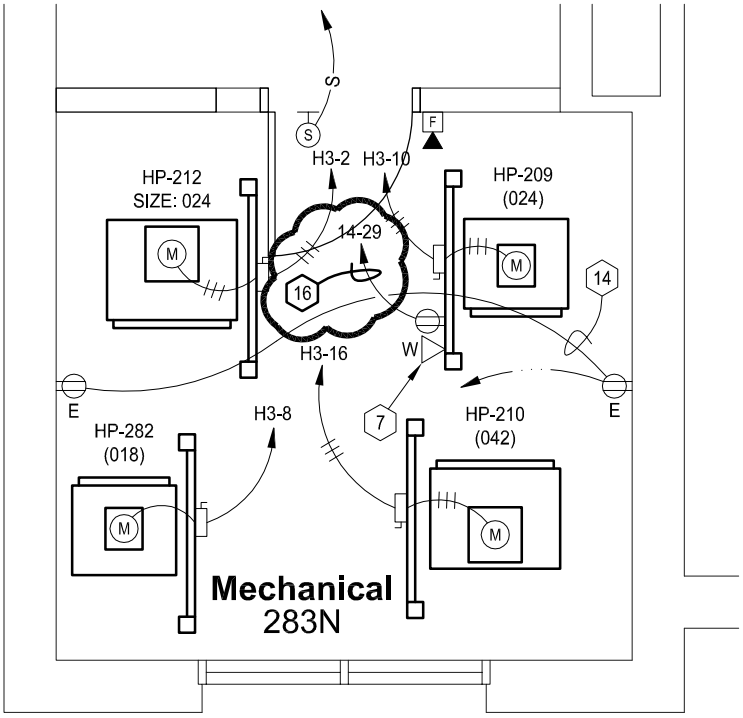
ETI Project No: (2016-136)

ADD #1

SHEET
E4.0

ATTACHMENT NO.
3

03/09/2017



BELMONT ELEMENTARY
IAQ - ENLARGED PLANS - ELECTRICAL

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

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ETI Project No: (2016-136)

ADD #1

SHEET
E4.0

ATTACHMENT NO.
4

03/09/2017

SHEET NOTES

1. MAKE CONNECTION TO WATER HEATER AS REQUIRED.
2. HORN TYPE INTERCOM SPEAKER. EXTEND CIRCUIT TO EXISTING INTERCOM SYSTEM.
3. COORDINATE WAP MOUNTING WITH PIPING AND DUCTWORK.
4. CIRCUIT TO GENERATOR HEATER.
5. CIRCUIT TO GENERATOR BATTERY CHARGER.
6. PROVIDE DATA LINE TO GENERATOR CONTROLS.
7. MOUNT RECEPTACLE AND DATA OUTLET TO UNISTRUT. UNISTRUT BY MECHANICAL. (TYPICAL).
8. THERE SHALL BE A "MOCK-UP" OF PIPING AND ELECTRICAL PRIOR TO ROUGH IN OF HEAT PUMP CIRCUITS. (TYPICAL).
9. EMERGENCY GENERATOR SHUTDOWN STATION. PROVIDE ENGRAVED NAMEPLATE.
10. EXTEND CIRCUIT TO REMOTE GENERATOR ANNUNCIATOR LOCATED IN 184C. SEE SHEET E3.1A.
11. CONNECT TO SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "15".
12. CONNECT TO SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "10".
13. CONNECT TO SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "11".
14. CONNECT EXISTING RECEPTACLE TO EXISTING RECEPTACLE CIRCUIT AS REQUIRED.
15. CONNECT TO SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "19"
16. CONNECT TO SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL "14".
17. WIRELESS ACCESS POINT. ROUTE TWO CAT-6A CABLES FROM EXISTING DATA RACK TO WIRELESS ACCESS POINT. REFER TO DETAIL 7 ON SHEET E6.0 FOR ADDITIONAL INFORMATION.

BELMONT ELEMENTARY
IAQ - ENLARGED PLANS - ELECTRICAL

SCALE: NONE | MAB

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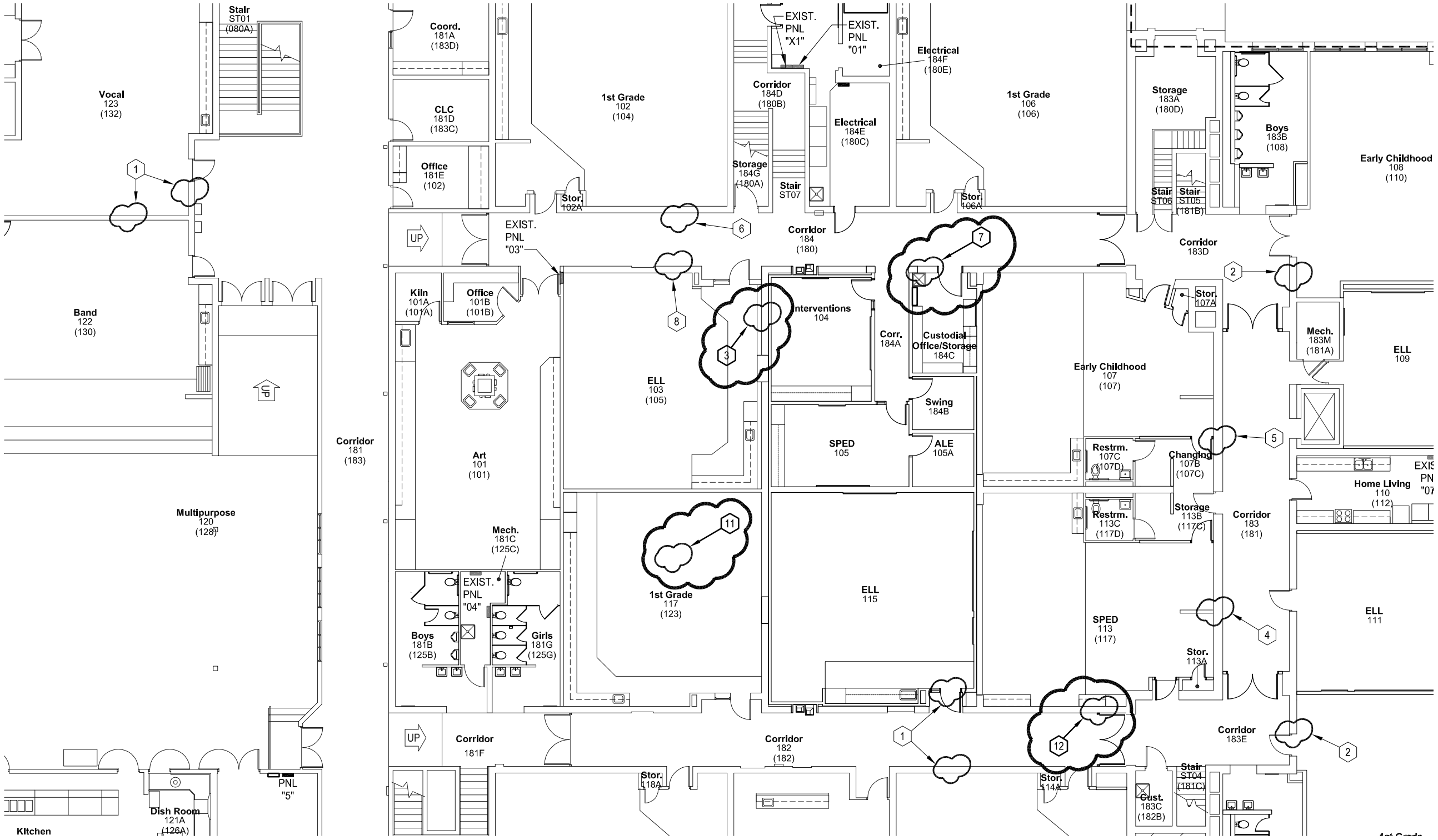
ETI Project No: (2016-136)

ADD #1
SHEET E4.0
ATTACHMENT NO. 5
03/09/2017

SHEET NOTES

11. APPROXIMATE LOCATION OF EXISTING A/V GEAR BOX THAT CONFLICTS WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE ALL CABLING AND CONDUIT TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.

12. APPROXIMATE LOCATION OF EXISTING FIRE ALARM JUNCTION BOX THAT CONFLICTS WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THIS ITEM TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.



BELMONT ELEMENTARY IAQ - OVERALL FIRST FLOOR PLAN - ELECTRICAL

SCALE: 1/16" = 1'-0"

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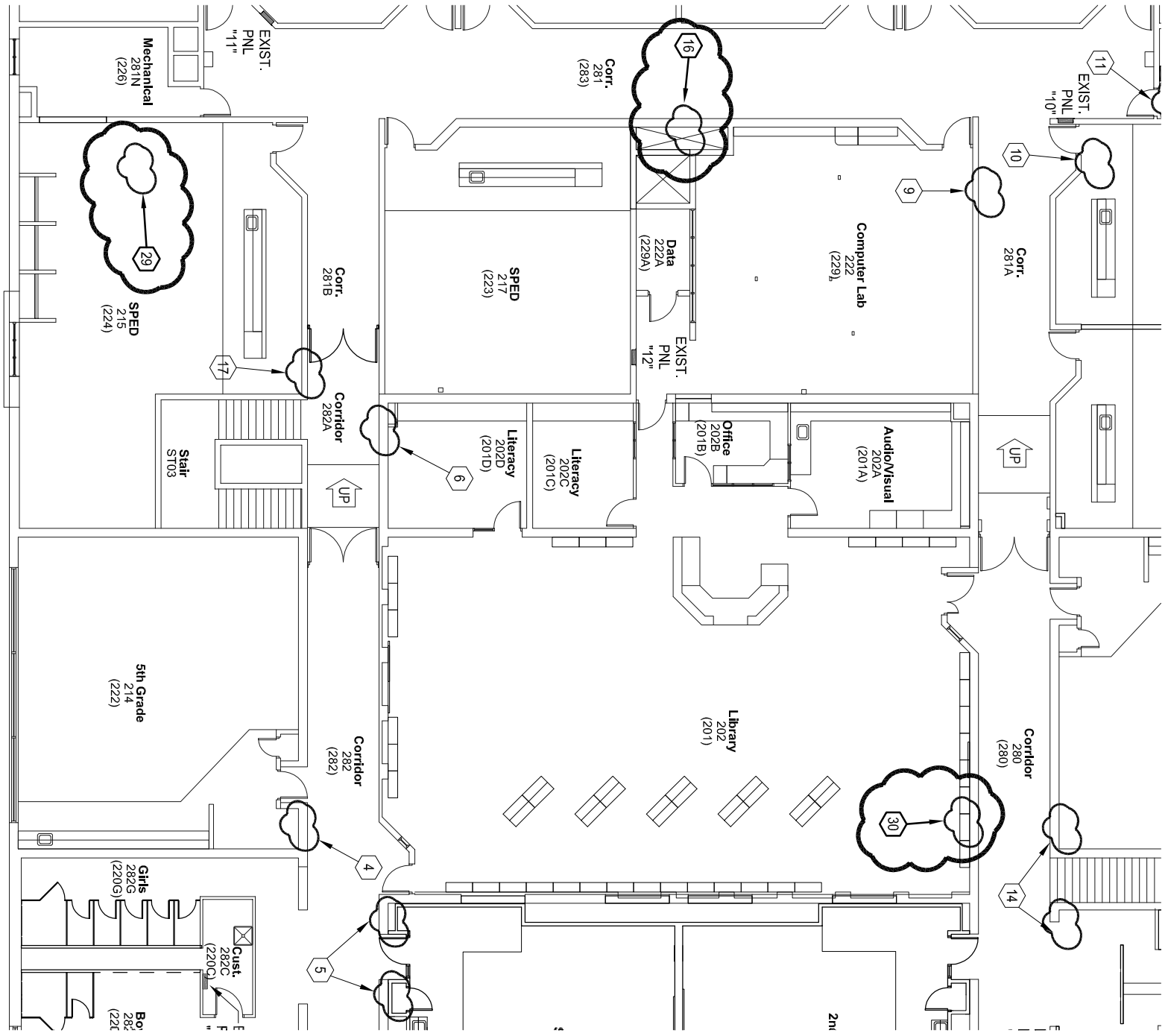
ETI Project No: (2016-136)

ADD #1	SHEET	ATTACHMENT NO.	03/09/2017
	E4.1	1	

MAB



BELMONT ELEMENTARY IAQ - OVERALL SECOND AND THIRD FLOOR PLAN - ELECTRICAL

SCALE: 1/16" = 1'-0"

MAB

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ETI Project No: (2016-136)

ADD #1

SHEET
E4.2

ATTACHMENT NO.
1

03/09/2017

BELMONT ELEMENTARY IAQ - OVERALL SECOND AND THIRD FLOOR PLAN - ELECTRICAL

SCALE: NONE

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ETI Project No: (2016-136)

MAB	ADD #1
	SHEET E4.2
	ATTACHMENT NO. 2
	03/09/2017

SHEET NOTES

1. APPROXIMATE LOCATION OF 2 EXISTING 3/4" CONDUITS THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
2. APPROXIMATE LOCATION OF 1 EXISTING 1/2" CONDUITS THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
3. APPROXIMATE LOCATION OF 6 EXISTING 1/2" CONDUITS 3 EXISTING ELECTRICAL JUNCTION BOXES AND 1 EXISTING FIBER OPTIC CABLE THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
4. APPROXIMATE LOCATION OF 3 EXISTING 1/2" CONDUITS THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
5. APPROXIMATE LOCATION OF 3 EXISTING 1/2" CONDUITS AND 12 DATA CABLES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
6. APPROXIMATE LOCATION OF 5 EXISTING 3/4" CONDUITS, 2 EXISTING ELECTRICAL JUNCTION BOXES AND 12 DATA CABLES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
7. APPROXIMATE LOCATION OF 6 EXISTING DATA CABLES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
8. APPROXIMATE LOCATION OF 1 EXISTING 1/2" CONDUIT AND 6 DATA CABLES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
9. APPROXIMATE LOCATION OF 30 EXISTING DATA CABLES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
10. APPROXIMATE LOCATION OF 3 EXISTING 1/2" CONDUITS, 1 EXISTING ELECTRICAL JUNCTION BOX AND 6 EXISTING DATA CABLES IN SLEEVE THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
11. APPROXIMATE LOCATION OF 3 EXISTING 3/4" CONDUITS AND 3 EXCISING DATA CABLES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
12. APPROXIMATE LOCATION OF 3 EXISTING 3/4" CONDUITS AND EXISTING ELECTRICAL JUNCTION BOX THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
13. APPROXIMATE LOCATION OF 4 EXISTING ELECTRICAL JUNCTION BOXES FOR LIGHTING AND POWER THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
14. APPROXIMATE LOCATION OF 2 EXISTING 1/2" CONDUITS THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
15. APPROXIMATE LOCATION OF 3 EXISTING 1/2" CONDUITS AND 1 EXISTING ELECTRICAL JUNCTION BOX THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
16. APPROXIMATE LOCATION OF CONDUIT IN WALL FOR EXISTING CLOCK, 3 EXISTING 3/4" CONDUITS AND 1 EXISTING ELECTRICAL JUNCTION BOX THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES
17. APPROXIMATE LOCATION OF 2 EXISTING 3/4" CONDUITS FOR FIRE ALARM SYSTEM AND 1 JUNCTION BOX THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
18. APPROXIMATE LOCATION OF 2 EXISTING 3/4" CONDUITS AND 2 EXISTING ELECTRICAL JUNCTION BOXES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
19. APPROXIMATE LOCATION OF 6 EXISTING 1/2" CONDUITS AND 2 EXISTING ELECTRICAL JUNCTION BOXES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
20. APPROXIMATE LOCATION OF 1 EXISTING 1/2" CONDUIT AND 6 EXISTING DATA CABLES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
21. APPROXIMATE LOCATION OF 6 EXISTING DATA CABLES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
22. APPROXIMATE LOCATION OF 3 EXISTING 1/2" CONDUITS AND 15 EXISTING DATA CABLES IN 4 SLEEVES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
23. APPROXIMATE LOCATION OF 12 EXISTING DATA CABLES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES
24. APPROXIMATE LOCATION OF 1 EXISTING 1/2" CONDUIT, EXISTING DATA CABLING AND 3 EXISTING ELECTRICAL JUNCTION BOXES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION, RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
25. APPROXIMATE LOCATION OF 1 EXISTING 1/2" CONDUIT THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
26. APPROXIMATE LOCATION OF 6 EXISTING 1/2" LIGHTING CONDUITS THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
27. APPROXIMATE LOCATION OF 2 EXISTING 1/2" CONDUITS AND 6 EXISTING DATA CABLES THAT CONFLICT WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
28. APPROXIMATE LOCATION OF EXISTING ELECTRICAL JUNCTION BOX THAT CONFLICTS WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THIS ITEM TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
29. APPROXIMATE LOCATION OF EXISTING A/V GEAR BOX THAT CONFLICTS WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE ALL CABLING AND CONDUIT TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.
30. APPROXIMATE LOCATION OF 3 EXISTING 1/2" CONDUITS AND EXISTING ELECTRICAL JUNCTION BOX THAT CONFLICTS WITH NEW DUCTWORK IN THIS LOCATION. RE-ROUTE THESE ITEMS TO FACILITATE NEW DUCTWORK. COORDINATE WITH OTHER TRADES.

DISTRIBUTION PANEL SCHEDULE

PANEL "XMD" | VOLTAGE | PHASE | 65 KAIC RMS | 225A MAIN BREAKER

EST. MAX DEMAND 34 KVA | 120 / 208V | 3Ø | 4 WIRE, SOLID NEUTRAL

CKT. NO.	SERVES	LOAD (KVA)	BREAKER SIZE	BREAKER POLE	CONDUCTORS NO.	CONDUCTORS SIZE	CONDUCTORS TYPE	GND SIZE	CONDUIT NO.	CONDUIT SIZE	REMARKS
1	EXISTING PANEL "X"	7.6	100	3	4	3	THWN	8	1	1 1/4"	-
2	EXISTING PANEL "X"	11.5	100	3	4	3	THWN	8	1	1 1/4"	-
3	PANEL "X2"	15.0	100	3	4	3	THWN	8	1	1 1/4"	-
4	SPACE ONLY	-	200	3	-	-	-	-	-	-	-
5	SPACE ONLY	-	200	3	-	-	-	-	-	-	-
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											-

NOTES: 1.

PANEL SCHEDULE

PANEL "X2" | VOLTAGE | PHASE | 10 KAIC RMS | 100 A MAIN LUGS

120 / 208V | 3Ø | 4 WIRE, SOLID NEUTRAL | SURFACE MOUNTED

LOAD DESCRIPTION	LOAD VA	LOAD TYPE	BREAKER POLES	BREAKER AMPS	NO.	PHASE	NO.	BREAKER AMPS	BREAKER POLES	LOAD TYPE	LOAD VA	LOAD DESCRIPTION
EWH-1	2,000	X	2	25	1	A	2	25	2	X	2,000	EWH-1
-	2,000	X	-	-	3	B	4	-	-	X	2,000	-
EWH-1	2,000	X	2	25	5	C	6	25	2	X	2,000	EWH-1
-	2,000	X	-	-	7	A	8	-	-	X	2,000	-
EWH-1	2,000	X	2	25	9	B	10	20	1	S	1,000	SPARE
-	2,000	X	-	-	11	C	12	20	1	S	1,000	SPARE
SPARE	1,000	S	1	20	13	A	14	20	1	S	1,000	SPARE
SPARE	1,000	S	1	20	15	B	16	20	1	S	1,000	SPARE
SPACE ONLY	-	-	1	20	17	C	18	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	19	A	20	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	21	B	22	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	23	C	24	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	25	A	26	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	27	B	28	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	29	C	30	20	1	-	-	SPACE ONLY

LOAD INFORMATION	KVA	AMPS
TOTAL CONNECTED LOAD	26	72
EST. MAX DEMAND	15	42

NOTES:
1.

BELMONT ELEMENTARY
IAQ - ELECTRICAL SCHECULES

SCALE: NONE | MAB

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ETI Project No: (2016-136)

ADD #1

SHEET E5.0

ATTACHMENT NO. 1

03/09/2017

PANEL SCHEDULE

PANEL "H3" | VOLTAGE 277 / 480V | PHASE 3Ø | 4 WIRE, SOLID NEUTRAL | 14 KAIC RMS | 225 A MAIN LUGS | SURFACE MOUNTED

LOAD DESCRIPTION	LOAD VA	LOAD TYPE	BREAKER POLES	BREAKER AMPS	NO.	PHASE	NO.	BREAKER AMPS	BREAKER POLES	LOAD TYPE	LOAD VA	LOAD DESCRIPTION
HP-280	2,050	M	1	15	1	A	2	15	3	M	2,300	HP-212
HP-205	2,300	M	3	15	3	B	4	-	-	M	2,300	-
-	2,300	M	-	-	5	C	6	-	-	M	2,300	-
-	2,300	M	-	-	7	A	8	15	1	M	2,050	HP-282
HP-207	3,100	M	3	15	9	B	10	15	3	M	2,300	HP-209
-	3,100	M	-	-	11	C	12	-	-	M	2,300	-
-	3,100	M	-	-	13	A	14	-	-	M	2,300	-
HP-208	2,300	M	3	15	15	B	16	15	3	M	3,300	HP-210
-	2,300	M	-	-	17	C	18	-	-	M	3,300	-
-	2,300	M	-	-	19	A	20	-	-	M	3,300	-
SPACE ONLY	-	-	1	20	21	B	22	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	23	C	24	20	1	S	1,000	SPARE
SPARE	1,000	S	1	20	25	A	26	20	1	S	1,000	SPARE
SPARE	1,000	S	1	20	27	B	28	20	1	S	1,000	SPARE
SPARE	1,000	S	1	20	29	C	30	20	1	S	1,000	SPARE
SPACE ONLY	-	-	1	20	31	A	32	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	33	B	34	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	35	C	36	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	37	A	38	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	39	B	40	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	41	C	42	20	1	-	-	SPACE ONLY

LOAD INFORMATION	KVA	AMPS
TOTAL CONNECTED LOAD	58	70
EST. MAX DEMAND	38	46

NOTES:
1.

PANEL SCHEDULE

PANEL "H6" | VOLTAGE 277 / 480V | PHASE 3Ø | 4 WIRE, SOLID NEUTRAL | 14 KAIC RMS | 100 A MAIN LUGS | SURFACE MOUNTED

LOAD DESCRIPTION	LOAD VA	LOAD TYPE	BREAKER POLES	BREAKER AMPS	NO.	PHASE	NO.	BREAKER AMPS	BREAKER POLES	LOAD TYPE	LOAD VA	LOAD DESCRIPTION
HP-305	1,040	M	1	15	1	A	2	15	1	M	2,050	HP-383
HP-300	2,100	M	3	15	3	B	4	15	1	M	1,040	HP-302
-	2,100	M	-	-	5	C	6	15	3	M	3,300	HP-303
-	2,100	M	-	-	7	A	8	-	-	M	3,300	-
HP-301	3,300	M	3	15	9	B	10	-	-	M	3,300	-
-	3,300	M	-	-	11	C	12	15	3	M	3,300	HP-304
-	3,300	M	-	-	13	A	14	-	-	M	3,300	-
SPACE ONLY	-	-	1	20	15	B	16	-	-	M	3,300	-
SPARE	1,000	S	1	20	17	C	18	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	19	A	20	20	1	S	1000	SPARE
SPACE ONLY	-	-	1	20	21	B	22	25	1	-	-	SPARE ONLY
SPACE ONLY	-	-	1	20	23	C	24	20	1	-	-	SPARE ONLY
SPACE ONLY	-	-	1	20	25	A	26	20	1	-	-	SPARE ONLY
SPACE ONLY	-	-	1	20	27	B	28	20	1	-	-	SPARE ONLY
SPACE ONLY	-	-	1	20	29	C	30	20	1	-	-	SPARE ONLY

LOAD INFORMATION	KVA	AMPS
TOTAL CONNECTED LOAD	42	51
EST. MAX DEMAND	30	36

NOTES:
1.

BELMONT ELEMENTARY
IAQ - ELECTRICAL
SCHECULES

SCALE: NONE | MAB

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ETI Project No: (2016-136)

ADD #1
SHEET E5.0
ATTACHMENT NO. 2
03/09/2017

EQUIPMENT CONNECTION SCHEDULE

EQUIP.	DESCRIPTION	KW	HP	VOLTS	PHASE	WIRING	DISCONNECT SWITCH	MOTOR STARTER	CONNECTION	REMARKS
ERU-2	ENERGY RECOVERY UNIT	65.5	-	480	3Ø	3-#1 #6 GND 1-1/2" C	INTEGRAL TO VFD	VFD BY MECH	DIRECT	-
EWH-1	ELECTRICAL WALL HEATER	4	-	208	1Ø	2-#10 #10 GND 3/4" C	INTEGRAL TO UNIT	-	DIRECT	PROVIDE QMARK MODEL AWH4408F WITH SURFACE MOUNTING FRAME KIT AWHSM AND CONNECT THROUGH RELAY FOR BUILDING MANAGEMENT SYSTEM
HUH-1	HORIZONTAL UNIT HEATER	-	1/8	120	1Ø	2-#12 #12 GND 3/4" C	STE	-	DIRECT	-

PANEL SCHEDULE

PANEL "H5" VOLTAGE 277 / 480V PHASE 3Ø 4 WIRE, SOLID NEUTRAL 14 KAIC RMS 225 A MAIN LUGS SURFACE MOUNTED

LOAD DESCRIPTION	LOAD VA	LOAD TYPE	BREAKER POLES	BREAKER AMPS	NO.	PHASE	NO.	BREAKER AMPS	BREAKER POLES	LOAD TYPE	LOAD VA	LOAD DESCRIPTION
HP-103	1,500	M	1	15	1	A	2	15	1	M	1,040	HP-307
HP-105	1,040	M	1	15	3	B	4	15	1	M	2,050	HP-308
HP-101	1,500	M	1	15	5	C	6	15	3	M	2,300	HP-111
HP-115	1,500	M	1	15	7	A	8	-	-	M	2,300	-
HP-117	1,500	M	1	15	9	B	10	-	-	M	2,300	-
HP-214	3,300	M	3	15	11	C	12	15	3	M	3,100	HP-114
-	3,300	M	-	-	13	A	14	-	-	M	3,100	-
-	3,300	M	-	-	15	B	16	-	-	M	3,100	-
HP-211	1,500	M	1	15	17	C	18	15	1	M	1,500	HP-116
HP-213	1,500	M	1	15	19	A	20	15	3	M	3,100	HP-118
HP-113	1,500	M	1	15	21	B	22	-	-	M	3,100	-
HP-112	3,300	M	3	15	23	C	24	-	-	M	3,100	-
-	3,300	M	-	-	25	A	26	20	1	S	1,000	SPARE
-	3,300	M	-	-	27	B	28	20	1	S	1,000	SPARE
SPACE ONLY	-	-	1	20	29	C	30	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	31	A	32	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	33	B	34	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	35	C	36	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	37	A	38	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	39	B	40	20	1	-	-	SPACE ONLY
SPACE ONLY	-	-	1	20	41	C	42	20	1	-	-	SPACE ONLY

LOAD INFORMATION	KVA	AMPS
TOTAL CONNECTED LOAD	63	76
EST. MAX DEMAND	46	55

NOTES:
1.

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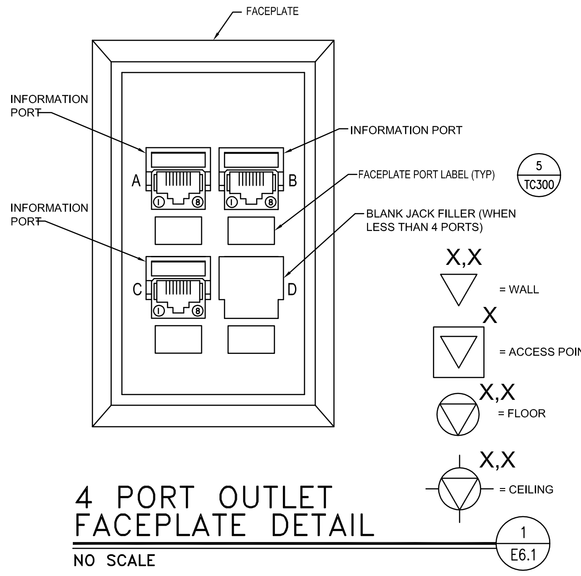
ETI Project No: (2016-136)

ADD #1 | SHEET E5.0 | ATTACHMENT NO. 3 | 03/09/2017

MAB

BELMONT ELEMENTARY IAQ - OVERALL SECOND AND THIRD FLOOR PLAN - ELECTRICAL

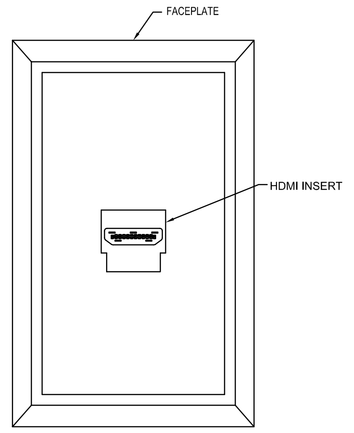
SCALE: NONE



4 PORT OUTLET FACEPLATE DETAIL

NO SCALE

1 / E6.1

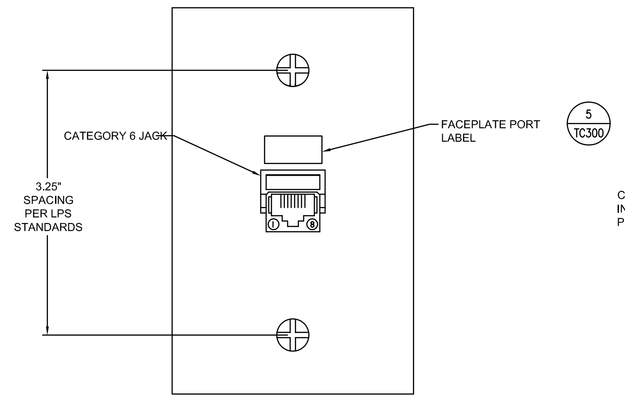


1 PORT AV FACEPLATE

NO SCALE

H

2 / E6.1

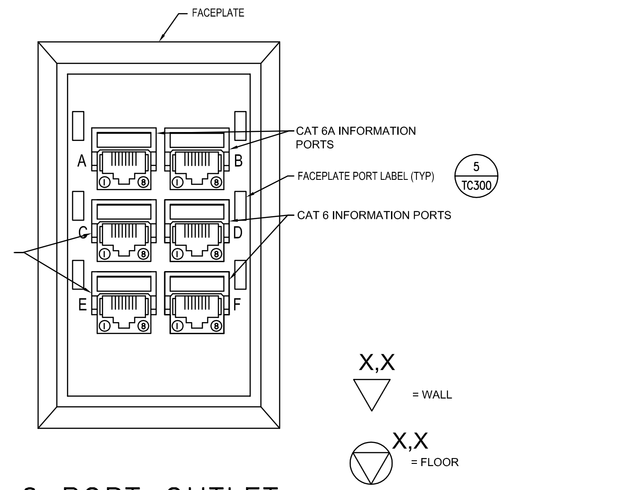


WALL PHONE – VOICE ONLY FACEPLATE DETAIL

NO SCALE

W

3 / E6.1



6 PORT OUTLET FACEPLATE DETAIL (GEAR BOX)

NO SCALE

4 / E6.1

TELECOMMUNICATIONS SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
X,X R/W/S	COMMUNICATIONS OUTLET – "S" INDICATES STATION NUMBER, "R" INDICATES ROUGH IN TYPE AND "X" INDICATES JACK AND CABLE TYPE AND NUMBER "C" INDICATES MOUNTED ABOVE COUNTER "UC" INDICATES MOUNTED UNDER COUNTER "H" INDICATES HDMI "W" INDICATES WALL PHONE HANGER PLATE	X R/WAP S	WIRELESS ACCESS POINT – "S" INDICATES STATION NUMBER, "R" INDICATES ROUGH IN TYPE AND "X" INDICATES JACK AND CABLE TYPE AND NUMBER	X,X S	FLOOR COMMUNICATION OUTLET – "S" INDICATES STATION NUMBER AND "X" INDICATES JACK AND CABLE TYPE AND NUMBER
				X,X S	CEILING COMMUNICATION OUTLET – "S" INDICATES STATION NUMBER AND "X" INDICATES JACK AND CABLE TYPE AND NUMBER
X,X,H	# OF CAT 6A # OF CAT 6 HDMI (IF APPLICABLE)		CLOSED CIRCUIT SECURITY CAMERA		CEILING MOUNTED PROJECTOR LOCATION
		CR	SECURITY CARD READER	•	DOOR CONTACT

POWER SYMBOL LEGEND

	DUPLEX CONVENIENCE RECEPTACLE		4-PLEX CONVENIENCE RECEPTACLE		CEILING MOUNTED A/V GEAR BOX WITH 4-PLEX RECEPTACLE
	CEILING MOUNTED RECEPTACLE	J	JUNCTION BOX	M	MOTOR CONNECTION, SEE PLAN AND SCHEDULE
J	DISCONNECT SWITCH – FUSED		BRANCH CIRCUIT PANEL	A–1	HOMERUN TO PANELBOARD, LETTER INDICATES PANEL DESIGNATION, NUMBER INDICATES CIRCUIT
FO	FIBER OPTICS RACEWAY	D	DATA SYSTEM RACEWAY	EM	EMERGENCY POWER AND LIGHTING CIRCUIT

MISCELLANEOUS SYMBOL LEGEND

	FLUORESCENT LIGHT FIXTURE	S, S^3, S^4	SINGLE POLE SWITCH, 3-WAY SWITCH AND 4-WAY SWITCH	1	PLAN OR DETAIL NOTE IDENTIFICATION
A	AMPERES	A/V	AUDIO/VISUAL	AWG	AMERICAN WIRE GAUGE
C	CONDUIT	CU	COPPER	EM	EMERGENCY
GND	GROUND	P	POLE	PNL	PANELBOARD
TYP	TYPICAL	V	VOLTS	W	WATTS

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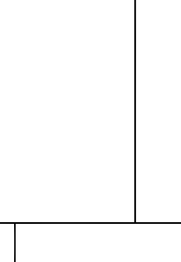
DATE: FEBRUARY 21, 2017	REVISION # - DATE
PROJECT NUMBER: 2016-136	ADDENDUM #1 - 03/09/2017
MECH. ENGINEER: DLT	
ELECT. ENGINEER: TAE	
MECH. DESIGNER: TLD	
ELECT. TECHNICIAN: MAB/TSK	

PROFESSIONAL ELECTRICAL ENGINEER
THOMAS A. ENNIS
E-10213
2/21/2017
STATE OF NEBRASKA



KEY PLAN

BELMONT ELEMENTARY
INDOOR AIR QUALITY IMPROVEMENTS

ELECTRICAL DETAILS

E6.1

A1 ELECTRICAL DETAILS
NONE