ADDENDUM # 2 *Dated: August 6, 2015*

TO CONTRACT DOCUMENTS FOR:

PRE-K-8 SCHOOL AT MOLLY OCKETT
MSAD # 72, FRYEBURG SCHOOL DISTRICT
FRYEBURG MAINE
BUILDING CONTRACT

PREPARED BY:

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To all interested parties:

This addendum modifies, amends, and supplements designated parts of the Contract Documents, Project Manuals, and Drawings for this Project (as noted above) and is hereby made an integral part thereof by reference and shall be as binding as though inserted in its entirety in the location specified herein. It shall be the responsibility of the Contractor to notify all Subcontractors and suppliers he/she proposes to use for the various parts of the work of any changes or modifications contained in this addendum. The Contractor shall acknowledge receipt of this addendum in the appropriate section of the Bid Form.

NOTICE TO BIDDERS:

The following documents are enclosed at the end of this addendum:

1. **Updated Table of Contents** **Pages 6**
2. **Sketch: Example clarification of casework alternate.** **Pages 1**
3. **Section 26 24 13 Switchboards** **Pages 6**
4. **Electrical Sketches, SKE-1 to SKE-15** **Pages 15**

PROJECT MANUAL:

1. 06 10 00, 2.3, F, Fire Retardant Treated Wood:
    a. F, delete items 1, 2, and 4.
    b. Revise item 3 as follows “Provide fire retardant treated wood blocking at the 2 hour rated wall.

2. 06 41 00 Modular Casework, 1.5 A: Add the following Pre-Qualified Manufacturer.
    a. Architectural Woodwork LTD., Conway, New Hampshire.
    b. 2.3 Hardware, D, add: Blum Metabox 320 series are an acceptable option for drawer units.
    c. 2.3, G add: Counter Support options: A and M Hardware / Rakks EH Series Counter Support Brackets are an acceptable option.
    d. 2.3, F, add the following acceptable leg option: Peter Meier, 841-N7-P2.

3. 07 26 16 Below Grade Vapor Retarders, 2.2 B, subject to compliance with requirements, change the product listed in item 4 to Viper Vaporcheck II.

4. 08 11 16, Fire Rated Aluminum Doors and Frames:
    a. This section applies to opening ME 105.1 located at the Main Entrance and as shown in the Miscellaneous Openings schedule on Drawing A7.2. This opening is rated due to location directly facing a required building exit.

5. 08 31 13 Access Doors and Frames: 3.3 Schedule: add the following notes:
    a. Access panels for radian floor manifolds and gwb ceilings shall be provided and installed as work of this section.
    b. 3.3, C change size of Radiant floor manifold access panels to 30" by 30" except where indicated otherwise.
    c. Refer to section 26 05 00 Common Work Results for HVAC for access panels to be provided as work of that section.

6. 08 41 13 Aluminum Entrances and Storefronts:
    a. 2.9, A, Manufacturers Full Range applies to the full range of colors offered by the Manufactures for this finish system.
    b. 2.9 Add the following: Provide 2 colors for project.
    c. 2.5 Hardware: add the following "See Section 08 71 00 Finish Hardware for hardware included in hardware set and work of that section. Hardware not specified in Hardware set shall be included as work of this section including weather stripping and thresholds.
    d. 2.5, B delete continuous geared hinge.
    e. 2.5, C delete strikes.
    f. 2.2 B Products, 2 Interior aluminum framed Storefronts: Note: Interior storefronts to have the same 2" site line as the exterior storefronts. All listed manufactures to provide to match Kawneer, Trifab VG (delete 450 change to) 451 interior storefront framing.

7. 08 71 00 Finish Hardware:
    a. 1.03, Related Work A, 3, Add the following sentence: Cylinders are work of Section 08 71 00 Finish Hardware.

8. 10 14 00 Signage: 2.3 Dimensional Letters and Numbers add item C as follows"
    a. C. Numbers for Exterior doors: Numerals available from Our Corner Market .com, shall be formed plastic, Helvetica style, 10" high with type 2C combination mounting pad/ studs designed to mount to masonry and various wall materials with studs anchored into the siding and surface mounting pad for epoxy adhesives. Color to be selected from manufactures full range of colors.
    b. Note: The school name shown on drawing A2.1 Exterior Elevations, detail A, is subject to change. Please include 20 letters.
    c. 3.4 Panel Sign Schedule: Change size of classroom signs to 6"x6".
        i. Delete signs for stairs or landings.

9. 10 80 00 Other Specialties, 2.4 Door Screens. Note: the only door with a screen is door E151.2 as shown in the door schedule. This is the exterior door to the Kitchen.

10. 11 66 23 Gymnasium Equipment, 2.3 Safety Pads, Delete entirely, there are no safety pads.

DRAWINGS:

11. Drawing A2.4, Exterior Elevations, detail 16/ A2.4: Change the exterior door ID sign to individual mounted formed plastic letters as specified in 10 14 00 Signs.(see elsewhere in this addenda)

12. Drawing A5.01 Casework Details and Legend:
    a. Detail B3, Where drawings show panels used as dividers, A&M hardware / Rakks EH Series counter supports may be used.

13. Drawing A5.02: Details 3 corner, and 5 soffit, add the following notes:
    a. Gypsum board outside corner shall be fire taped only. Do not provide GWB corner bead under wood trim.
    b. Provide 1/8" radius at outside corners of trim.
    c. Add note to trim details: Fire treatment of the veneer plywood adds to the thickness of the panels. Verify the actual thickness of the panels with the manufacturer. Adjust trim depth such that is flush with the panels. increase thickness

14. Drawing A5.2, Library, details 5 and 8, delete references to the "Alternate for benches and wall panels". Provide painted gypsum board and wall base.

15. Drawing A5.4A: Toilet Accessory Key: Mark Paper towels dispensers A1 & A2, as NIC. Clarification, Owner will provide and install accessories marked NIC (not in contract). Coordinate required blocking locations with the Owners product information.

16. Drawing A5.6, Detail 26, See the attached detail provided as an example to clarify the intent of the bid alternate for casework. Refer to drawing A5.01 for typical casework types and assemblies.

17. Drawing S2.2: Clarification: the steel beam for the Alternate operable partition is marked (operable partition below). The beams for this bid alternate are in is base bid.

18. Drawing S2.3: Clarification; the steel beam for the Alternate operable partition is shown on line XC, between X8 and X9. The beam for this bid alternate are in base bid.

MECHANICAL:
PROJECT MANUAL:

1. **230500 Common Work Results for HVAC, para. 3.6 ADD:**

    C. Refer to Section 083113 for additional requirements for access doors to be supplied and installed under Plumbing, Sprinkler and HVAC Sections.

DRAWINGS:

1. **Drawing P2: CHANGE the tag "PRV-2" to "PRV-1A, PRV-1B".**
2. **Drawing M5: CHANGE the 2-way control valve at the AC1 chilled water coil to a 3-way valve.**

ELECTRICAL:

PROJECT MANUAL:

1. **Add section 262413 - SWITCHBOARDS**
2. **260000 General Electrical Requirements, para. 1.22.D. refer to Division 26 NOT Division 16.**
3. **260000 General Electrical Requirements, add the following paragraph:**

3.06 FIRESTOPPING

Firestopping shall be performed in accordance with Specification Section 07 84 00 "Firestopping". All penetrations of fire-rated assemblies including walls and floors by electrical system components (conduits, cables, trays, etc.) shall be firestopped as specified. Coordinate size, location and type of sleeves as required by firestopping systems.

4. **260923 Lighting Control Devices, delete paragraph 2.2 and all references to daylight controls. No daylight harvesting devices are included in this project.**
5. **260519 Low-voltage Electrical Power Conductors and Cables, para. 3.1 A to read as follows:**

Feeders: Copper for feeders smaller than No. 4 AWG; copper or aluminum for feeders No. 4 AWG and larger. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger. Conductors sizes shown on drawings are for copper, contractor shall provide larger conductors if aluminum conductors are used per NEC.

6. **271500 Communications Horizontal Cabling, para 2.3 B: delete references to UTP cabling being formed into 25-pair cables.**
7. **271500 Communications Horizontal Cabling, Clarification: STP cable is to be used for the bus radio system only per radio riser diagram.**
8. **287500 Analog Addressable Fire Alarm System, Delete para. 1.6 in its entirety.**

DRAWINGS:

1. **Drawing ED1.1: Demolition clarifications per SKE-8**
2. **Drawing ED1.1: Demolition clarifications per SKE-9**
3. **Drawing ED1.1: Demolition clarifications per SKE-10**
4. **Drawing ED1.1: Demolition clarifications per SKE-11**
5. **Drawing ED1.1: Demolition clarifications per SKE-12**
6. **Drawing ED1: Demolition clarifications per SKE-13**
7. **Drawing ED1: Demolition clarifications per SKE-14**
8. **Drawing E2.1, E2.2, E2.3: Provide one ceiling mounted PIR motion sensor in every classroom and office.**
9. **Drawing E2.1: lighting fixture Schedule, Type W4, add to remarks-fixtures are being purchased by the site phase electrical contractor and are to be installed by the building phase electrical contractor.**

10. **Drawing E2.3: Add wall mount light at main entrance over school name at 12 ft. AFF. Provide power to the fixture from circuit LP-7 via lighting contractor LC. Fixture to be Hubbell ALFW 6 LED Wall Mount, Bronze. (see drawing A2.1, detail A/A2.1 for location of school name)**
11. **Drawing E4.0 – Symbol Legend – Revision to description of Wall clock – Wall clocks in all rooms shall be 12" Analog, white face, black hands, 12 hour - Sapling Model #SAI-2BS-12R-0 Battery operated clock. Battery clock in Gym shall be 16" Analog, white face, black hands, 12 hour with WIRE GUARD Sapling model# SAI-2BS-16R-0 with SAG-1200.**
12. **Drawing E3.2: Clarification – the existing elevator will not be on the generator after the building renovations.**
13. **Drawing E3.2: Provide 3 fire alarm system door holds at south west doors of the existing Gym (Doors X102.1 and X102.2).**
14. **Drawing E3.2: Provide receptacles in Room X119 per sketch SKE-3**
15. **Drawing E3.2: Provide receptacles in Room X134A per sketch SKE-4**
16. **Drawing E3.2: Provide receptacles in Room X135 per sketch SKE-5**
17. **Drawing E3.2: Provide receptacles in Room X134B per sketch SKE-6**
18. **Drawing E3.2: Provide receptacles in Room X140 per sketch SKE-7**
19. **Drawing E4.1 Panel MDP schedule, delete 1-pole 20A spare circuit breakers and replace with spaces only.**
20. **Drawing E4.2 Replace duplicated Panel PP2 sections shown on upper left corner of drawing with Panel PP1 sections 1 and 2 schedules as shown on SKE-1.**
21. **Drawing E4.3 Replace duplicated Panel MP on upper left corner of drawing with Panel EP schedule as shown on SKE-2.**
22. **Drawing E4.3 Panel MM Schedule: change panel rating from 400A to 225A.**
23. **Drawing ES1.2 Add door control button at front reception per sketch SKE-16.**

END OF ADDENDA

(Attachments)

PROJECT MANUAL BID SET

CONTENTS
VOLUME 1

DIVISION 01 - GENERAL REQUIREMENTS

DIVISION 02 - EXISTING CONDITIONS

DIVISION 03 - CONCRETE WORK

DIVISION 04 - MASONRY WORK

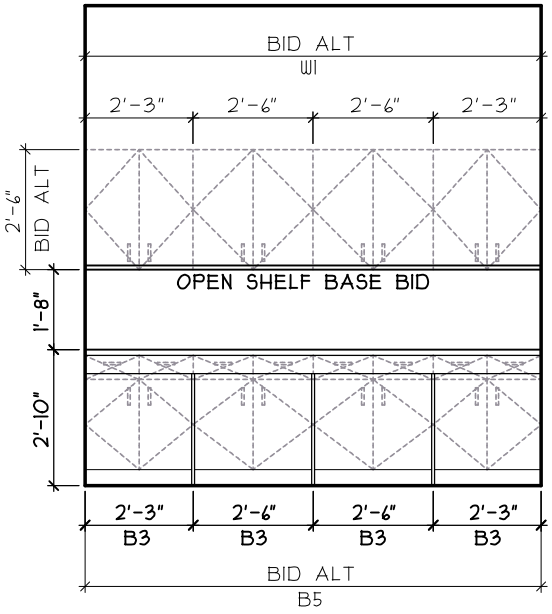
DIVISION 05 - METALS

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

DIVISION 08 - OPENINGS

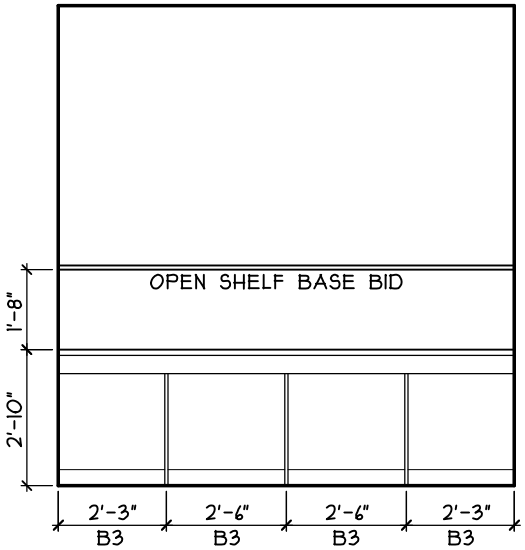
AS DRAWN



26 / A5.6 STAFF S127

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

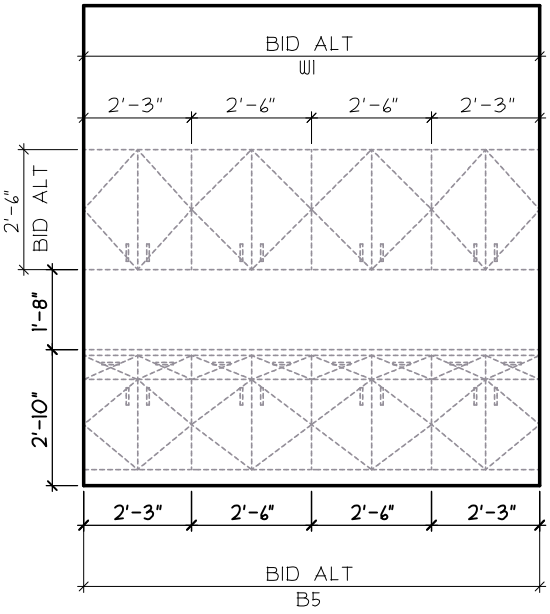
BASE BID



26 / A5.6 STAFF S127

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

BID ALT



26 / A5.6 STAFF S127

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

SECTION 262413

SWITCHBOARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Service and distribution switchboards rated 600 V and less.
2. Transient voltage suppression devices.
3. Disconnecting and overcurrent protective devices.
4. Instrumentation.
5. Control power.
6. Accessory components and features.
7. Identification.

1.2 ACTION SUBMITTALS

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

B. Shop Drawings: For each switchboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details, including required clearances and service space around equipment. Show tabulations of installed devices, equipment features, and ratings.
2. Include time-current coordination curves for each type and rating of overcurrent protective device included in switchboards.
3. Include schematic and wiring diagrams for power, signal, and control wiring.

1.3 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.4 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with NEMA PB 2.

C. Comply with NFPA 70.

D. Comply with UL 891.

1.5 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace transient voltage suppression devices that fail in materials or workmanship within specified warranty period.

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

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

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

1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
3. Siemens Energy & Automation, Inc.
4. Square D; a brand of Schneider Electric.

B. Front-Connected, Front-Accessible Switchboards:

1. Main Devices: Panel mounted.
2. Branch Devices: Panel mounted.
3. Sections front and rear aligned.

C. Nominal System Voltage: 208Y/120 V.

D. Main-Bus Continuous: 1200 A.

E. Enclosure: Steel, NEMA 250, Type 1.

1. Enclosure Finish: Factory-applied finish in manufacturer's standard gray finish over a rust-inhibiting primer on treated metal surface.
2. Enclosure: Flat roof; bolt-on rear covers for each section, with provisions for padlocking.

F. Bus Transition and Incoming Pull Sections: Matched and aligned with basic switchboard.

G. Hinged Front Panels: Allow access to circuit breaker, metering, accessory, and blank compartments.

H. Pull Box on Top of Switchboard:

1. Adequate ventilation to maintain temperature in pull box within same limits as switchboard.
2. Removable covers shall form top, front, and sides. Top covers at rear shall be easily removable for drilling and cutting.
3. Bottom shall be insulating, fire-resistive material with separate holes for cable drops into switchboard.
4. Cable supports shall be arranged to facilitate cabling and adequate to support cables indicated, including those for future installation.

I. Phase and Neutral Buses and Connections: Three phase, four wire unless otherwise indicated. Tin-plated, high-strength, electrical-grade aluminum alloy with tin-plated aluminum circuit-breaker line connections.

1. Ground Bus: 1/4-by-2-inch- (6-by-50-mm-) minimum size, hard-drawn copper of 98 percent conductivity, equipped with pressure connectors for feeder and branch-circuit ground conductors.
2. Main Phase Buses and Equipment Ground Buses: Uniform capacity for entire length of switchboard's main and distribution sections. Provide for future extensions from both ends.
3. Neutral Buses: 100 percent of the ampacity of phase buses unless otherwise indicated, equipped with pressure connectors for outgoing circuit neutral cables.

J. Future Devices: Equip compartments with mounting brackets, supports, bus connections, and appurtenances at full rating of circuit-breaker compartment.

2.2 TRANSIENT VOLTAGE SUPPRESSION DEVICES

A. Surge Protection Device Description: IEEE C62.41-compliant, integrally mounted, solid-state, parallel-connected, with sine-wave tracking suppression and filtering modules, UL 1449, second edition, short-circuit current rating matching or exceeding the switchboard short-circuit rating, and with the following features and accessories:

1. Fuses, rated at 200-kA interrupting capacity.
2. LED indicator lights for power and protection status.
3. Audible alarm, with silencing switch, to indicate when protection has failed.
4. Form-C contacts rated at 5 A and 250-V ac, one normally open and one normally closed, for remote monitoring of system operation. Contacts shall reverse position on failure of any surge diversion module or on opening of any current-limiting device.
5. Transient-event counter set to totalize transient surges.

B. Peak Single-Impulse Surge Current Rating: 120 kA per mode/240 kA per phase.

C. Withstand Capabilities: 5000 IEEE C62.41, Category C3 (10 kA), 8-by-20-mic.sec. surges with less than 5 percent change in clamping voltage.

D. Protection modes and UL 1449 SVR for grounded wye circuits with 208Y/120-V, three-phase, four-wire circuits shall be as follows:

1. Line to Neutral: 400 V for 208Y/120.
2. Line to Ground: 400 V for 208Y/120.
3. Neutral to Ground: 400 V for 208Y/120.

2.3 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

A. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
3. Electronic trip circuit breakers with rms sensing; field-replaceable rating plug or field-replicable electronic trip; and the following field-adjustable settings:

    a. Instantaneous trip.
    b. Long- and short-time pickup levels.
    c. Long- and short-time time adjustments.
    d. Ground-fault pickup level, time delay, and I^2t response.

4. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller; let-through ratings less than NEMA FU 1, RK-5.
5. Molded-Case Circuit-Breaker (MCCB) Features and Accessories:

    a. Standard frame sizes, trip ratings, and number of poles.
    b. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor material.
    c. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge (HID) lighting circuits.
    d. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.
    e. Shunt Trip: 120-V trip coil energized from separate circuit, set to trip at 55 percent of rated voltage.

2.4 INSTRUMENTATION

A. Instrument Transformers: IEEE C57.13, NEMA EI 21.1, and the following:

1. Current Transformers: IEEE C57.13; 5 A, 60 Hz, secondary and secondary shorting device. Burden and accuracy shall be consistent with connected metering and relay devices.
2. Control-Power Transformers: Dry type, mounted in separate compartments for units larger than 3 kVA.
3. Current Transformers for Neutral and Ground-Fault Current Sensing: Connect secondary wiring to ground overcurrent relays, via shorting terminals, to provide selective tripping of main and tie circuit breaker. Coordinate with feeder circuit-breaker, ground-fault protection.

B. Multifunction Digital-Metering Monitor: Microprocessor-based unit suitable for three- or four-wire systems and with the following features:

1. Switch-selectable digital display of the following values with maximum accuracy tolerances as indicated:

   a. Phase Currents, Each Phase: Plus or minus 1 percent.
   b. Phase-to-Phase Voltages, Three Phase: Plus or minus 1 percent.
   c. Phase-to-Neutral Voltages, Three Phase: Plus or minus 1 percent.
   d. Megawatts: Plus or minus 2 percent.
   e. Megavars: Plus or minus 2 percent.
   f. Power Factor: Plus or minus 2 percent.
   g. Frequency: Plus or minus 0.5 percent.
   h. Accumulated Energy, Megawatt Hours: Plus or minus 2 percent; accumulated values unaffected by power outages up to 72 hours.
   i. Megawatt Demand: Plus or minus 2 percent; demand interval programmable from five to 60 minutes.

2. Mounting: Display and control unit flush or semiflush mounted in instrument compartment door.

2.5 IDENTIFICATION

A. Service Equipment Label: NRTL labeled for use as service equipment for switchboards with one or more service disconnecting and overcurrent protective devices.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from switchboard units and components.

B. Install filler plates in unused spaces of panel-mounted sections.

C. Install overcurrent protective devices, transient voltage suppression devices, and instrumentation.

1. Set field-adjustable switches and circuit-breaker trip ranges.

D. Comply with NECA 1.

3.2 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

B. Switchboard Nameplates: Label each switchboard compartment with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

C. Device Nameplates: Label each disconnecting and overcurrent protective device and each meter and control device mounted in compartment doors with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.3 FIELD QUALITY CONTROL

A. Acceptance Testing Preparation:

1. Test insulation resistance for each switchboard bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

B. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
3. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

C. Switchboard will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports, including a certified report that identifies switchboards included and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

END OF SECTION 262413

PANEL PP1 (SPED FILES RM N117) SECTION 1 120/208 3PH 4W 225 AMP BUS - MLO 42K AIC NEMA TYPE 1 (RECESSED)

CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA	CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA
1	RECEPTS VEST N101, HALL N102 & CH1	20	1	9	0.50	4	2	RECEPTS N104, 105, 106	20	1	12	0.50	6
3	RECEPTS SUPT & BUS N108	20	1	11	0.50	5	4	RECEPTS N109, N110	20	1	8	0.50	4
5	COPIER N111	20	1	15	0.50	8	6	RECEPTS N103, N111, N112, N113, N114	20	1	14	0.50	7
7	BUS RADIO	20	1	5	1.00	5	8	RECEPTS CONF N115	20	1	12	0.50	6
9	RECEPTS N116, N117, N118, N119	20	1	12	0.50	6	10	RECEPTS N120, NN121	20	1	8	0.50	4
11	RECEPTS N122, N123	20	1	9	0.50	5	12	REFIRGERATOR N122	20	1	12	1.00	12
13	HOT PLATE N122	20	1	15	0.50	8	14	COUNTER RECEPT N122	20	1	2	0.50	1
15	ELECTRIC DOOR ALARM	20	1	5	0.50	3	16	RECEPTS W113, W114, W118	20	1	8	0.50	4
17	RECEPTS W119	20	1	11	0.50	5	18	RECEPTS HALL W112	20	1	6	0.50	3
19	RECEPTS W121, W122, W123, W124, W127	20	1	9	0.50	5	20	RECEPTS ART W126	20	1	8	0.50	4
21	RECEPTS W119	20	1	8	1.00	8	22	RECEPTS ART W126	20	1	8	0.50	4
23	EF-C ON ROOF (COPIER FAN)	20	1	1	0.50	1	24	RECETPS RM E118	20	1	5	0.50	3
25	AC-2	15	3	9	0.70	7	26	RF3	15	3	3	0.70	2
27				9	0.70	7	28				3	0.70	2
29				9	0.70	7	30				3	0.70	2
31	RADON FANS	20	1	4	1.00	4	32	KILN	50	3	40	0.70	28
33	SPARE	20	1			0	34				40	0.70	28
35	SPARE	20	1			0	36				40	0.70	28
37	SPARE	20	1			0	38	KILN VENT	20	1	15	0.70	11
39	SPARE	20	1			0	40	SPARE	20	1			0
41	SPARE	20	1			0	42	SPARE	20	1			0

PROVIDE WITH FEED THRU LUGS FOR SECTION 2

Section 1

Tot Amps/PH - Connected Load	**127.97**
Demand Factor	**62.65%**
Total Amps/PH - Demand	**80.18**
Connected KVA	**46.05**
Demand KVA	**28.85**
Min. Panel Size (Demand x 1.25) - Amps	**100.22**

PANEL PP1 (SPED FILES RM N117) SECTION 2 120/208 3PH 4W 225 AMP BUS - MLO 42K AIC NEMA TYPE 1 (SURFACE)

CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA	CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA
43	LIGHTS ART	20	1	6	1.00	6	44	LIGHTS	20	1	9	1.00	9
45	LIGHTS MUSIC	20	1	5	1.00	5	46	LIGHTS	20	1	7	1.00	7
47	LIGHTS ELEM MUSIC	20	1	4	1.00	4	48	LIGHTS	20	1	6	1.00	6
49	TCP's, ETP & CP2	20	1	6	1.00	6	50	LIGHTS CORRIDOR	20	1	3	1.00	3
51	SPARE	20	1			0	52	SPARE	20	1			0
53	SPARE	20	1			0	54	SPARE	20	1			0
55	SPARE	20	1			0	56	SPARE	20	1			0
57	SPARE	20	1			0	58	SPARE	20	1			0
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75	SPARE	20	1			0	76	SPARE	20	1			0
77	SPARE	20	1			0	78	SPARE	20	1			0
79	SPARE	20	1			0	80	SPARE	20	1			0
81	SPARE	20	1			0	82	SPARE	20	1			0
83	SPARE	20	1			0	84	SPARE	20	1			0

AT - Amp Trip
P - Poles
A - Amps
CA - Connected Amperes
DF - Demand Factor (1 - .1)
DA - Demand Amperes
MLO - Main Lug Only
MCB - Main Circuit Breaker
ST- Shunt Trip Breaker

Section 2

Tot Amps/PH - Connected Load	**15.44**
Demand Factor	**100.00%**
Total Amps/PH - Demand	**15.44**
Connected KVA	**5.55**
Demand KVA	**5.55**
Min. Panel Size (Demand x 1.25) - Amps	**19.30**

Total Combined Load

Tot Amps/PH - Connected Load	**143.40**
Demand Factor	**0.626543**
Total Amps/PH - Demand	**95.61**
Connected KVA	**51.60**
Demand KVA	**34.41**
Min. Panel Size (Demand x 1.25) -	**119.52**

REPLACE PANEL PP2 ON DRAWING E4.2 WITH PANEL PP1

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FRYEBURG ELEMENTRY SCHOOL PHASE 2

Power Panel Replacement

DESIGNED/CHECKED BY - twg / SAJ

DATE - 08/05/15

SCALE - NONE

SKE-1

PANEL EP (MAINT/STOR RM W137) 120/208 3PH 4W 800 AMP BUS - MLO 42K AIC NEMA TYPE 1 (SURFACE)													
CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA	CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA
1	PANEL BP FEEDER	400	3	649	1.23	801	2	PANEL KP FEEDER	400	3	583	1.11	646
3				649	1.23	801	4				583	1.11	646
5				649	1.23	801	6				583	1.11	646
7	PANEL MS143 FEEDER	225	3	207	0.67	139	8	PANEL CAFÉ FEEDER	225	3	16	0.77	12
9				207	0.67	139	10				16	0.77	12
11				207	0.67	139	12				16	0.77	12
13	PANEL LP1 FEEDER (EXISTING GYM PANEL)	225	3	0	0.00	0	14	FIRE DAMPER / SMOKE DAMPER	20	1	10	1.00	10
15				0	0.00	0	16	SPARE	20	1			0
17				0	0.00	0	18	SPARE	20	1			0
19	SPARE	20	1			0	20	SPARE	20	1			0
21	SPARE	20	1			0	22	SPARE	20	1			0
23	SPARE	20	1			0	24	SPARE	20	1			0
25	SPARE	20	1			0	26	SPARE	20	1			0
27	SPARE	20	1			0	28	SPARE	20	1			0
29	SPARE	20	1			0	30	SPARE	20	1			0
31	SPARE	20	1			0	32	SPARE	20	1			0
33	SPARE	20	1			0	34	SPARE	20	1			0
35	SPARE	20	1			0	36	SPARE	20	1			0
37	SPARE	20	1			0	38	SPARE	20	1			0
39	SPARE	20	1			0	40	SPARE	20	1			0
41	SPARE	20	1			0	42	SPARE	20	1			0

AT - Amp Trip
P - Poles
A - Amps
CA - Connected Amperes
DF - Demand Factor (1 - .1)
DA - Demand Amperes
MLO - Main Lug Only
MCB - Main Circuit Breaker

Section 1	
Tot Amps/PH - Connected Load	**1458.54**
Demand Factor	**109.77%**
Total Amps/PH - Demand	**1600.98**
Connected KVA	**524.84**
Demand KVA	**576.10**
Min. Panel Size (Demand x 1.25) - Amps	**2001.23**

REPLACE PANEL MP ON DRAWING E4.3 WITH PANEL EP

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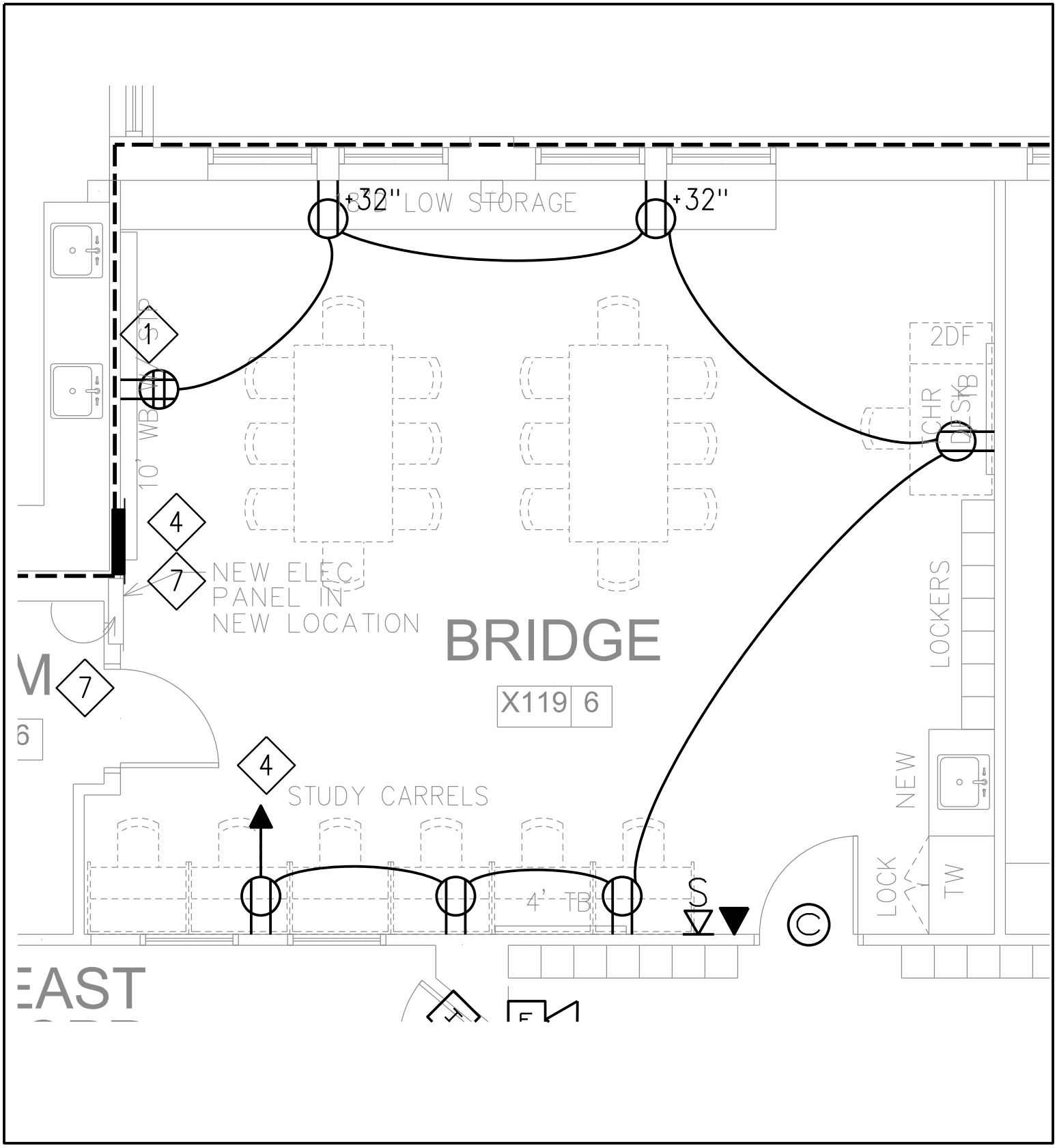
FRYEBURG ELEMENTRY SCHOOL PHASE 2

Power Panel Replacement

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-2



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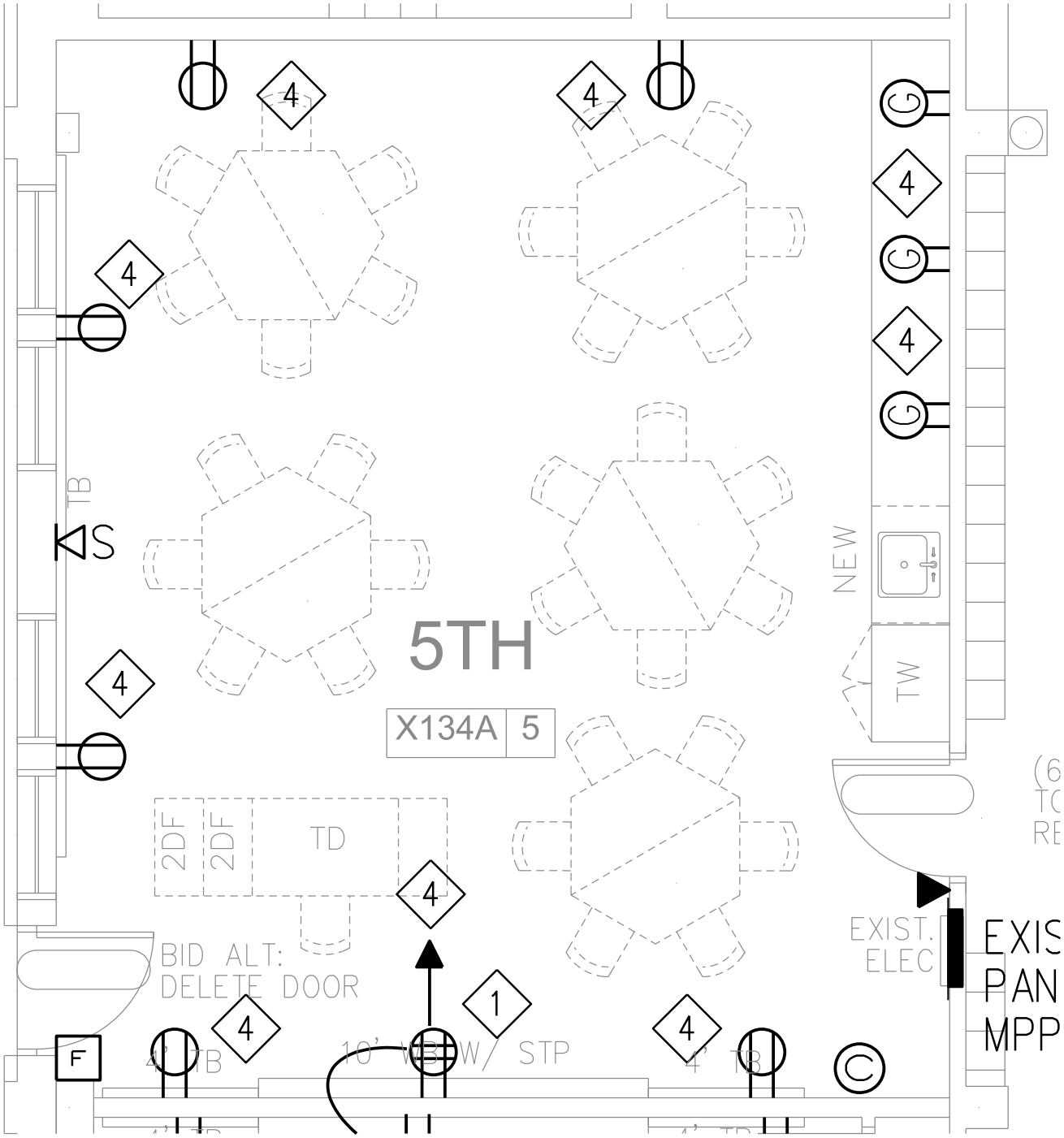
FRYEBURG ELEMENTRY SCHOOL PHASE 2

Room X119 Power Mods

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-3



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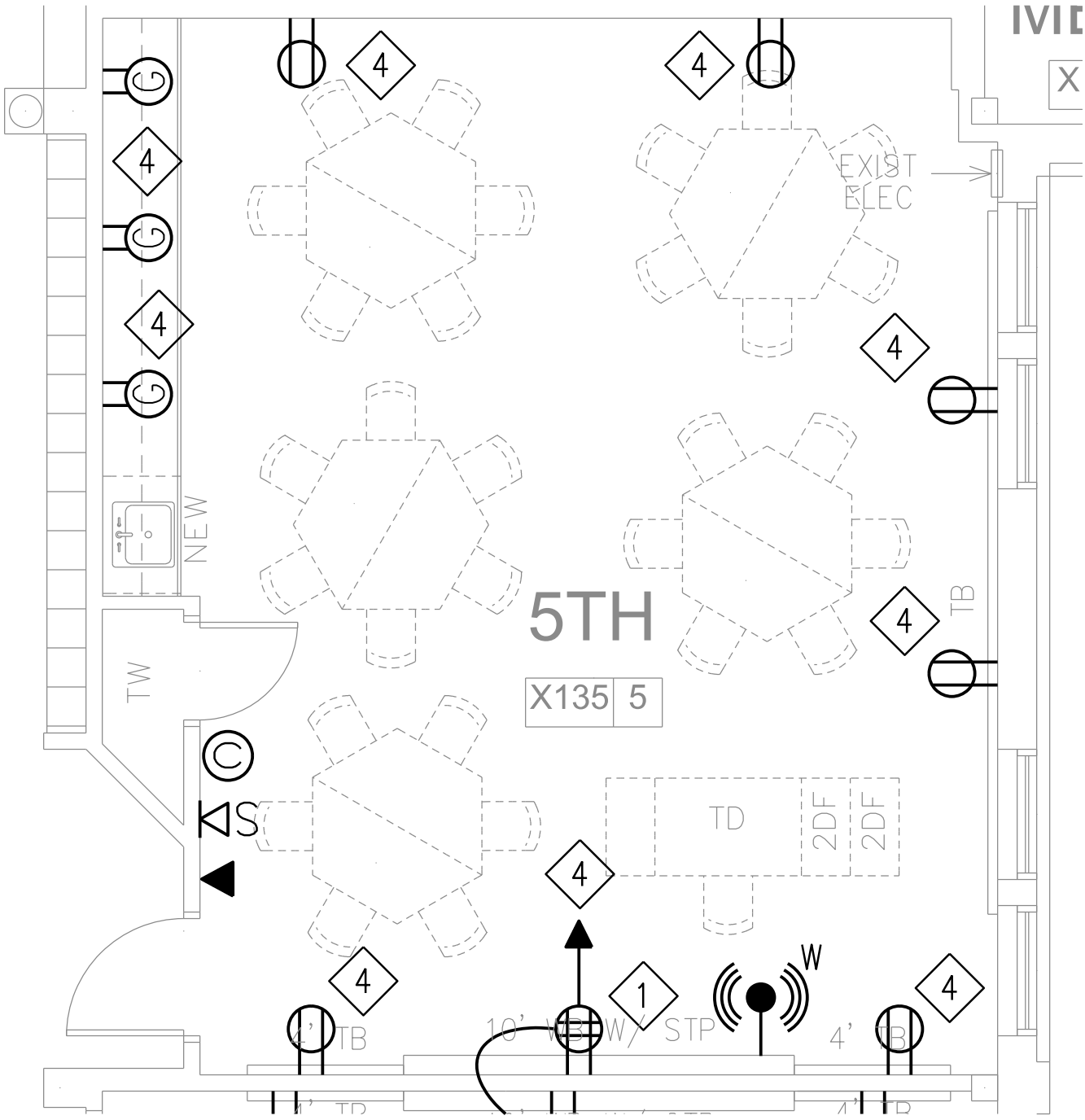
FRYEBURG ELEMENTRY SCHOOL PHASE 2

	Room X134A Power Mods
DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-4



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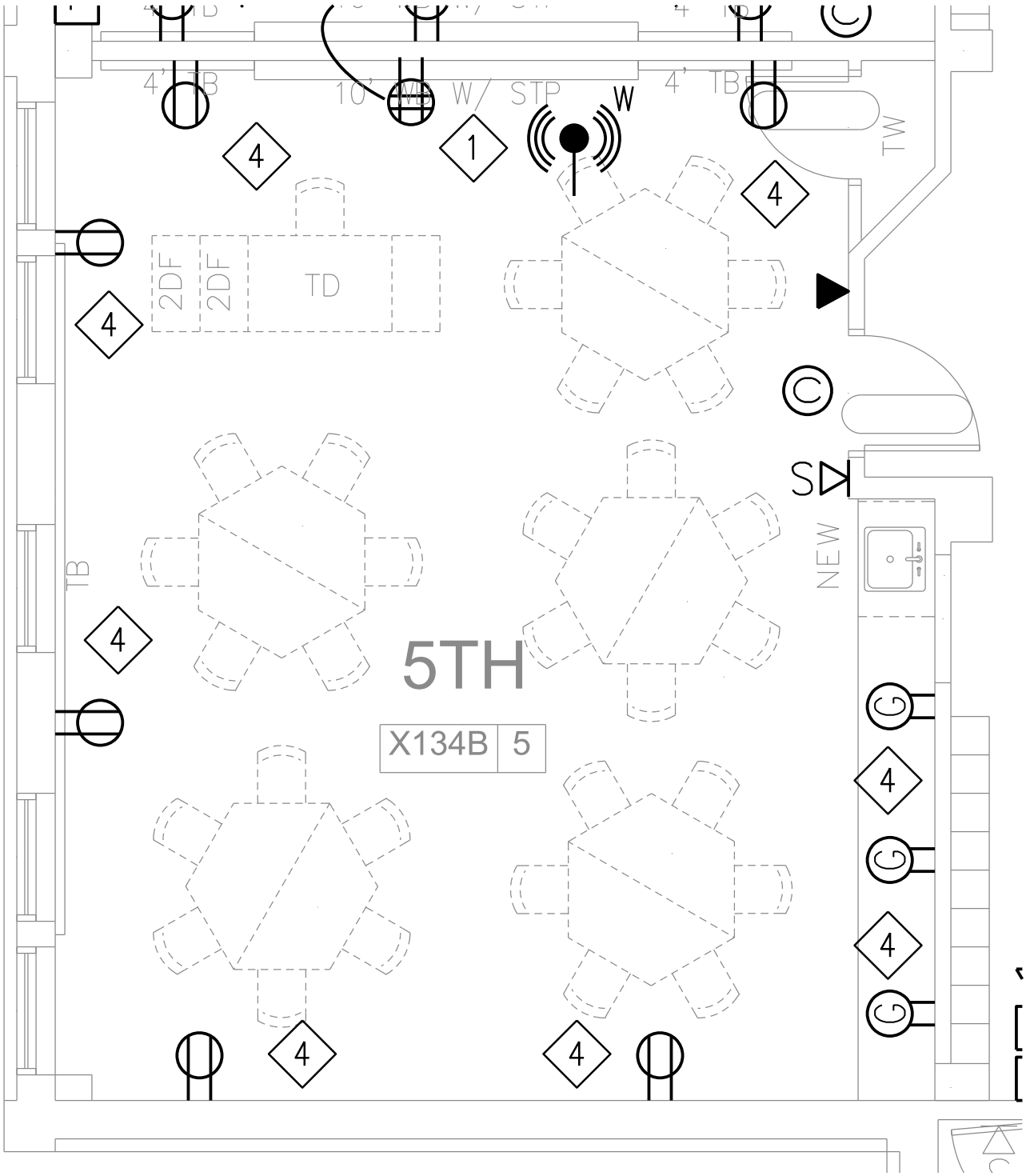
FRYEBURG ELEMENTRY SCHOOL PHASE 2

Room X135 Power Mods

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-5



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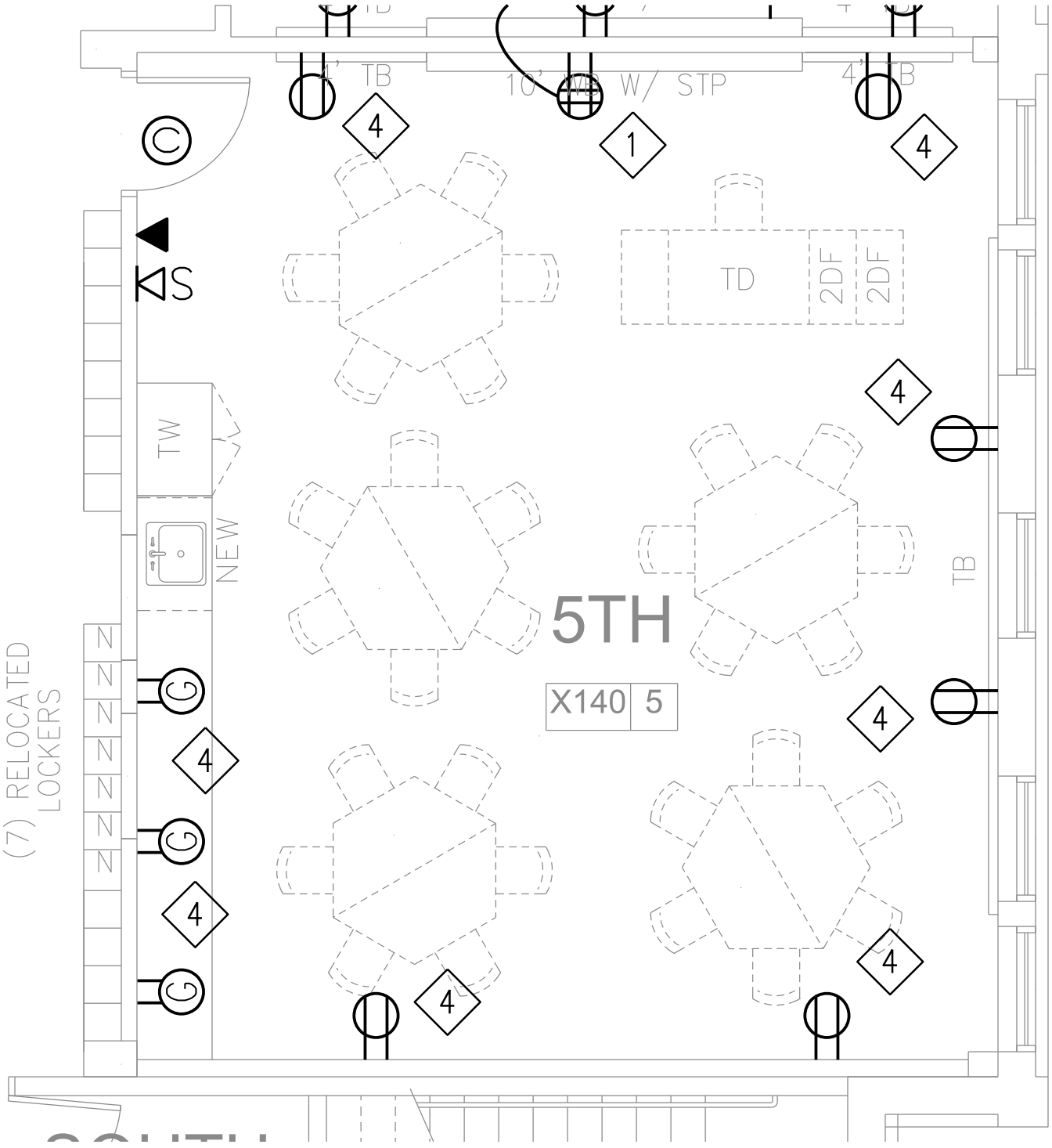
FRYEBURG ELEMENTRY SCHOOL PHASE 2

Room X134B Power Mods

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-6



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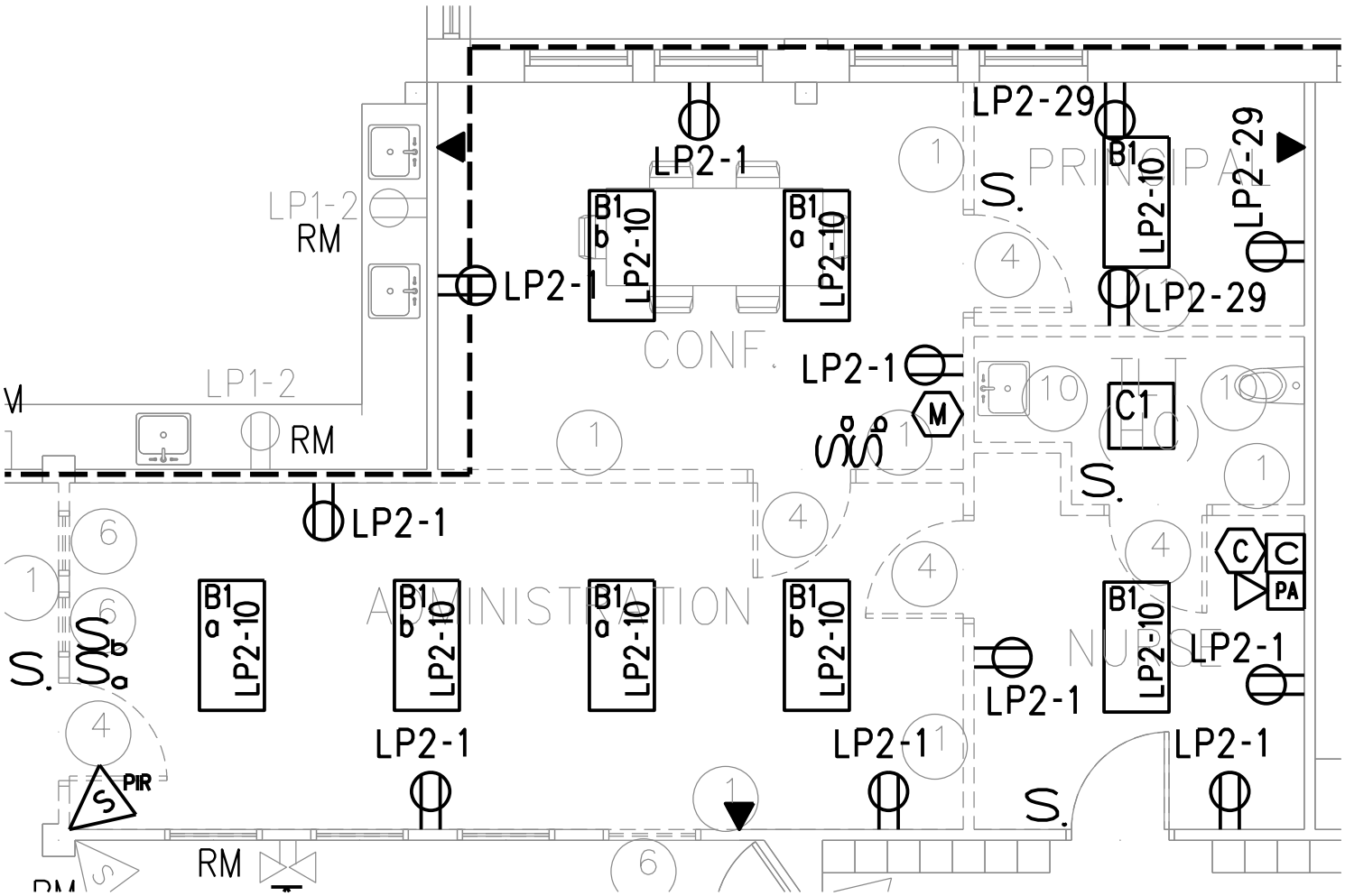
FRYEBURG ELEMENTRY SCHOOL PHASE 2

Room X140 Power Mods

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-7



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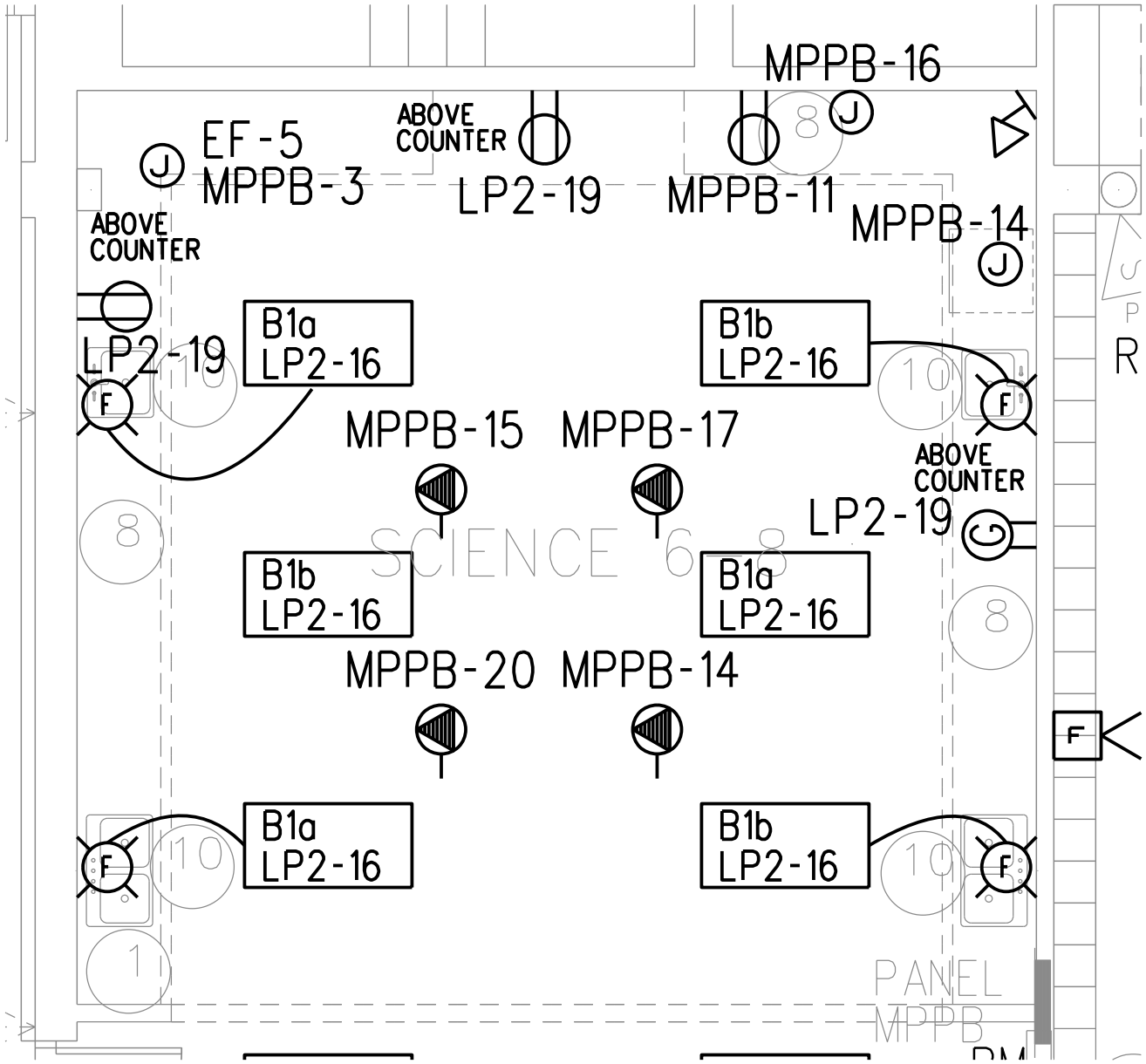
FRYEBURG ELEMENTRY SCHOOL PHASE 2

Admin Area Removal Mods

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-8



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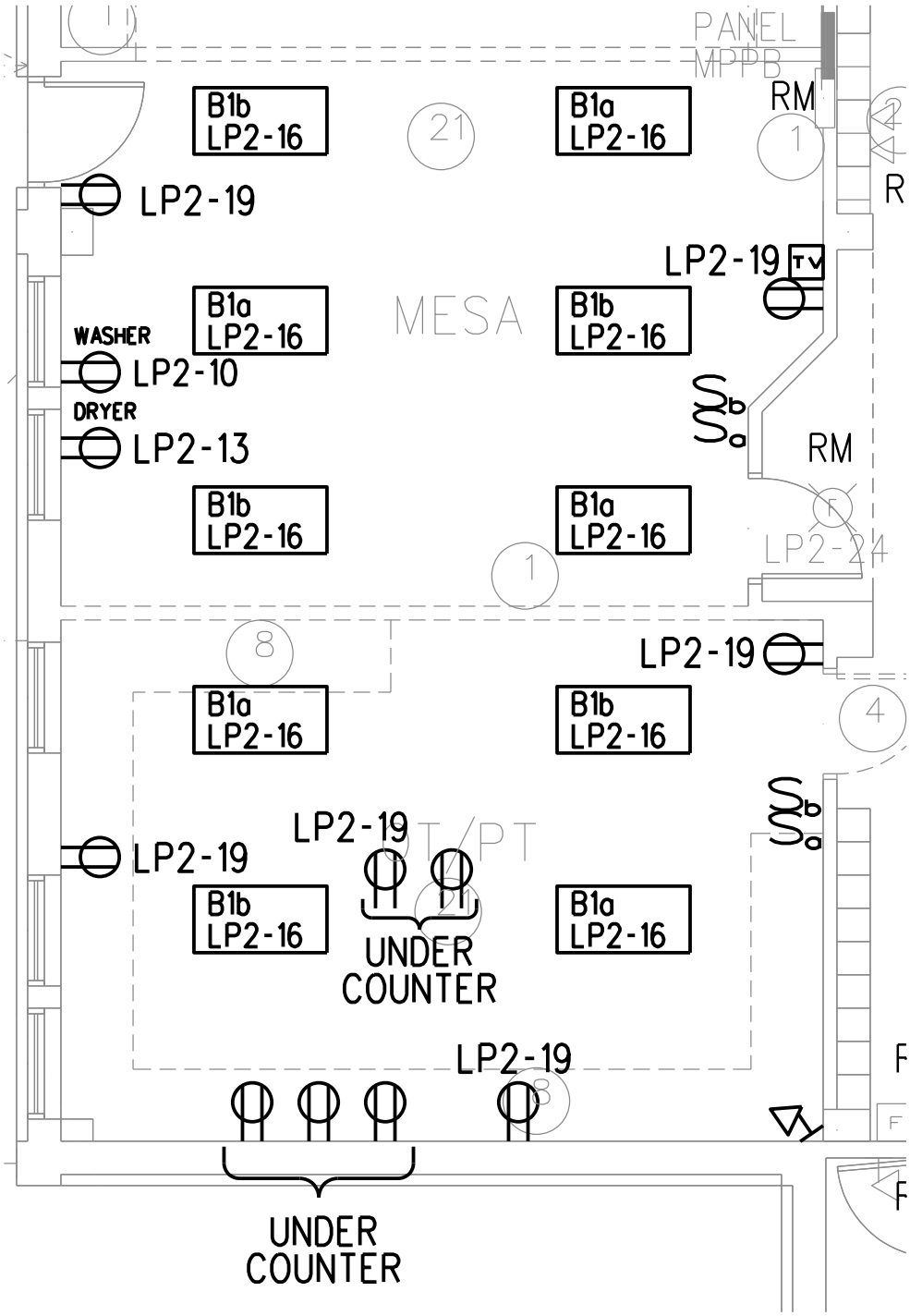
FRYEBURG ELEMENTRY SCHOOL PHASE 2

Science 6-8 Removal Mods

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-9



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FRYEBURG ELEMENTRY SCHOOL PHASE 2

MESA & OT/PT Removal Mods

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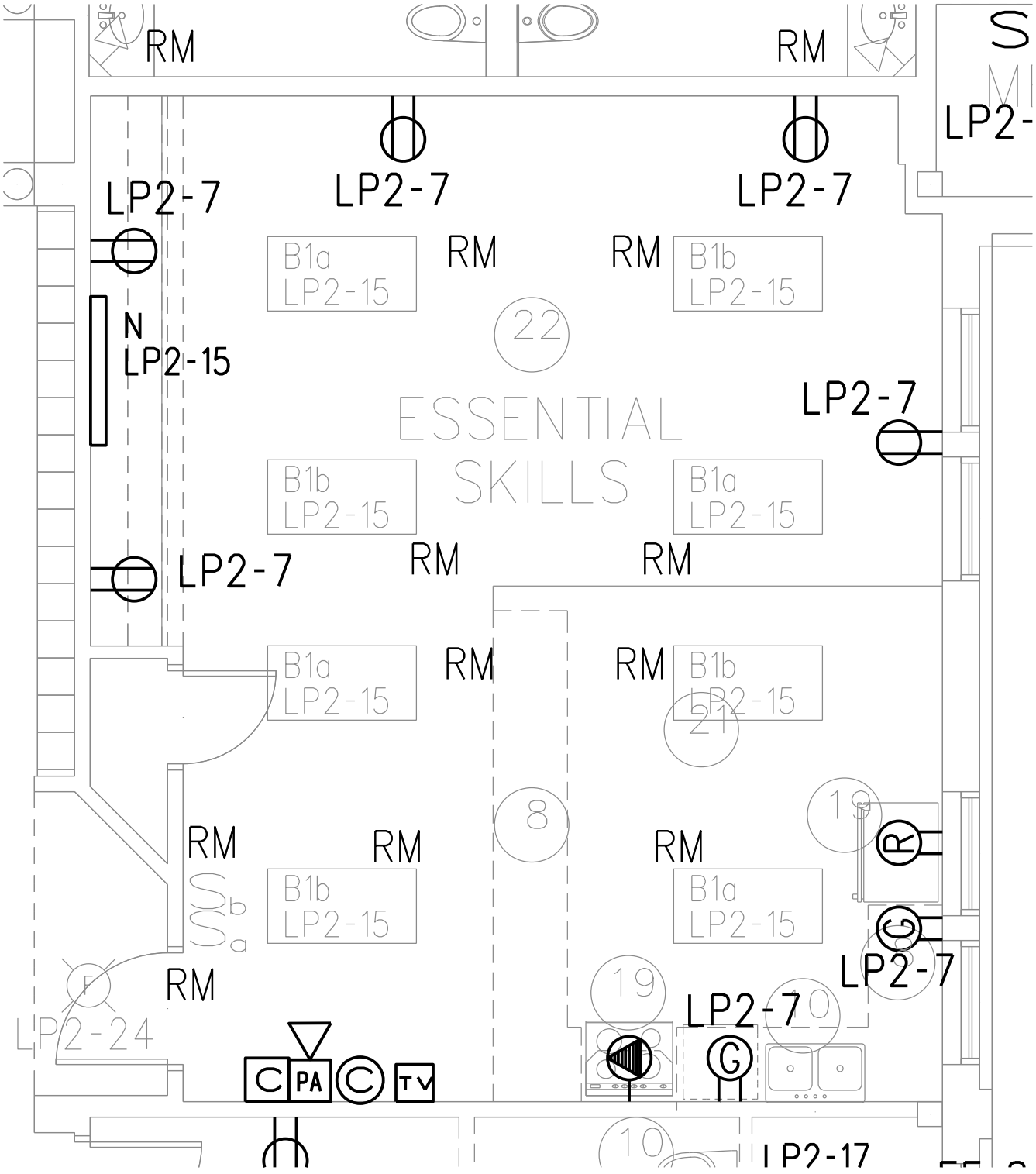
DATE -	08/05/15
SCALE -	NONE

SKE-10



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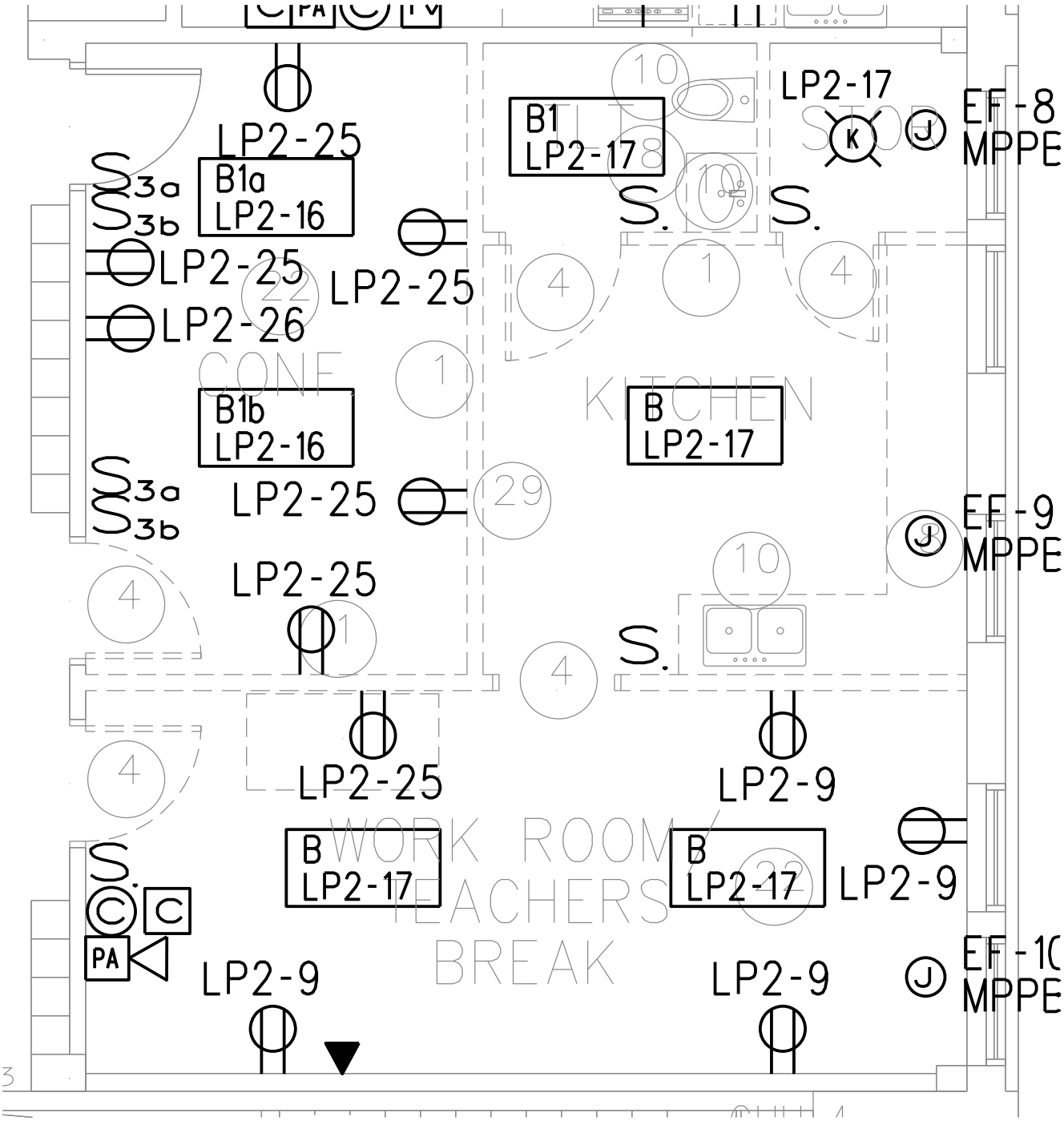
FRYEBURG ELEMENTRY SCHOOL PHASE 2

Essential Skills Removal Mods

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-11



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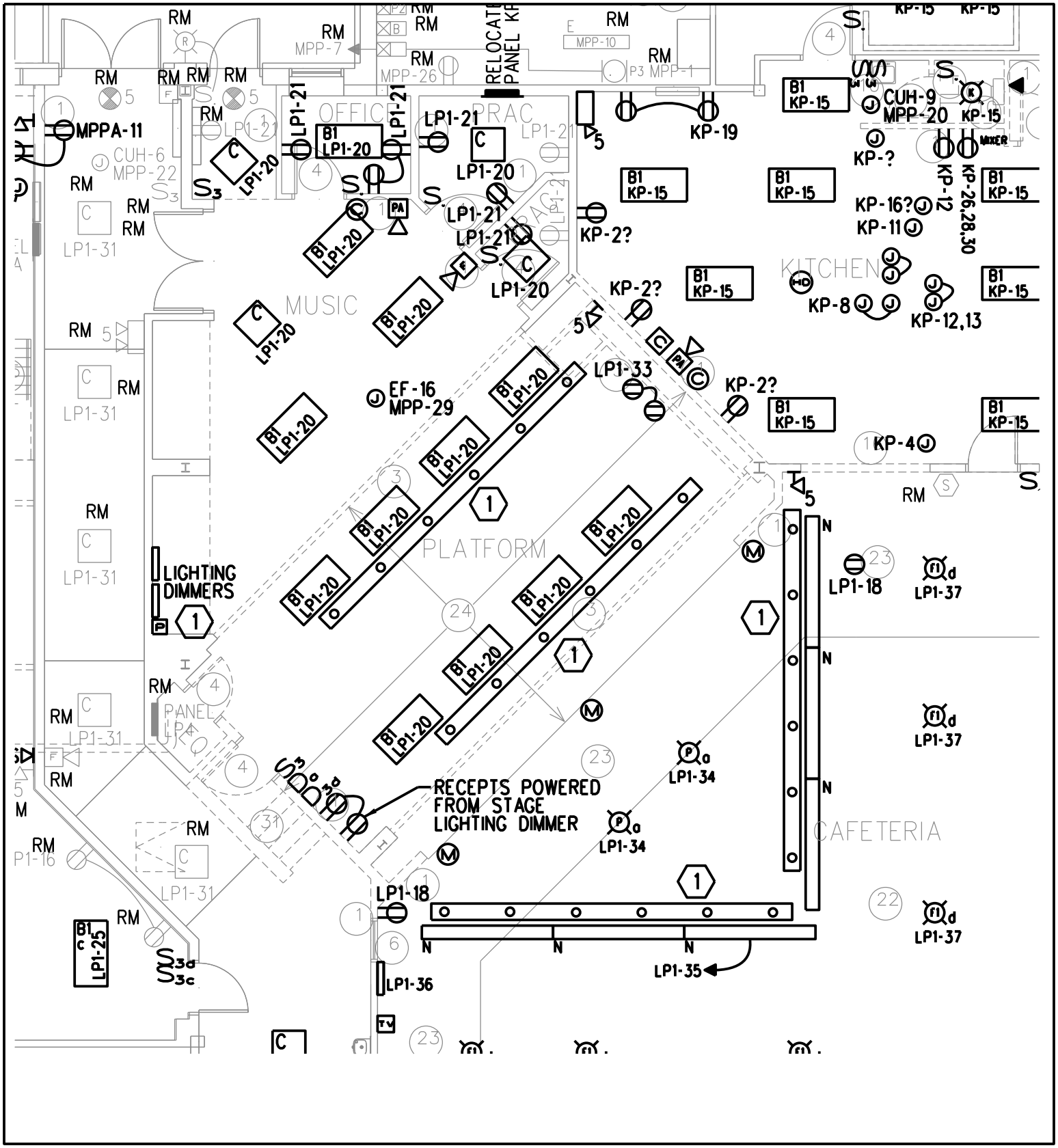
FRYEBURG ELEMENTRY SCHOOL PHASE 2

Conf/Kitchen & Teach Work Rm Removal Mods

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-12



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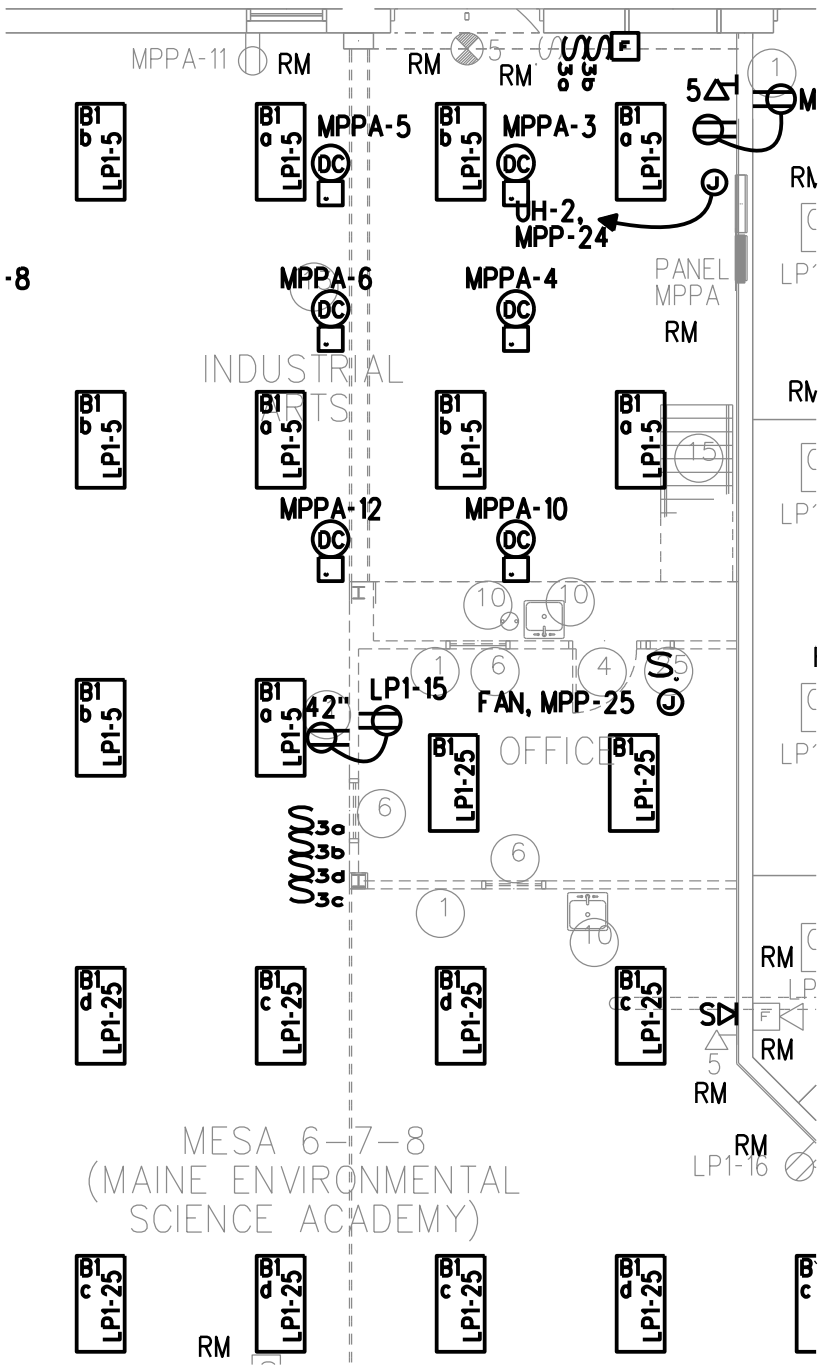
FRYEBURG ELEMENTRY SCHOOL PHASE 2

Cafeteria Removal Mods

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-13



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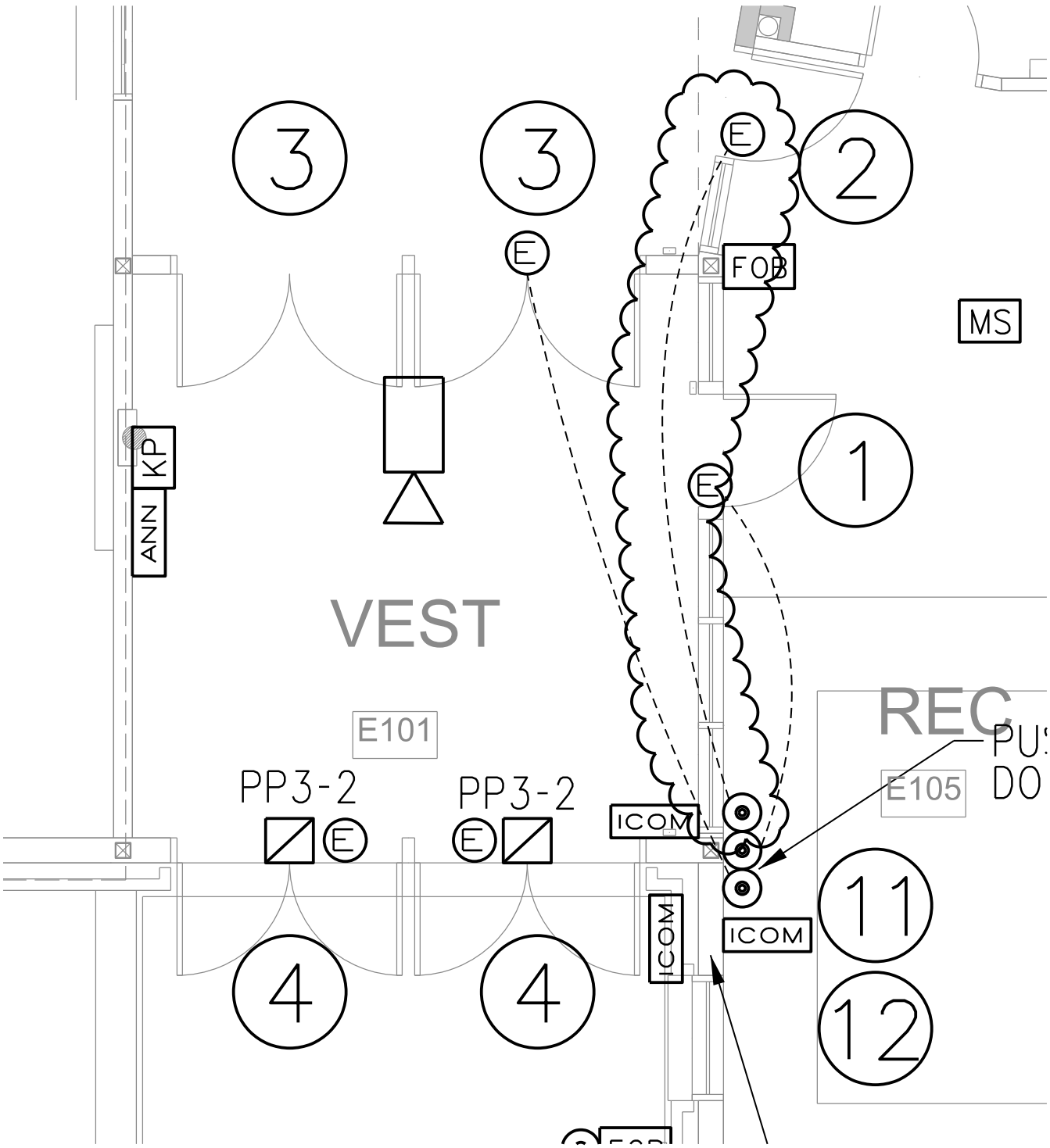
FRYEBURG ELEMENTRY SCHOOL PHASE 2

MESA 6-8 Removal Mods

DESIGNED/CHECKED BY -	twg / SAJ
DATE -	08/05/15
SCALE -	NONE

SKE-14



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Entry Vestibule Pushbutton Addition

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SCALE -	NONE

SKE-16