

DAVIDSON MIDDLE SCHOOL

HVAC IMPROVEMENTS - ANNEX, MAKER SPACE, BAND & MUSIC ROOMS

280 WOODLAND AVE, SAN RAFAEL, CA 94901

SAN RAFAEL CITY SCHOOLS

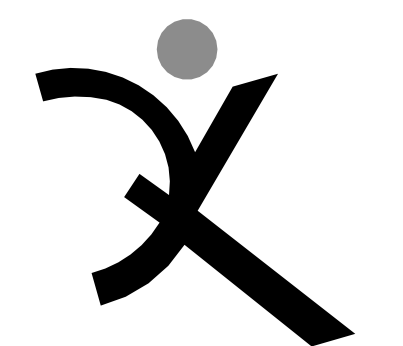
**PRELIMINARY
NOT FOR CONSTRUCTION**

DSA SUBMITTAL

DSA FILE NO: 21-39

DSA APPLICATION NO: 01-120022

PTN: 65458-61



QUATTROCCHI KWOK
ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829



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MIDDLE
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SAN RAFAEL, CA 94901

SAN RAFAEL CITY
SCHOOLS

DSA APP NO:	01-120022
ARCH PROJECT NO:	1900.03
DRAWN BY:	BSC
DRAWING SCALE:	N.T.S.
PTN:	65458-61
FILE NO:	21-39
DSA SUBMITTAL	
JANUARY 31, 2022	
SHEET TITLE	

COVER SHEET

SHEET NUMBER
G-0.1

PROJECT TEAM

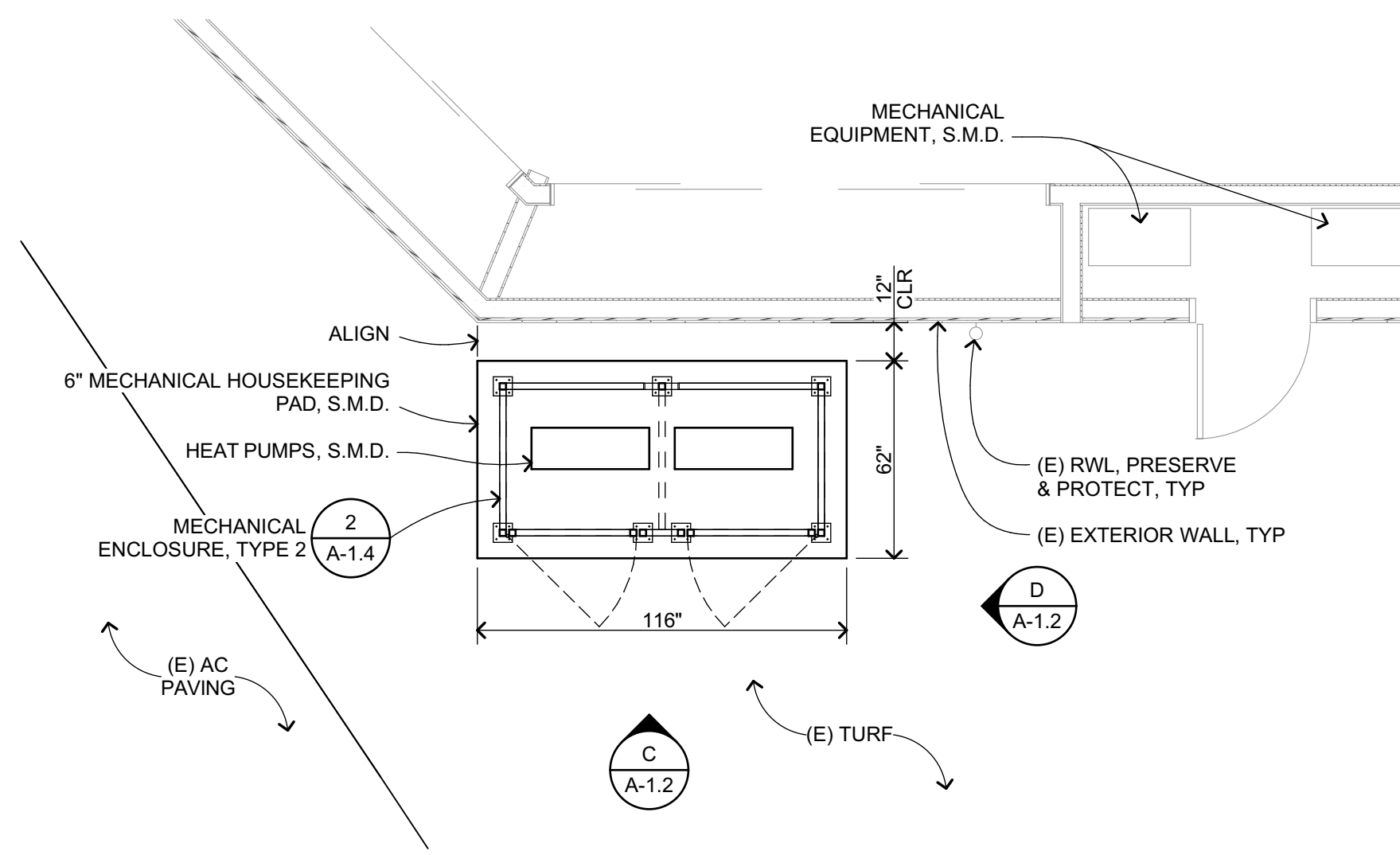
OWNER
San Rafael City Schools
310 Nova Albion Way
San Rafael, CA 94903
Phone: 415-492-3285

ARCHITECT
Quattrocchi Kwok Architects
636 Fifth Street
Santa Rosa, CA 95404
Phone: 707-576-0829
Fax: 707-576-0295
Email: lyannes@qka.com

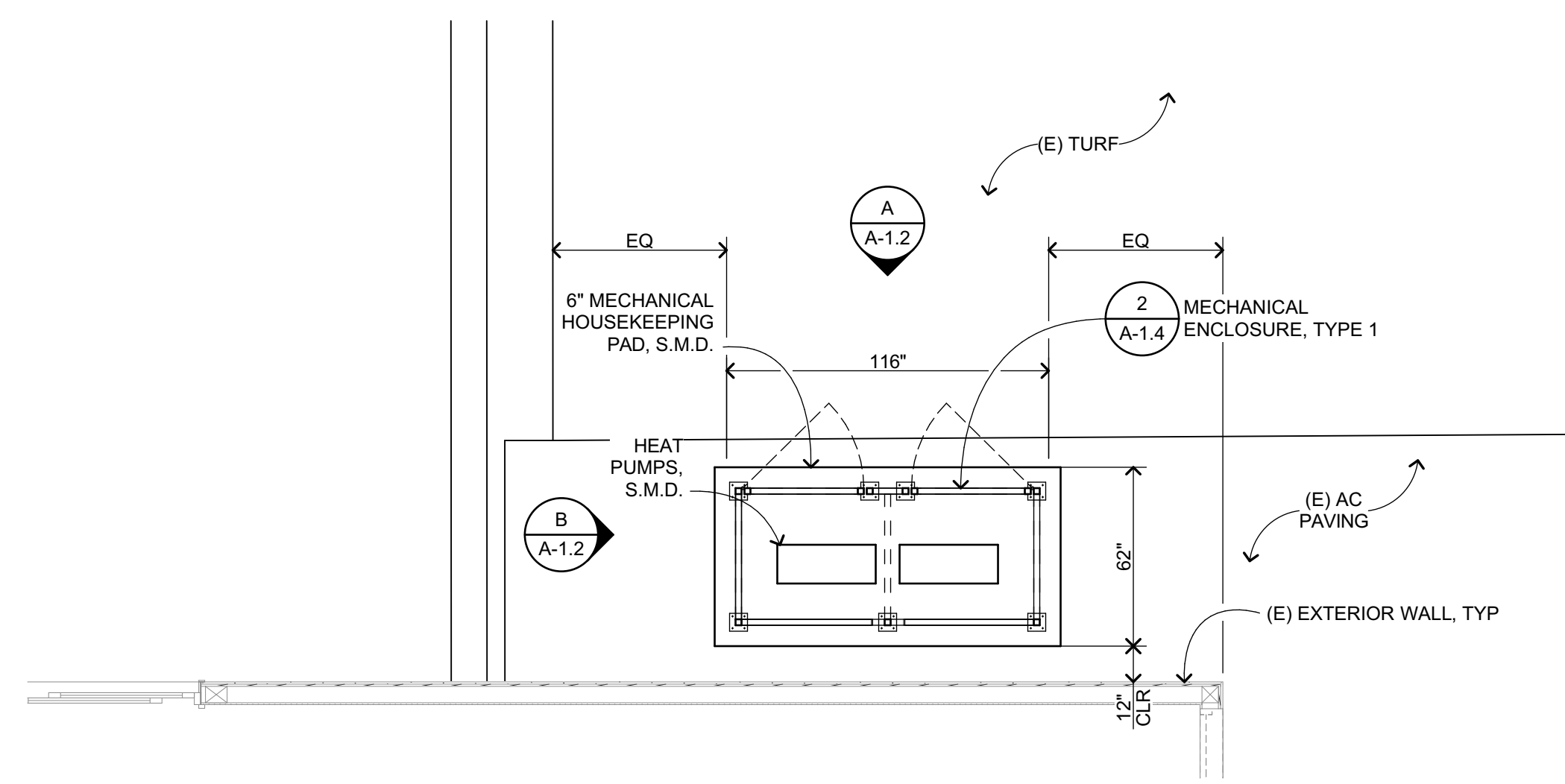
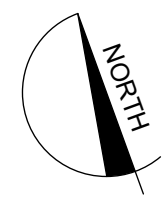
STRUCTURAL ENGINEER
ZFA Structural Engineers
1212 Fourth Street, Suite Z
Santa Rosa, CA 95404
Phone: 707-526-0992
Fax: 707-526-0217
Email: chrisw@zfa.com

MECHANICAL ENGINEER
Costa Engineers
3274 Villa Lane
Napa, CA 94558
Phone: 707-252-9177
Fax: 707-252-6473
Email: cdelcore@costaengineers.com

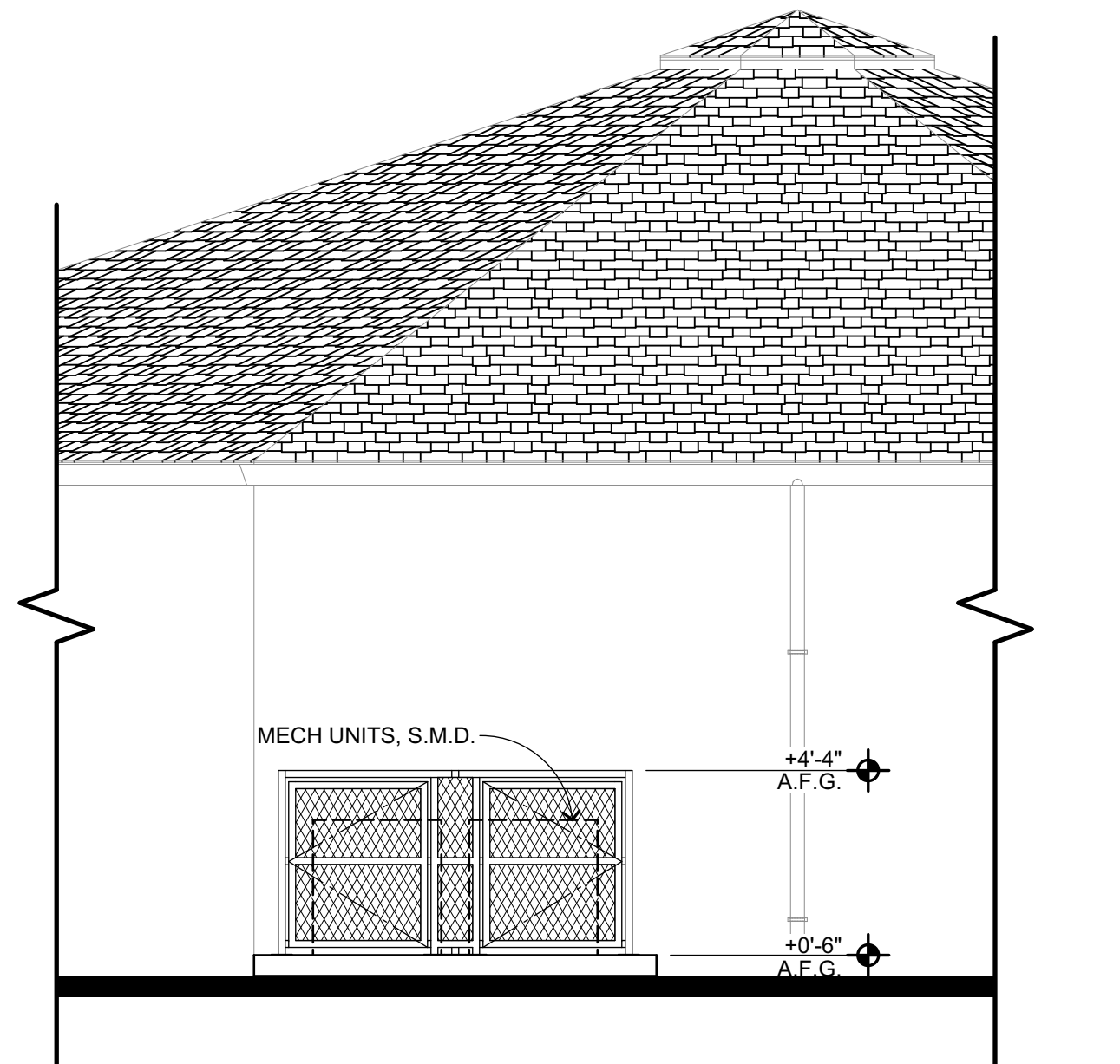
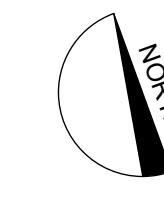
ELECTRICAL ENGINEER
O'Mahony & Myer
4340 Redwood Highway, Suite 245
San Rafael, CA 94903
Phone: 415-492-0420
Fax: 415-479-6962
Email: pcolenbrander@ommcconsulting.com



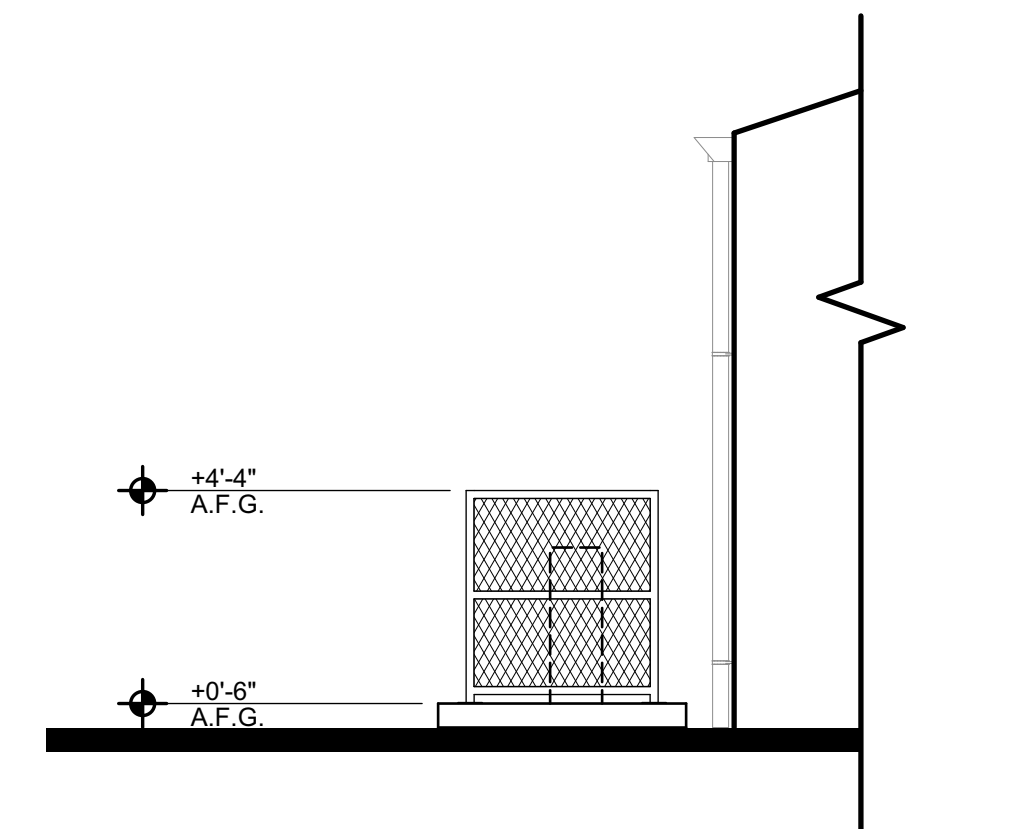
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1/4" = 1'-0"



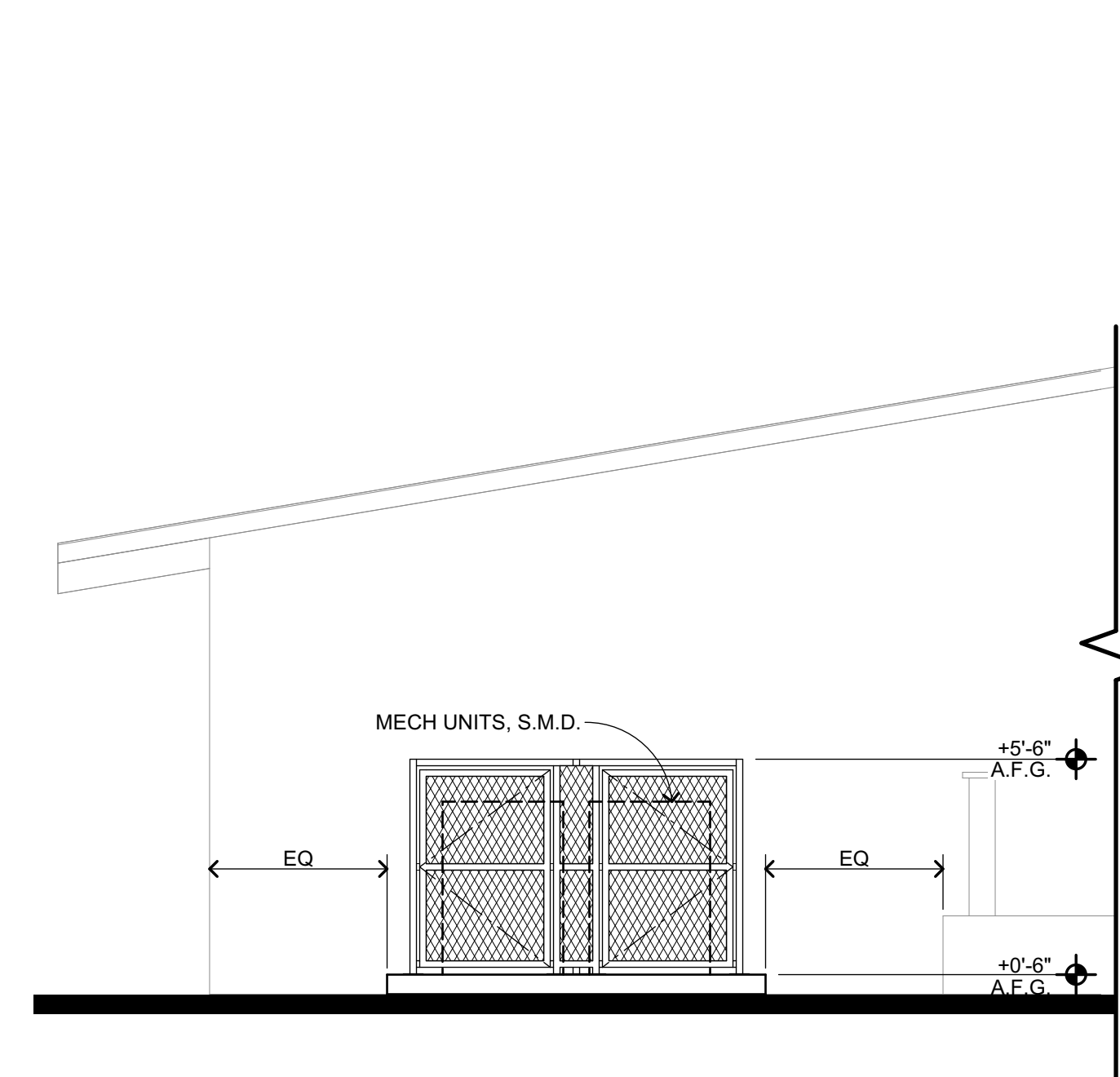
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1/4" = 1'-0"



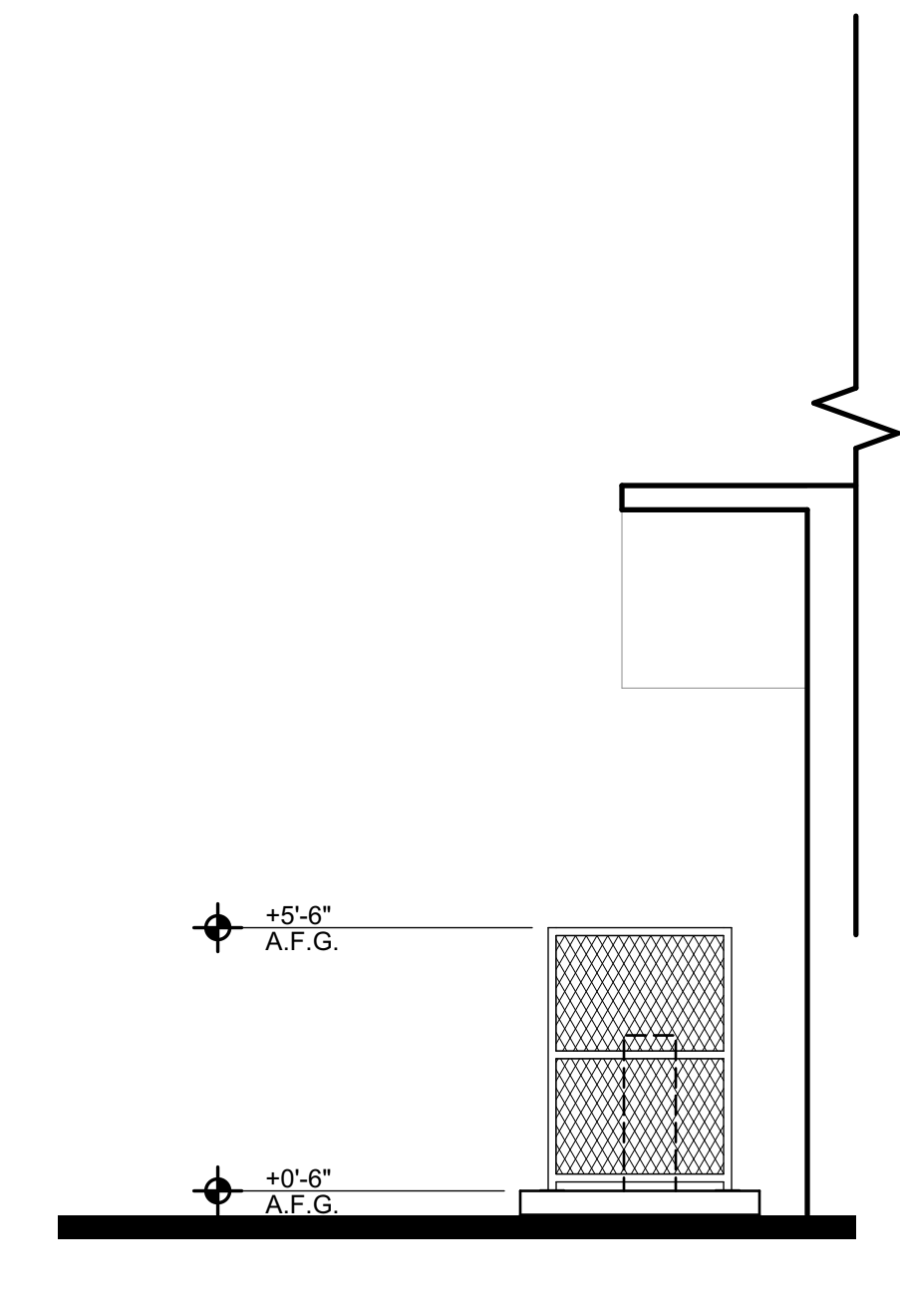
SOUTH ELEVATION C
1/4" = 1'-0"



WEST ELEVATION D
1/4" = 1'-0"



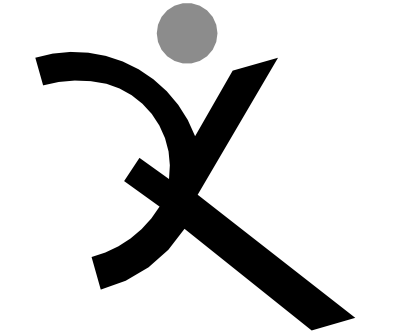
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1/4" = 1'-0"



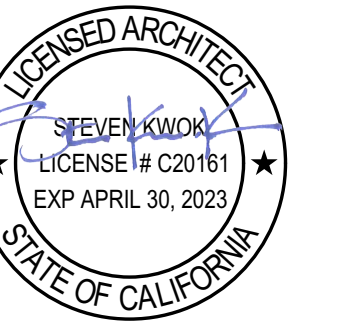
WEST ELEVATION B
1/4" = 1'-0"

ENLARGED SITE PLAN GENERAL NOTES

- REFER TO MECHANICAL ENGINEERING DWGS FOR MECHANICAL UNIT INSTALLATIONS NOT OTHERWISE INDICATED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY CONFIRM EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING ABOVE AND UNDERGROUND UTILITIES AND SERVICES. PROTECT ALL EXISTING UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED ON THE PLANS. WHERE DEMOLISHED, CAP AS REQUIRED AND IDENTIFY FOR OWNER. EXISTING MAINS AND SERVICE LINES SHOWN HAVE NOT BEEN VERIFIED IN THE FIELD.
- IF UTILITIES TO REMAIN IN PLACE ARE DAMAGED, CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY AND MAKE REPAIRS TO SAID LINES AS QUICKLY AS POSSIBLE, AT NO EXPENSE TO THE OWNER.
- DEMOLITION OF UTILITIES TO BE STAGED AS REQUIRED SO THAT EXISTING SERVICE TO REMAINING BUILDINGS ARE NOT INTERRUPTED.
- WITHIN THE LIMIT OF DEMOLITION, REMOVE ALL PAVING AND AGGREGATE BASE, TREES AND PLANTS, TOPSOILS, ORGANIC MATERIAL AND MISCELLANEOUS ITEMS UNLESS OTHERWISE NOTED ON PLANS. EXCAVATE TO PAD ELEVATION OR SUBGRADE DEPTH FOR PROPOSED CONSTRUCTION AS INDICATED ON PROJECT DOCUMENTS.
- EROSION CONTROL MEASURES SHALL BE IMPLEMENTED TO PREVENT DEBRIS AND UNSUITABLE MATERIALS FROM ENTERING STORM DRAINS, SANITARY SEWERS AND STREETS.
- DUST CONTROL SHALL BE IMPLEMENTED DURING DEMOLITION.



QUATTROCCHI KWOK ARCHITECTS
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East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607 (707) 576-0829



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DSA APP NO. 01-120022

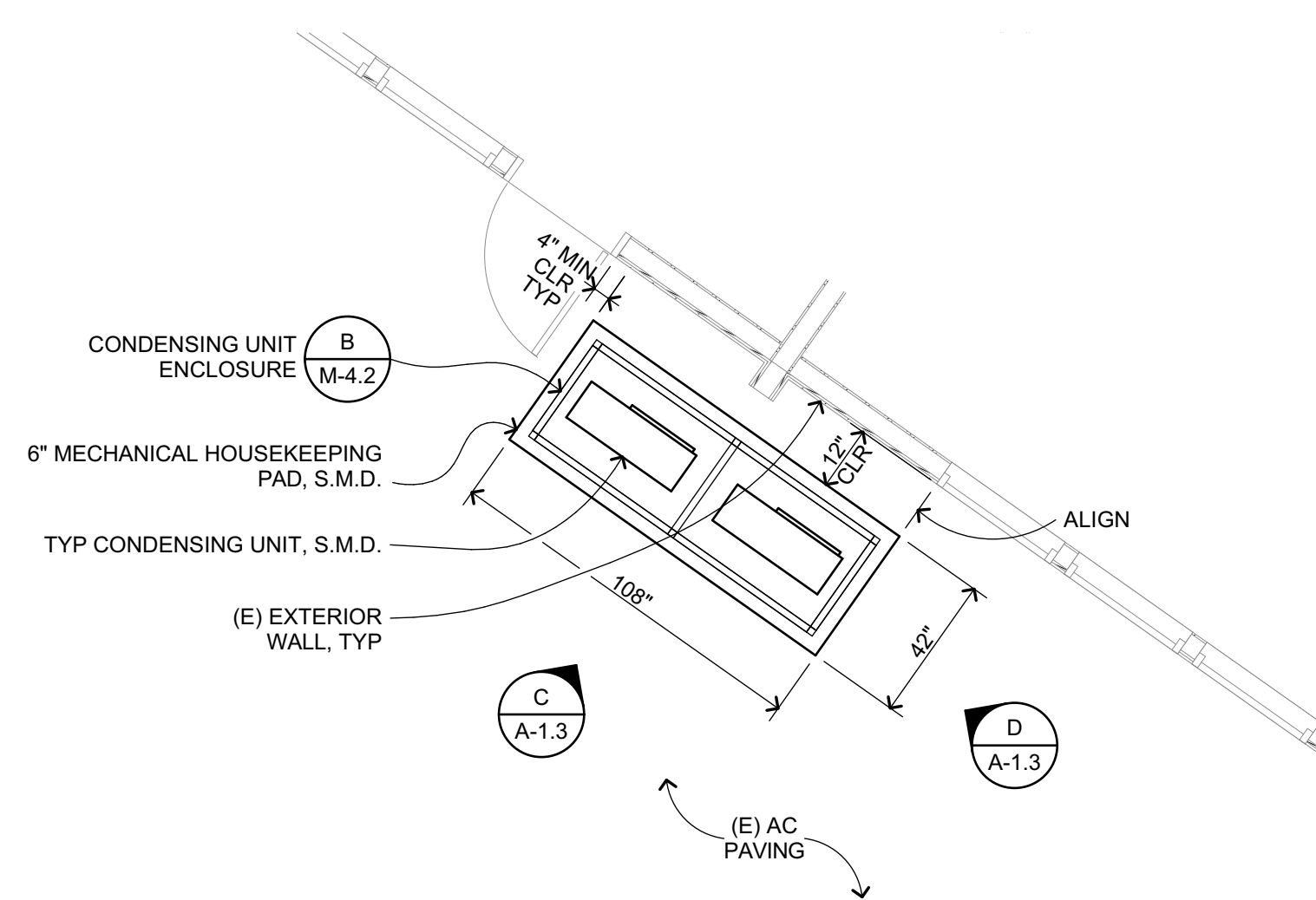
ARCH PROJECT NO. 1900.03
DRAWN BY: TF, BSC
DRAWING SCALE: 1/4" = 1'-0"
PTN: 65458-61 FILE NO: 21-39

DSA SUBMITTAL
JANUARY 31, 2022

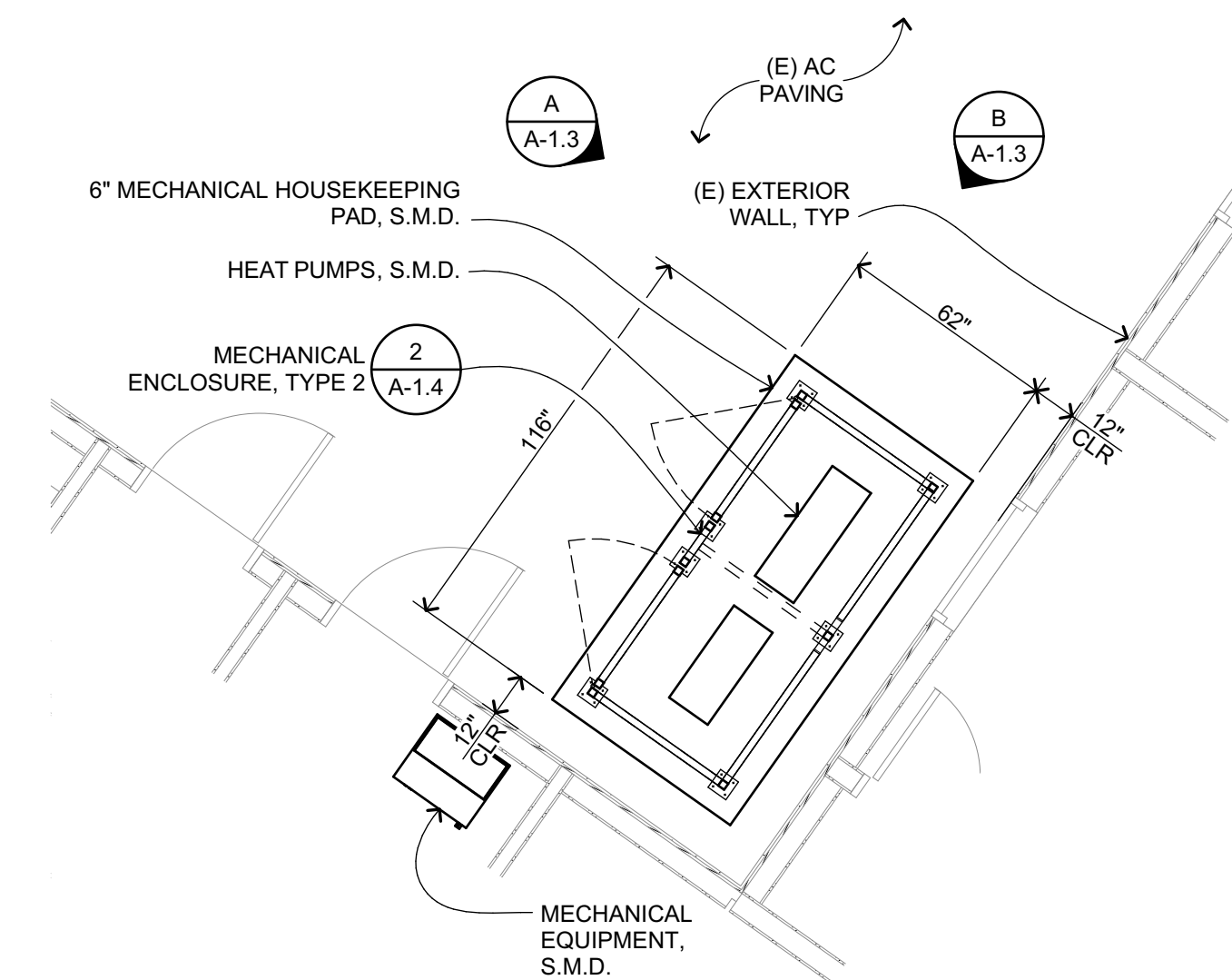
**PARTIAL
ENLARGED SITE
PLANS &
ELEVATIONS**

SHEET NUMBER

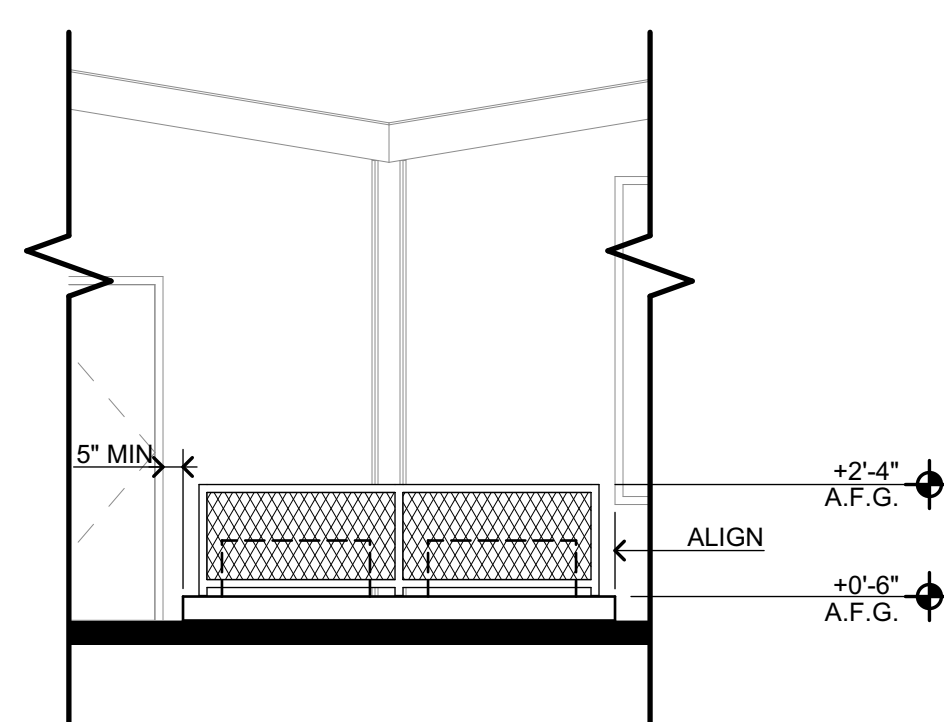
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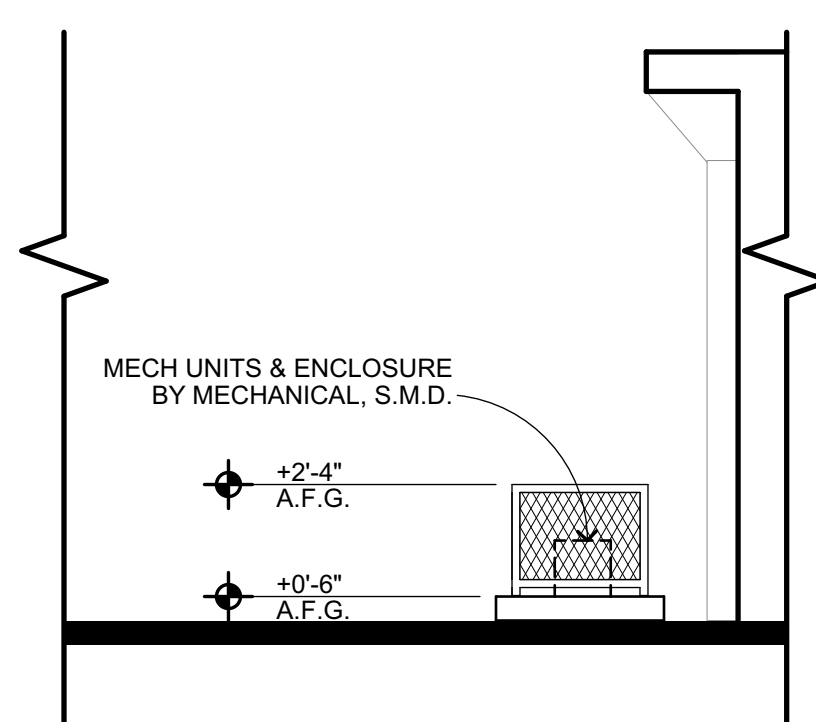
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1/4" = 1'-0"



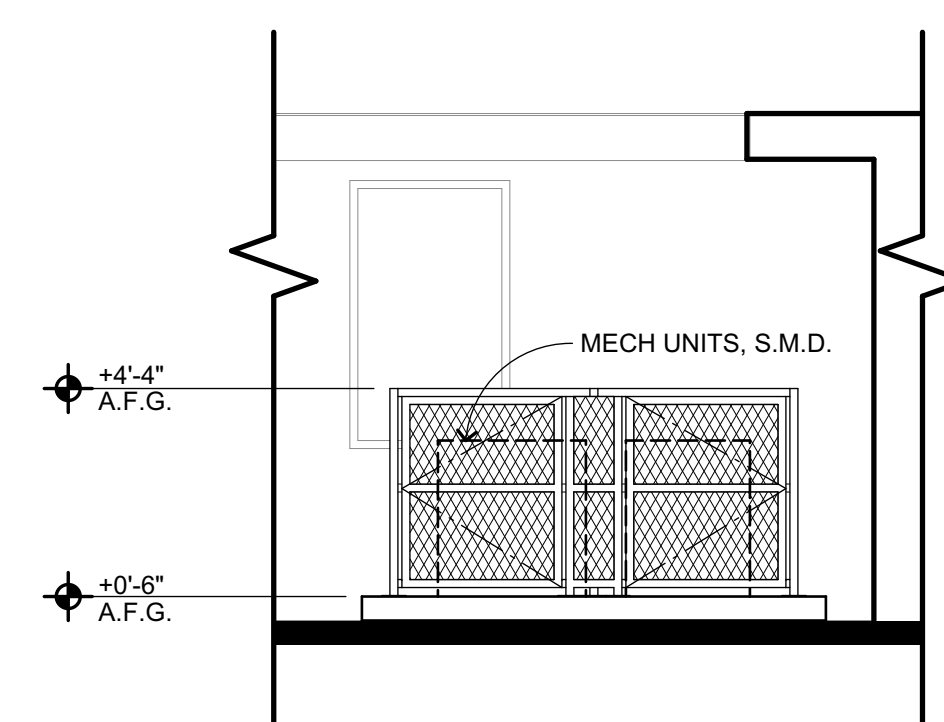
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1/4" = 1'-0"



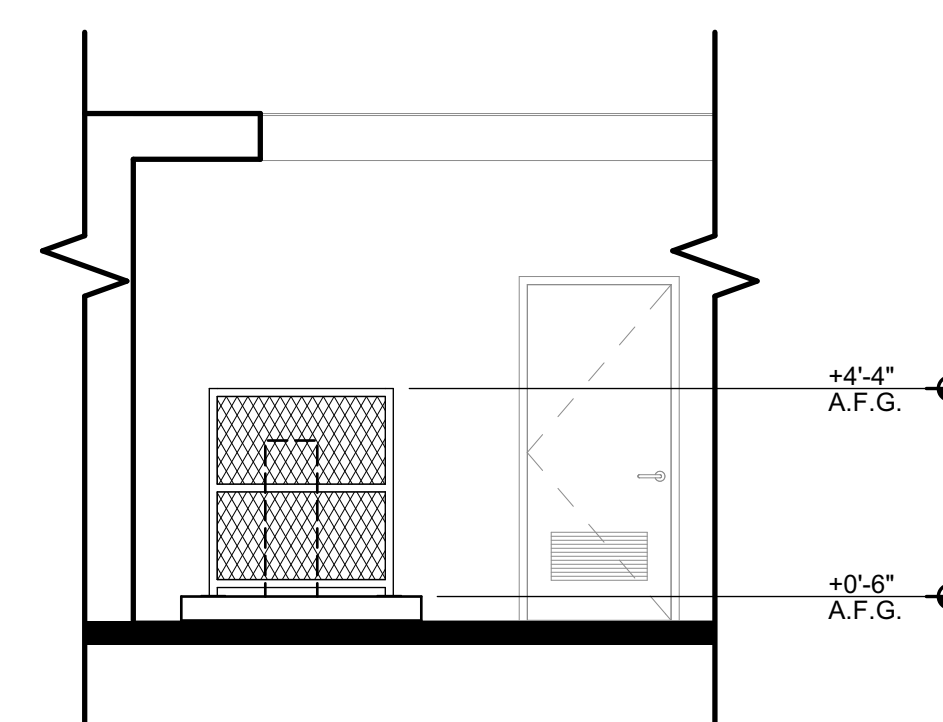
WEST ELEVATION C
1/4" = 1'-0"



SOUTH ELEVATION D
1/4" = 1'-0"



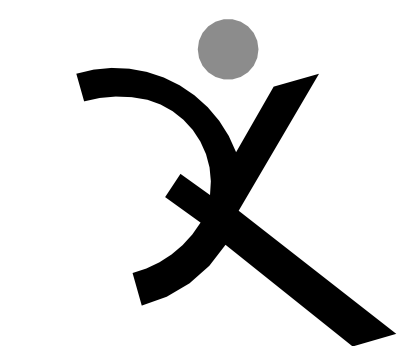
NORTH ELEVATION A
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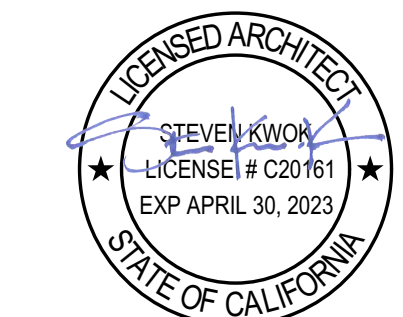
EAST ELEVATION B
1/4" = 1'-0"

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DSA APP NO. 01-120022

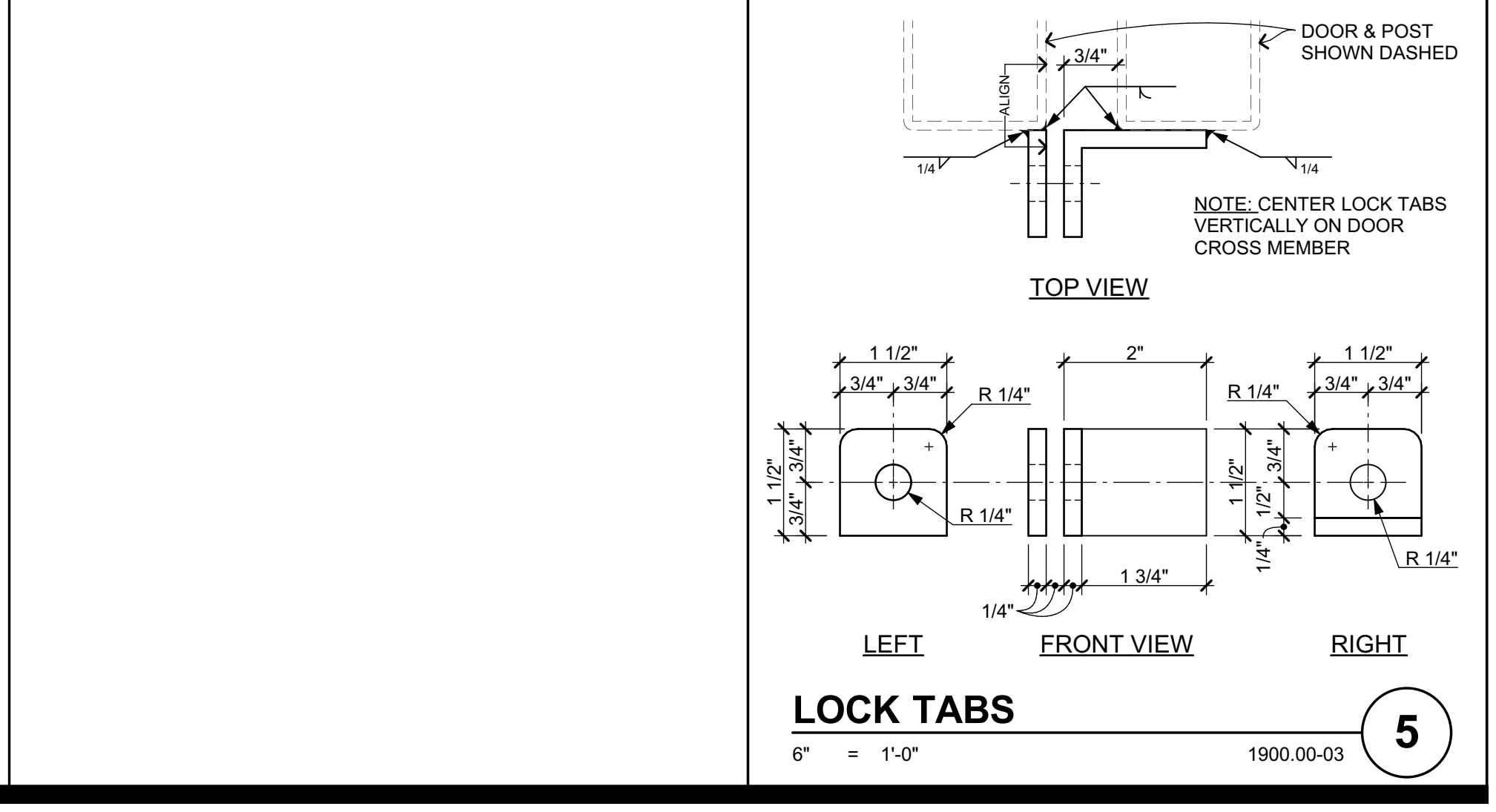
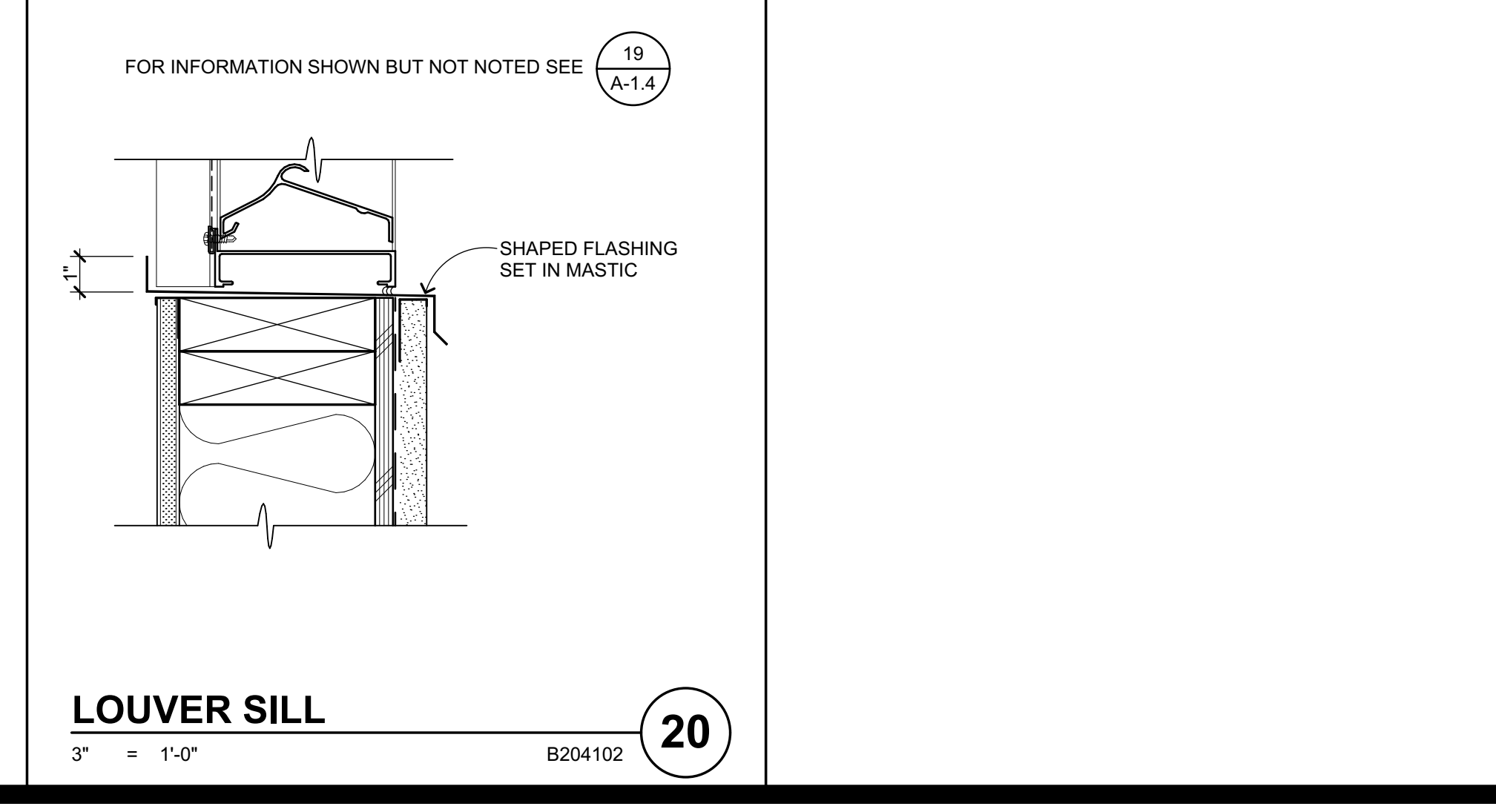
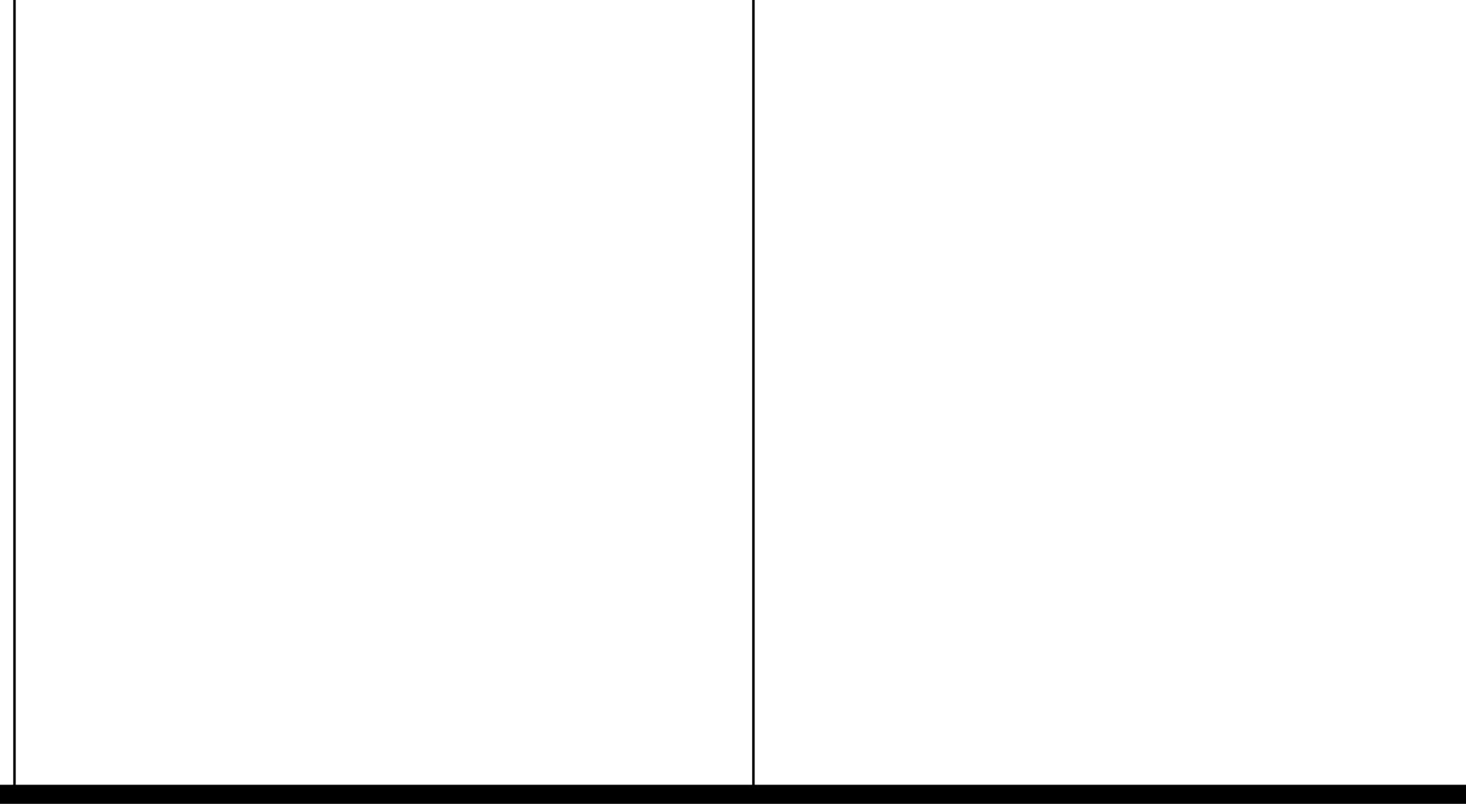
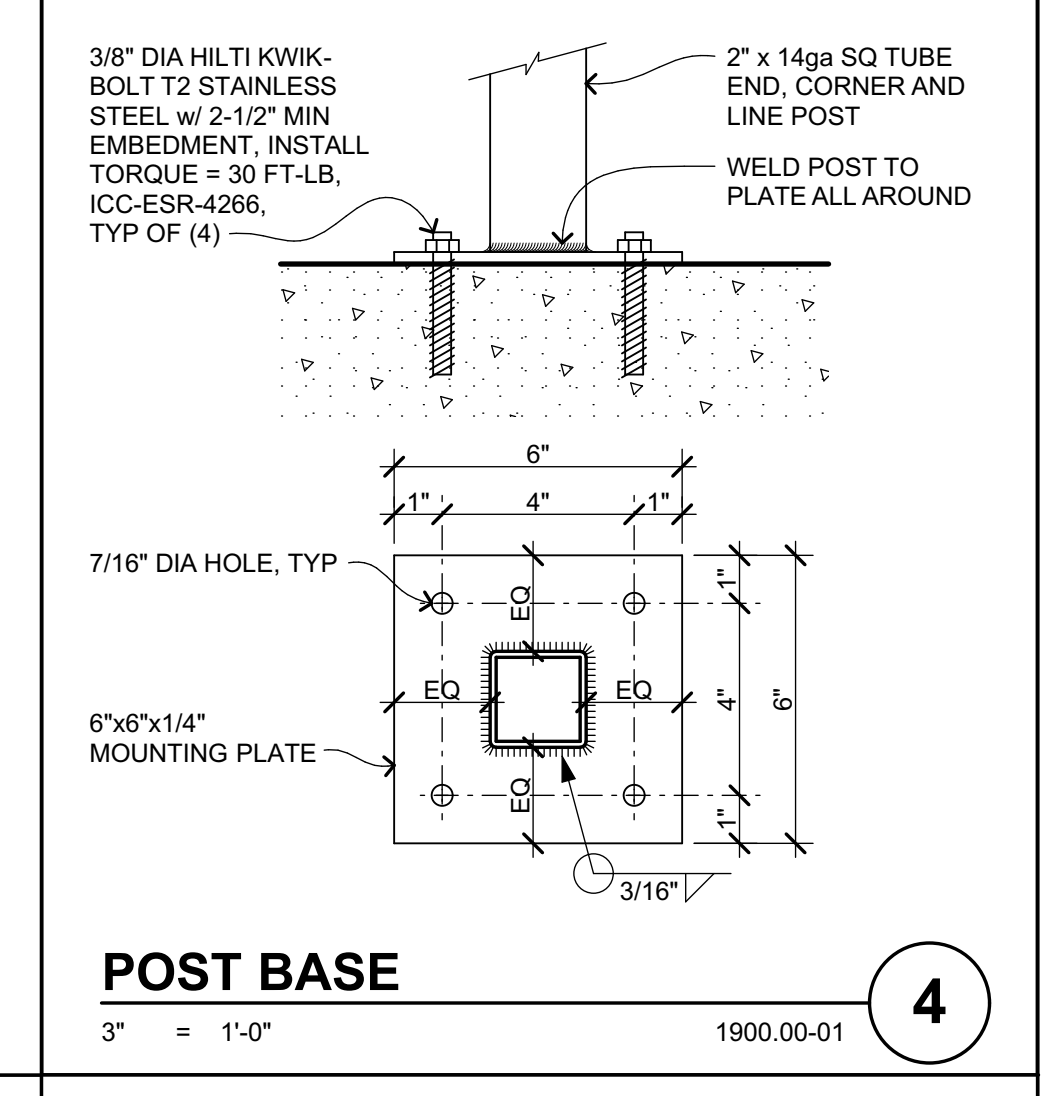
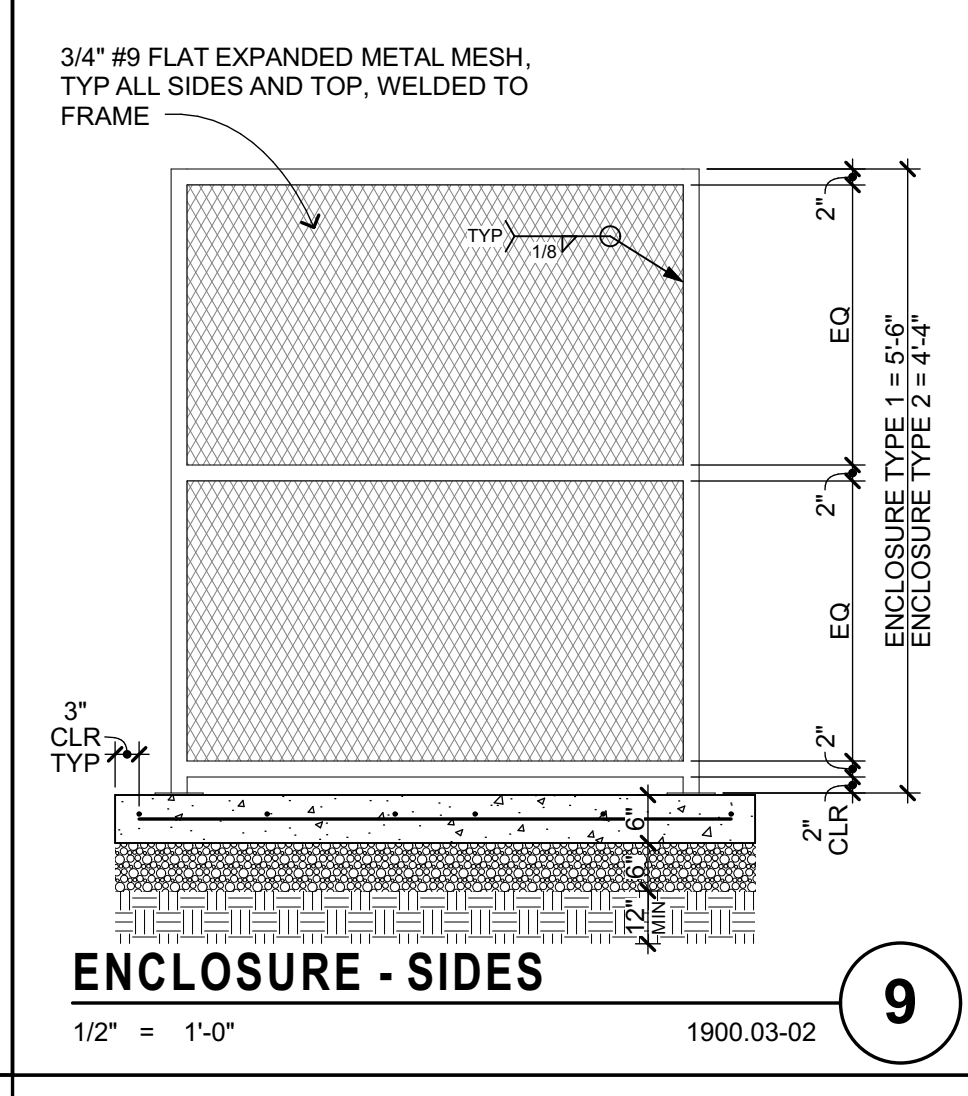
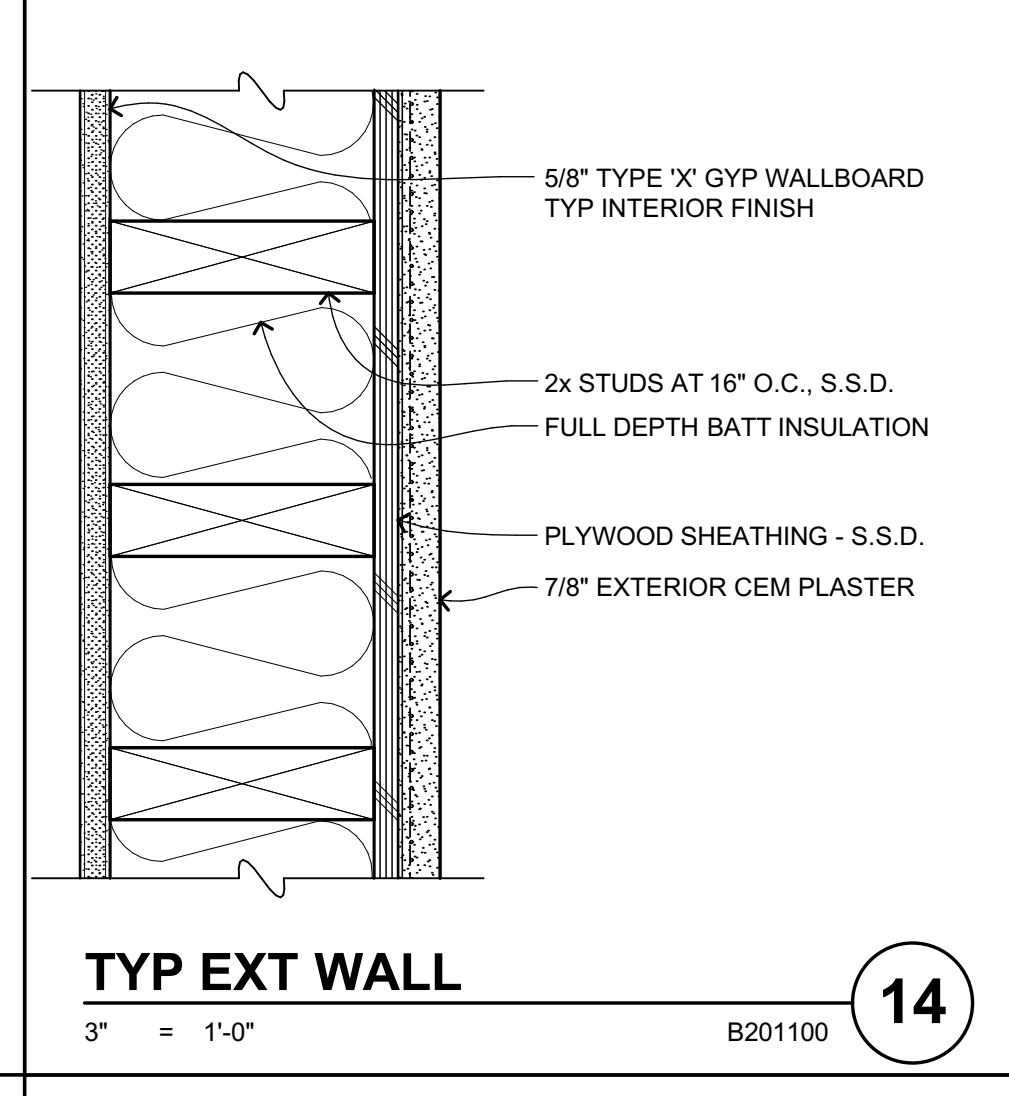
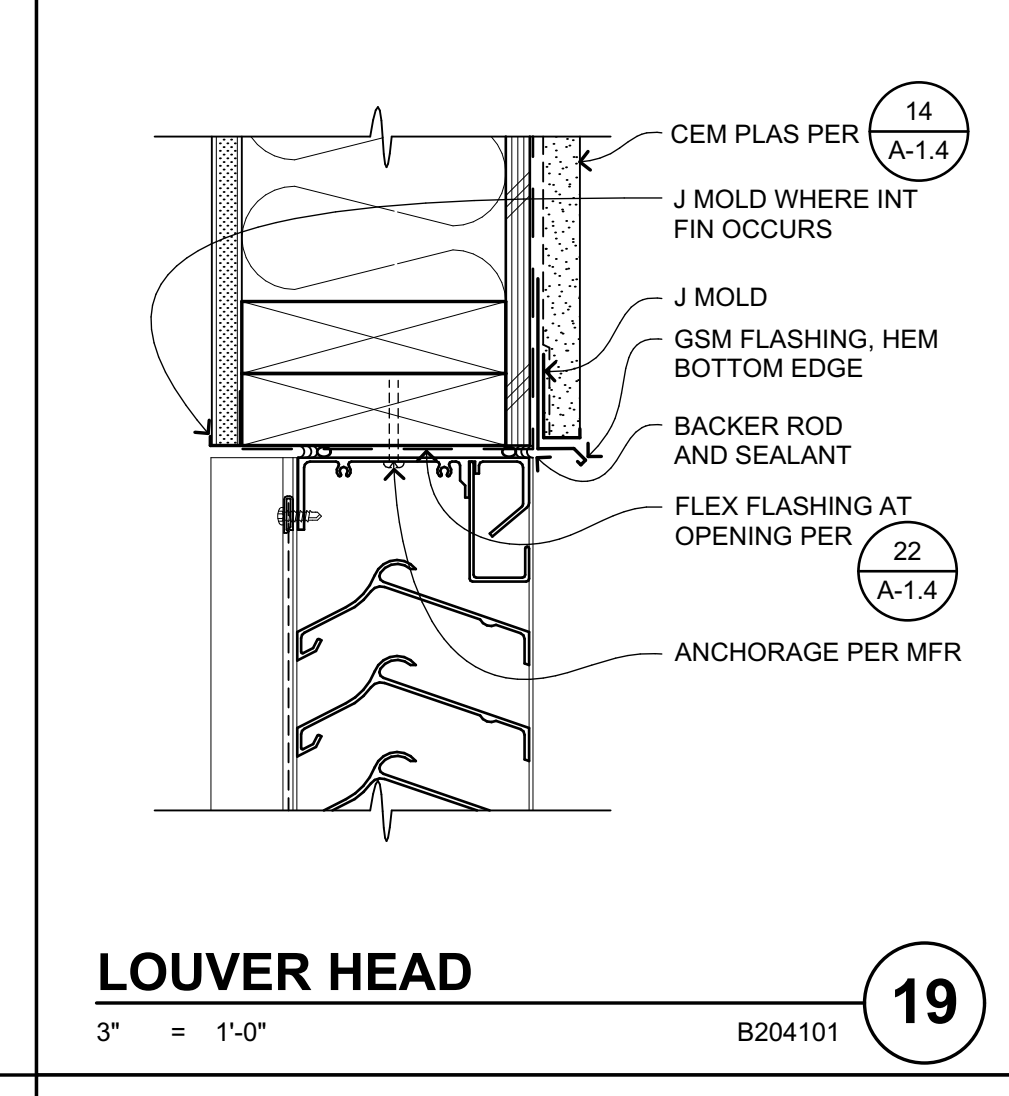
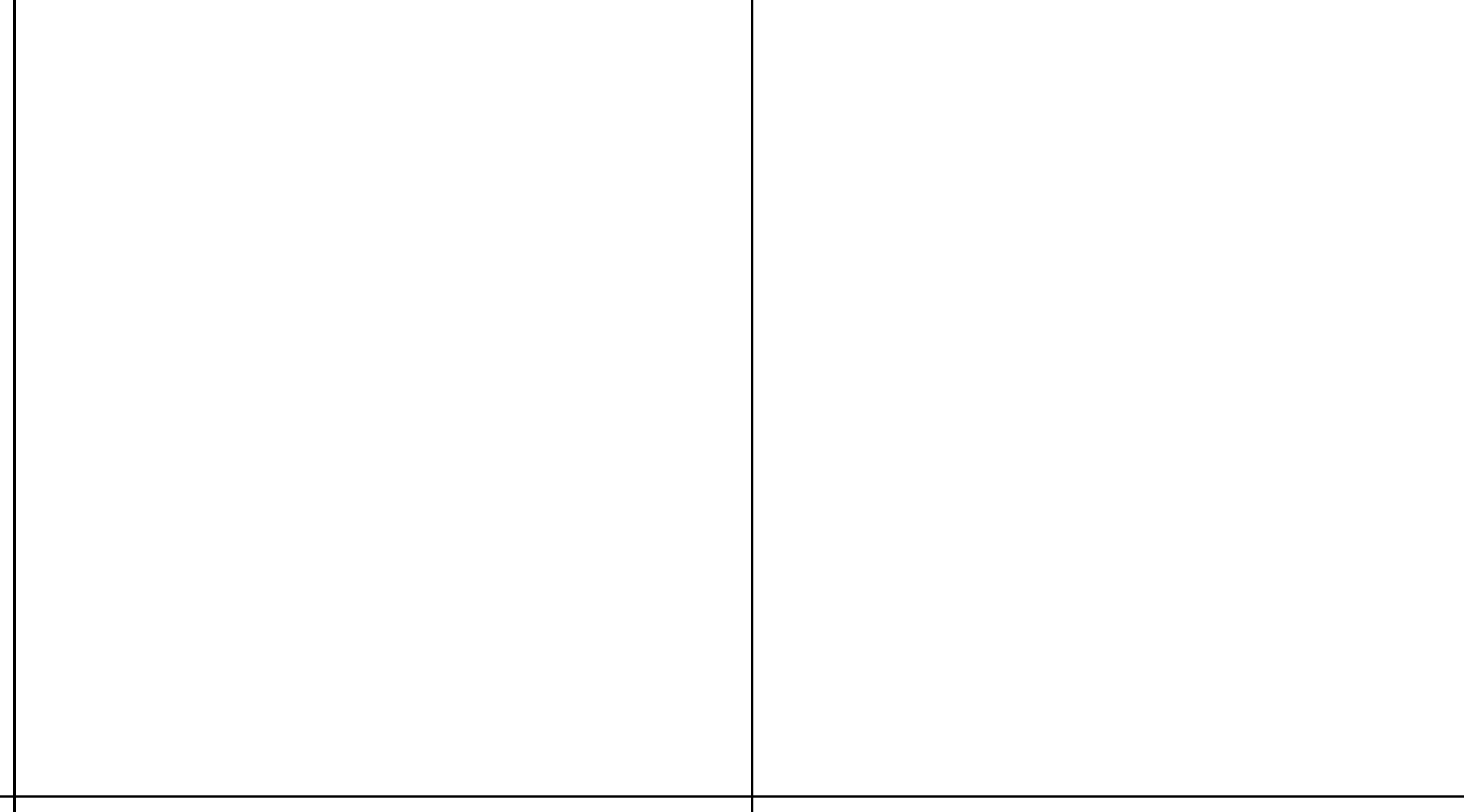
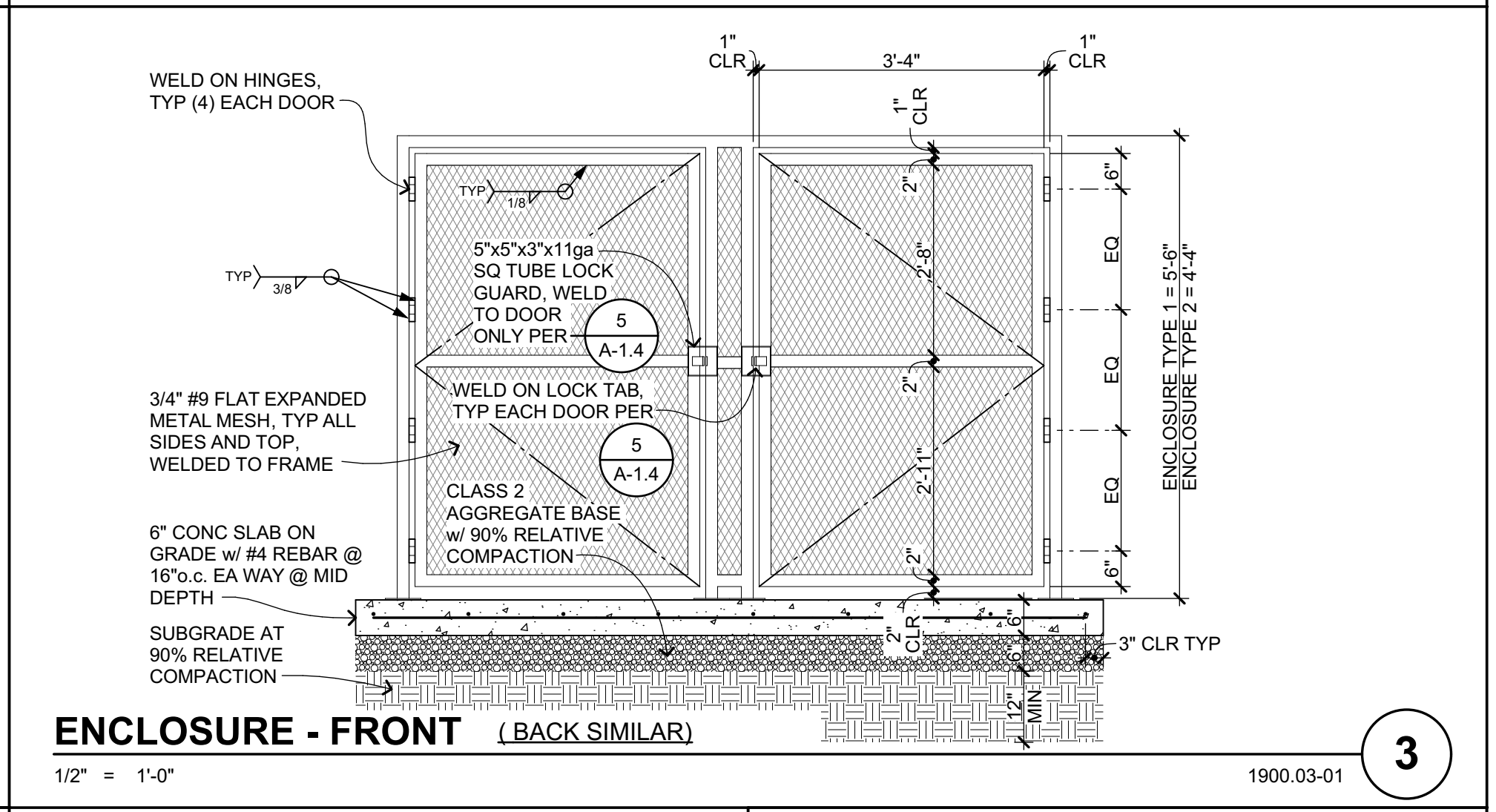
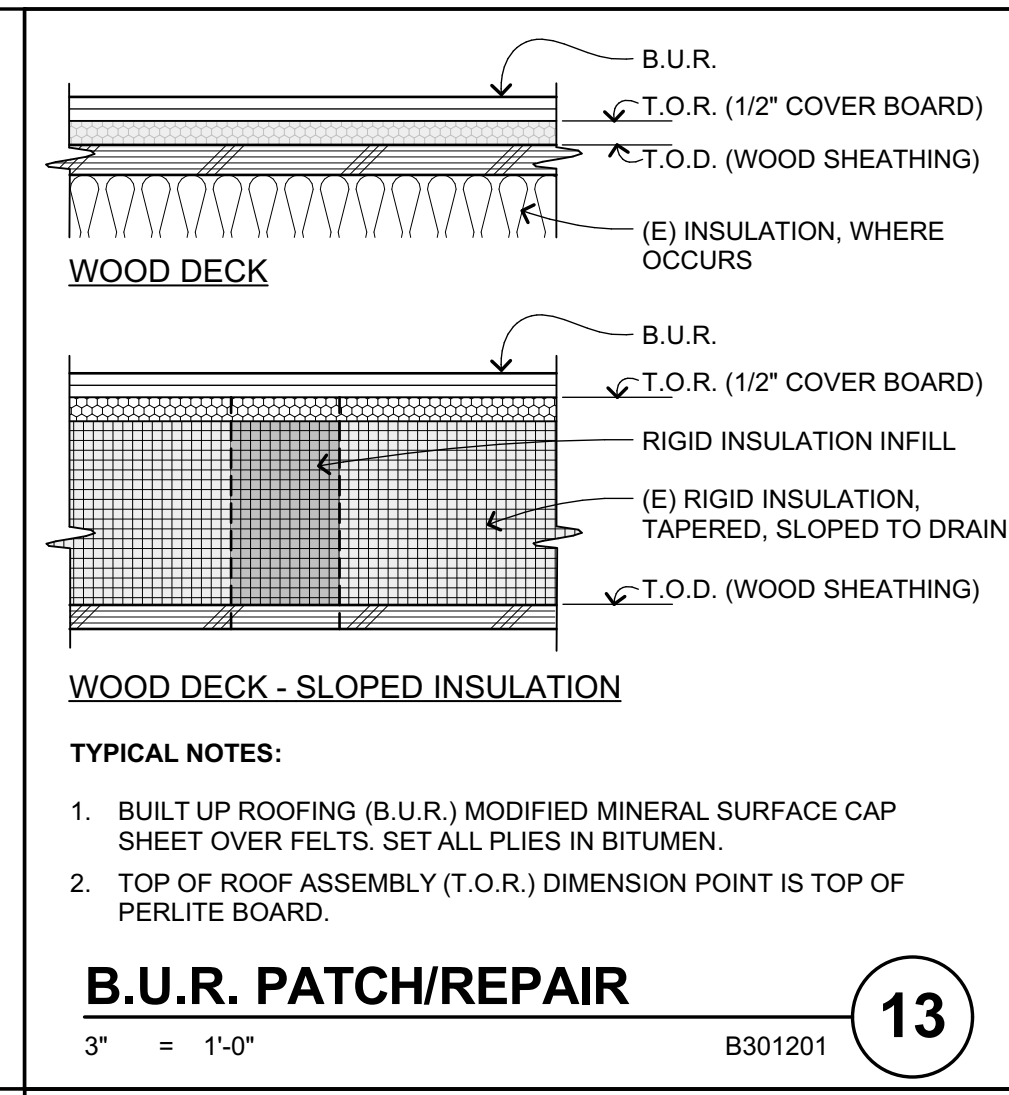
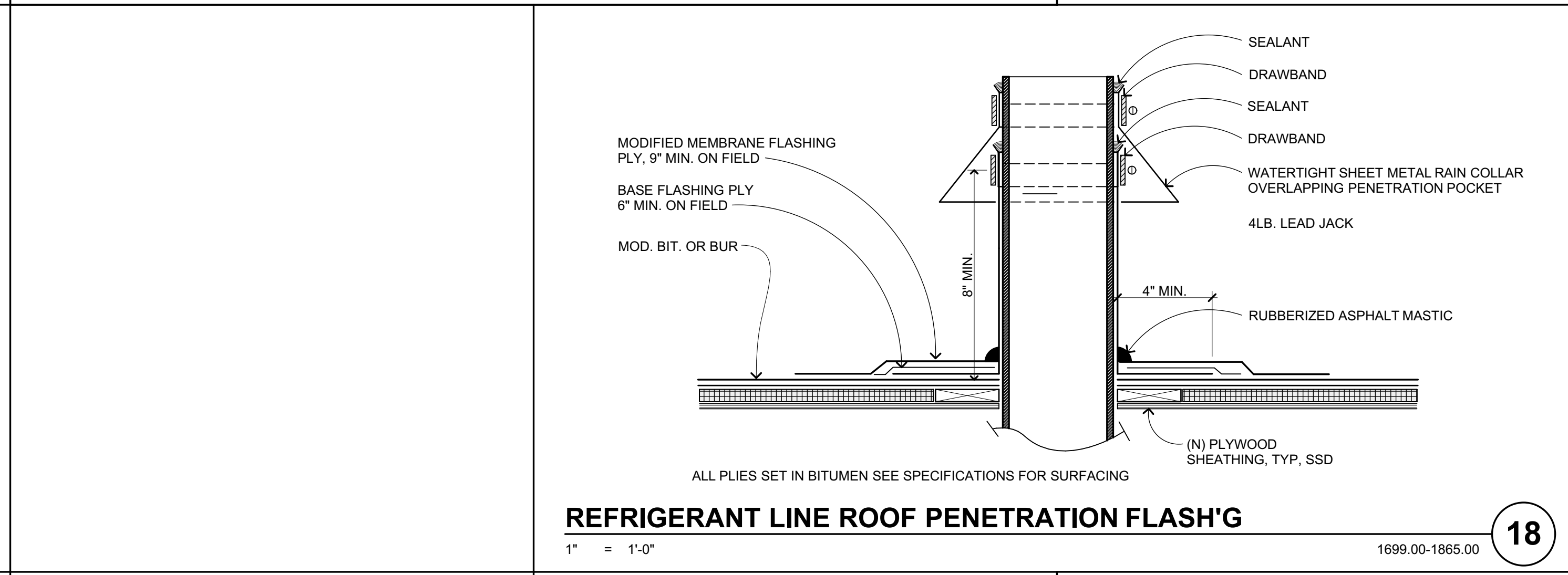
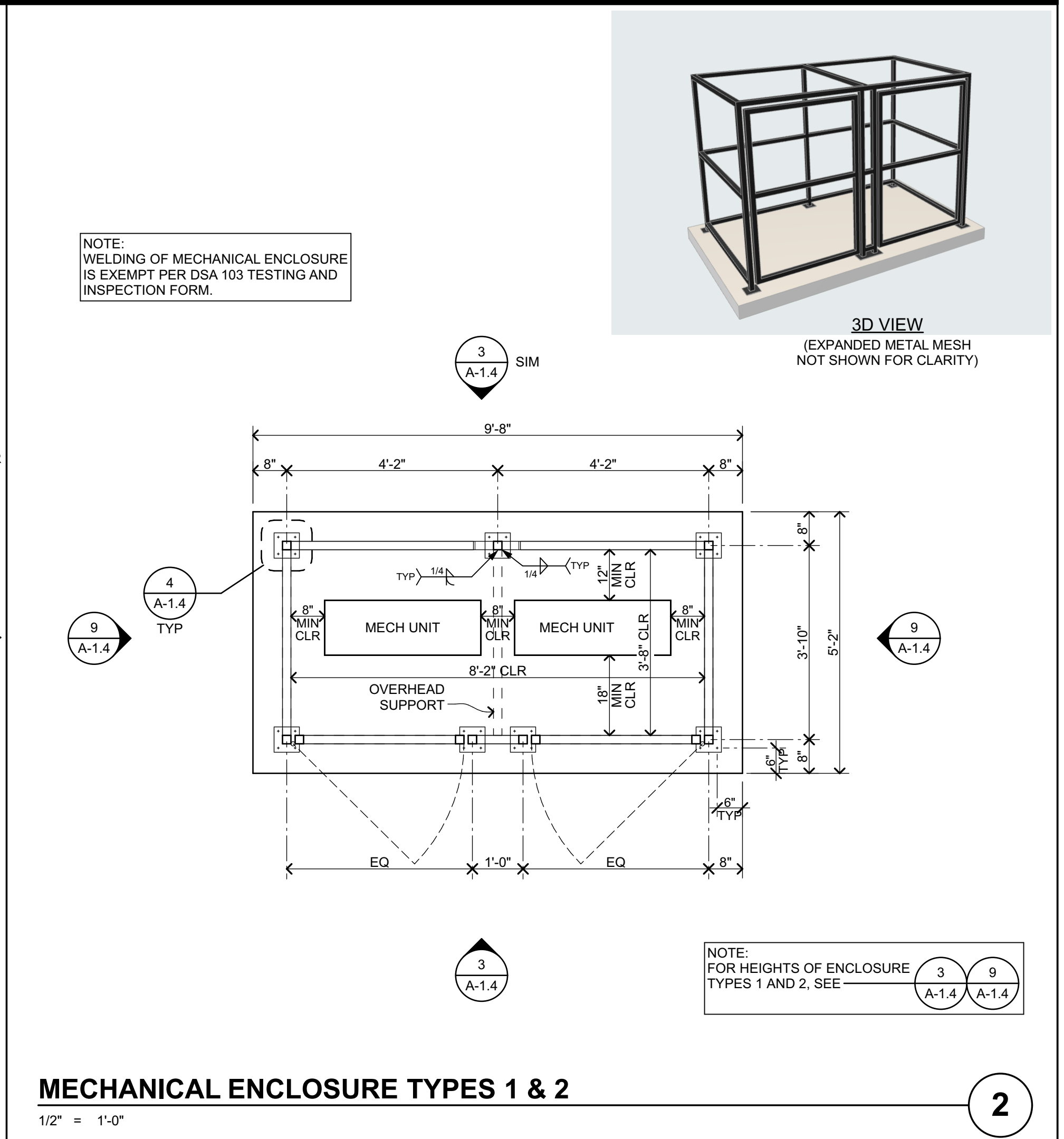
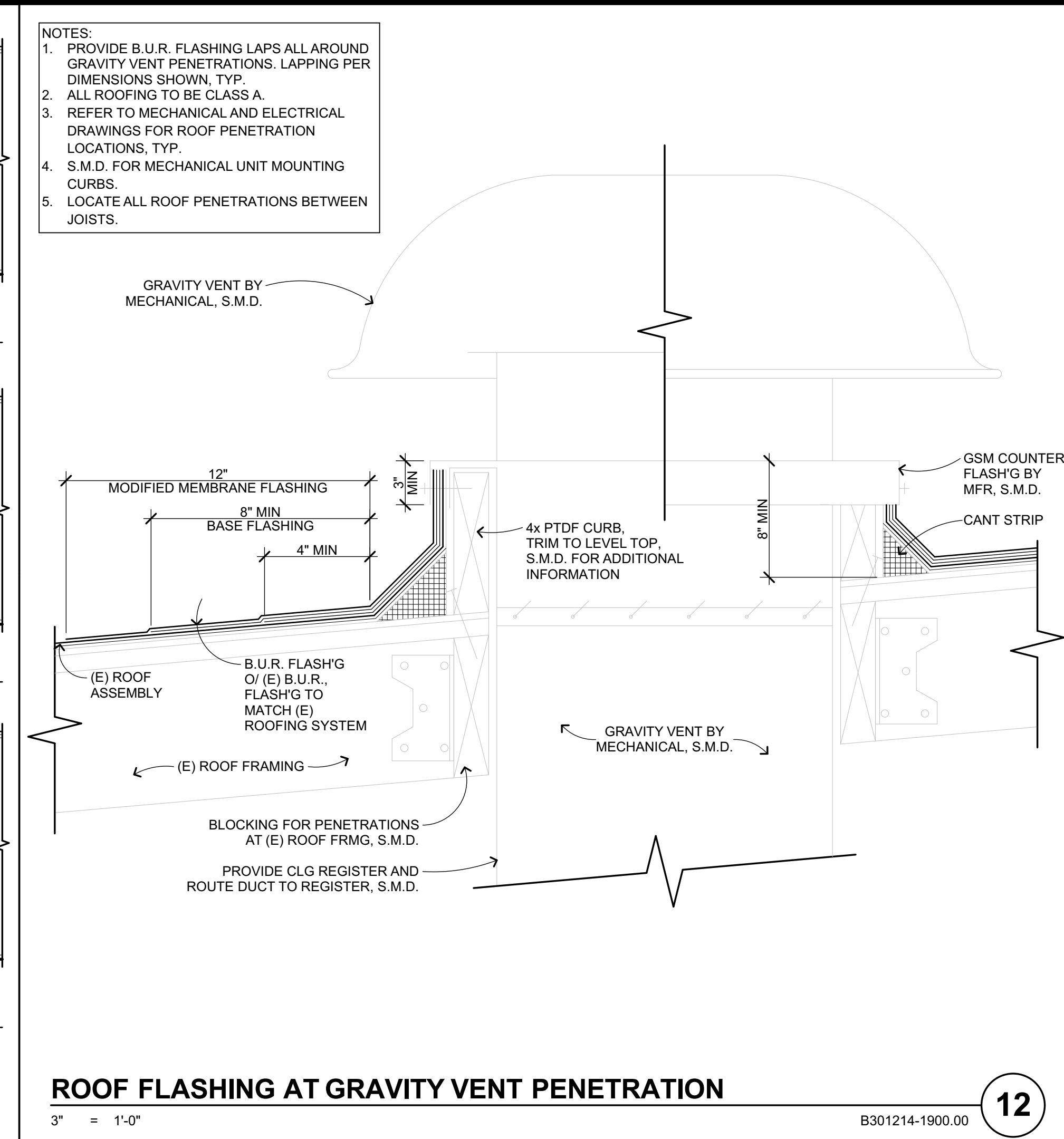
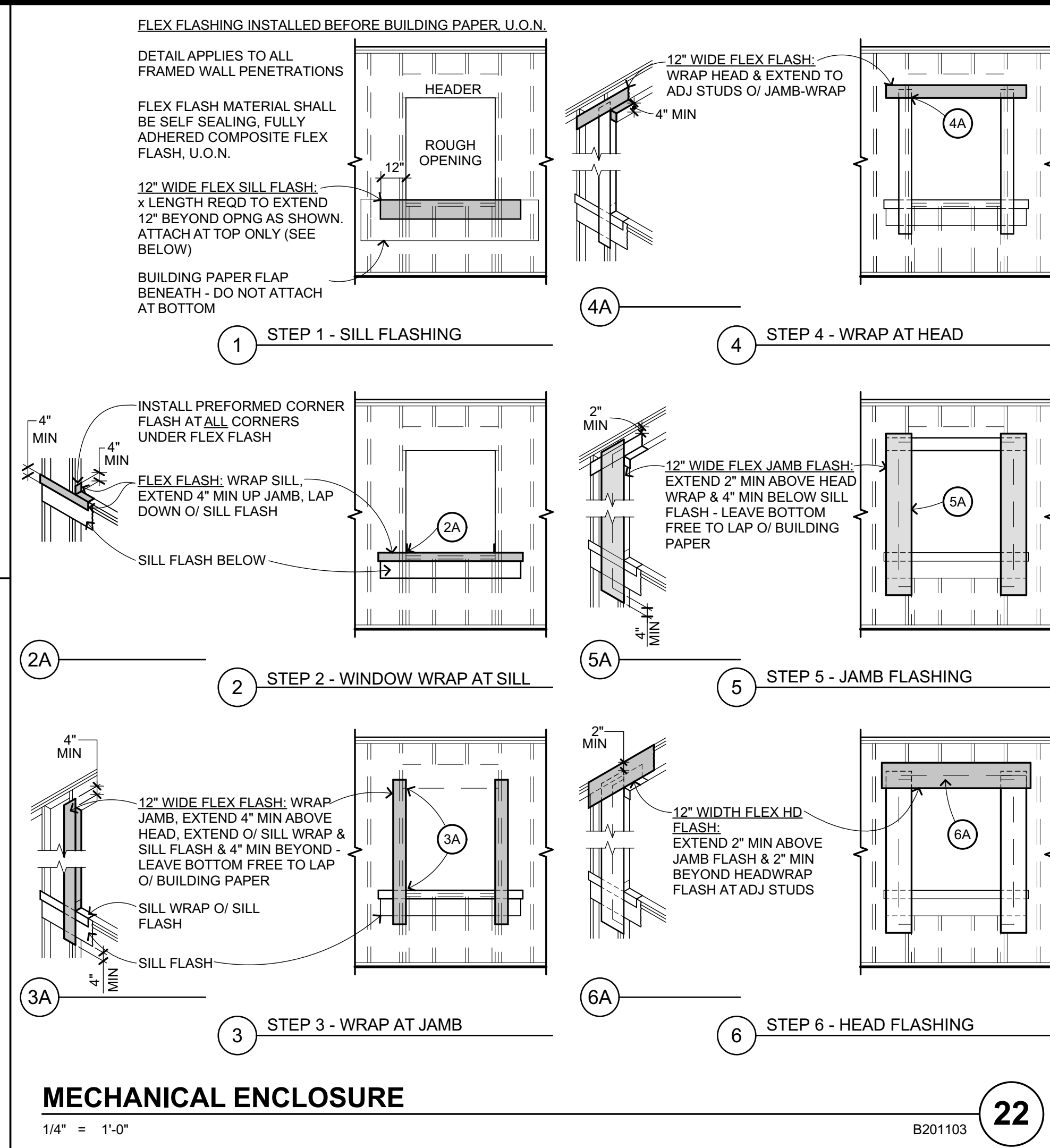
ARCH PROJECT NO. 1900.03
DRAWN BY: TF, BSC
DRAWING SCALE: 1/4" = 1'-0"
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JANUARY 31, 2022

PARTIAL ENLARGED SITE PLANS & ELEVATIONS

SHEET NUMBER

A-1.3



IP2333-011ActiveProjectFiles\1900.03 - Davidson MS HVAC Upgrades-Annex.Rm37_SRC\Drawings\04-CD-1900.03.DAVIDSON ANNEX & OTHERS HVAC\1/21/2022.4.03 PM

QUATTROCCHI KWOK ARCHITECTS
Main: 636 Fifth Street, Santa Rosa, CA 95404
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(707) 576-0829

STATE OF CALIFORNIA
LICENSE # C20161
EXP APRIL 30, 2023
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HVAC IMPROVEMENTS - ANNEX, MAKER SPACE, BAND & MUSIC ROOMS

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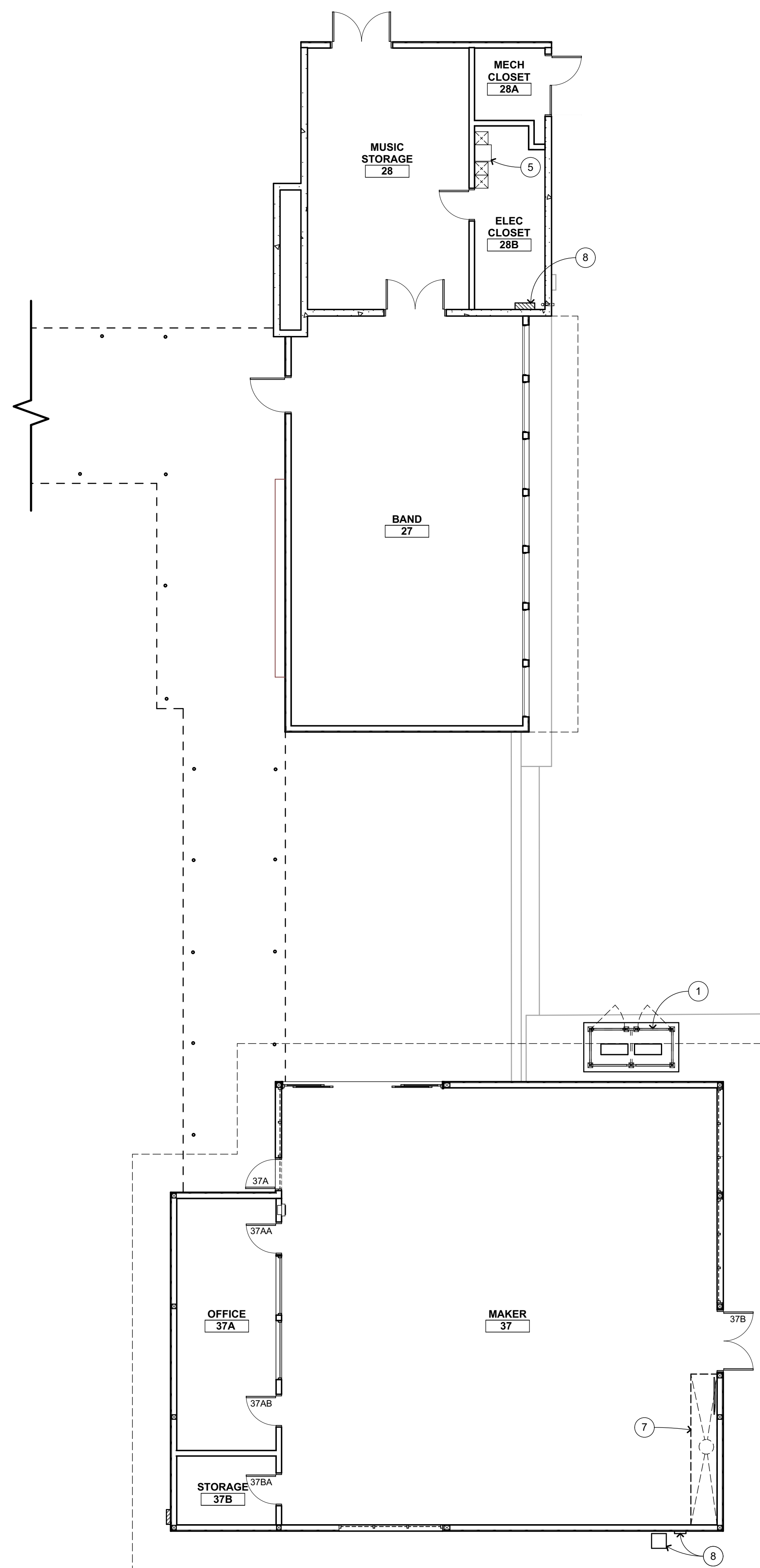
SAN RAFAEL CITY SCHOOLS

DSA APP NO. 01-120022
ARCH PROJECT NO. 1900.03
DRAWN BY: TF, BSC
DRAWING SCALE: AS NOTED
PTN: 65458-61 FILE NO: 21-39
DSA SUBMITTAL
JANUARY 31, 2022

ARCHITECTURAL DETAILS

A-1.4

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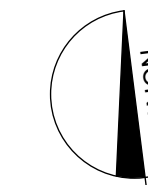


MAKER SPACE AND BAND ROOM FLOOR PLANS

S.M.D. FOR LIMITED MECHANICAL DEMOLITION SCOPE

1/8" = 1'-0"

1



FLOOR PLAN KEYNOTES

- 1 MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT MAKER BLDG. S.M.D. FOR MECHANICAL WORK, FOR ENCLOSURE SEE 1 A-1.2
- 2 MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT MUSIC BLDG. S.M.D. FOR MECHANICAL WORK, FOR ENCLOSURE SEE 2 A-1.2
- 3 MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT ANNEX. S.M.D. FOR MECHANICAL WORK, FOR ENCLOSURE SEE 1 A-1.3
- 4 MECHANICAL CONDENSING UNITS ENCLOSURE ON HOUSEKEEPING PAD. S.M.D. FOR MECHANICAL WORK & ENCLOSURE, ALSO SEE 2 A-1.3
- 5 REPLACEMENT INTERIOR MECHANICAL ITEMS, S.M.D.
- 6 MODERNIZED (E) INTERIOR MECHANICAL ITEMS, S.M.D.
- 7 (E) MECHANICAL ITEMS TO REMAIN, PRESERVE & PROTECT, S.M.D.
- 8 (E) ELECTRICAL ITEMS, S.E.D.

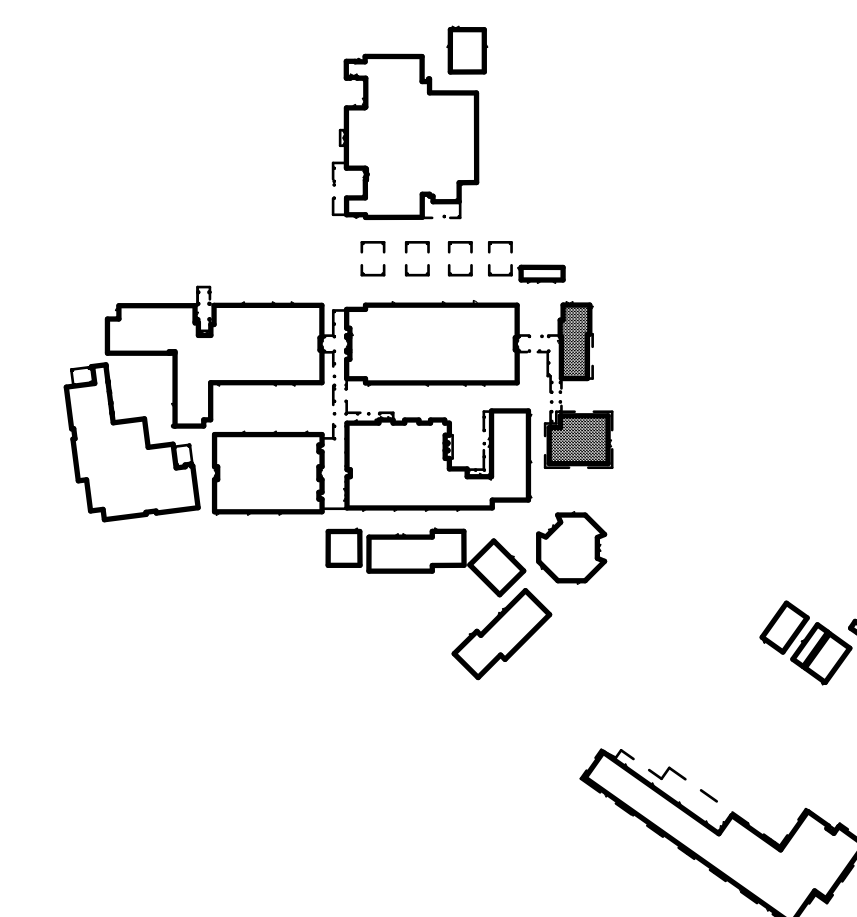
FLOOR PLAN GENERAL NOTES

- 1. COORDINATE ALL WORK WITH THAT SHOWN IN MECHANICAL AND ELECTRICAL DRAWINGS.
- 2. INTERIOR ARCHITECTURAL WORK IS LIMITED TO MECHANICAL CLOSET DOOR & FRAME REPLACEMENT & PAINTING, INCLUDING RELATED WOOD TRIM, AND INCIDENTAL PATCH/REPAIR & PAINTING RELATED TO DOOR REPLACEMENT.
- 3. PRESERVE & PROTECT (E) DOOR HANDLES W/ INTEGRAL LOCKS AT TIME OF MECHANICAL CLOSET DOOR DEMOLITION. REMOVE HANDLES W/ LOCKS AND STORE SAFELY FOR REINSTALLATION INTO REPLACEMENT DOOR ASSEMBLY.
- 4. DEMOLITION SHALL BE SUFFICIENT TO COMPLETE THE (N) WORK SHOWN IN THE DRAWINGS. NEATLY CUT AND REMOVE FINISHES AS REQUIRED TO A NATURAL POINT OF DIVISION TO ENABLE INSTALLATION OF BLOCKING, BACKING, FRAMING, SHEATHING, UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR (N) WORK. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR CONCEALED WORK.
- 5. REPAIR AND REPLACE ALL EXISTING SURFACES AND FINISHES TO EXISTING UNDISTURBED WORK.
- 6. INSPECT EXPOSED STRUCTURE FOR DAMAGE AND ADVISE ARCHITECT.
- 7. SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 8. FOR PATCH/REPAIR AT (E) ROOFING & ROOF PENETRATIONS, SEE 13 A-1.4 FOR LOCATIONS.
- 9. REFER TO MECHANICAL & ELECTRICAL DWGS FOR MECHANICAL UNIT INSTALLATIONS NOT OTHERWISE INDICATED.
- 10. PATCH & PAINT AT LOCATIONS OF THERMOSTAT REMOVAL OR REPLACEMENT. S.M.D. FOR THERMOSTAT LOCATIONS.
- 11. REFER TO REFLECTED CEILING PLAN FOR CLERESTORY WINDOWS.
- 12. PROVIDE NON-SLIP SURFACE AT ALL PAVING, INCLUDING HOUSEKEEPING PADS. HEAVY BROOM FINISH AT EXTERIOR CONCRETE PAVING WHERE SLOPED >6%, MEDIUM BROOM FINISH AT SLOPES <6%.

FLOOR PLAN LEGEND

- S.S.D. FOR WOOD FRAMING SIZES
- (E) ITEM TO REMAIN
- (E) ITEM TO BE DEMOLISHED
- (E) WALL TO REMAIN, PROTECT AND PRESERVE

KEYPLAN



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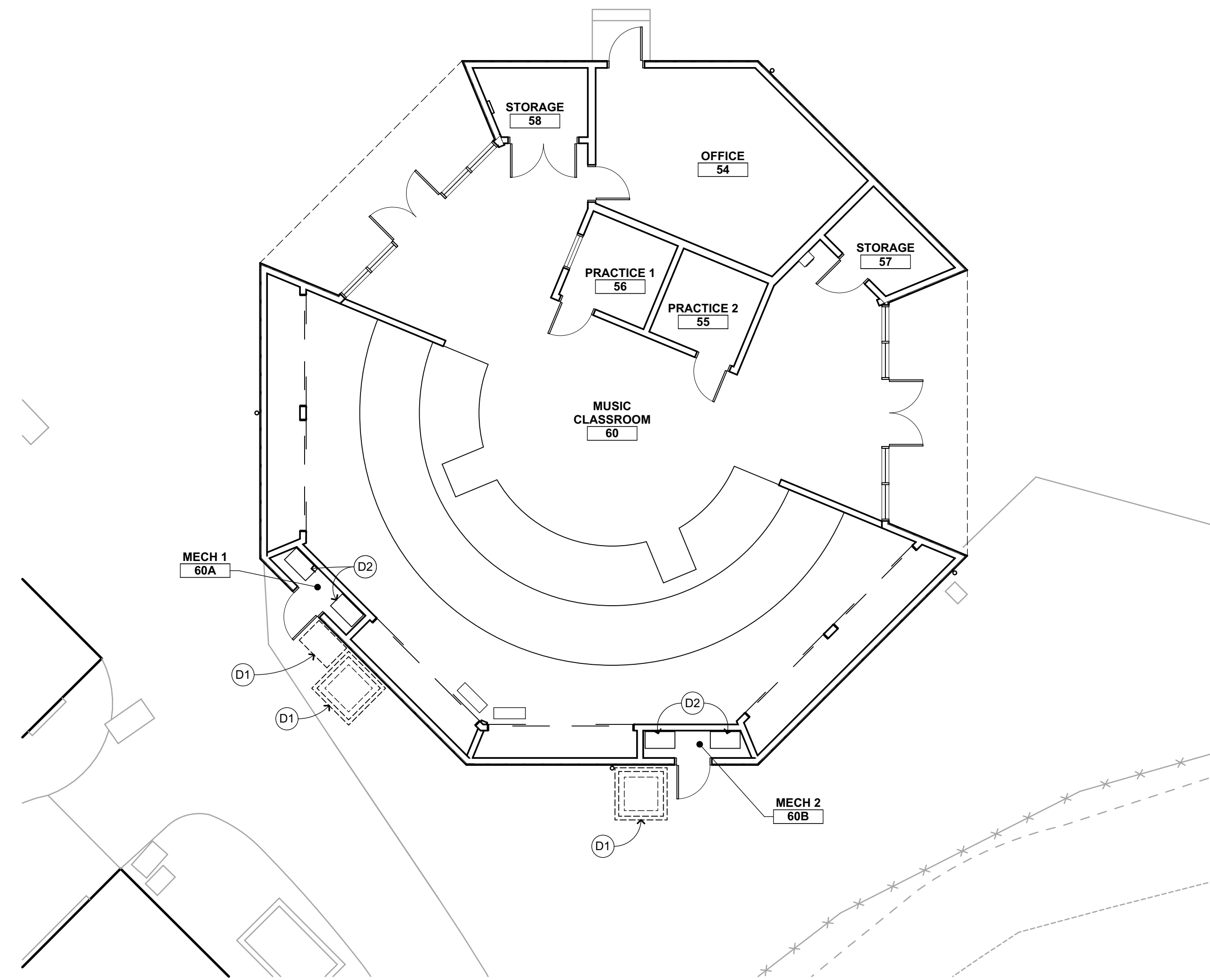
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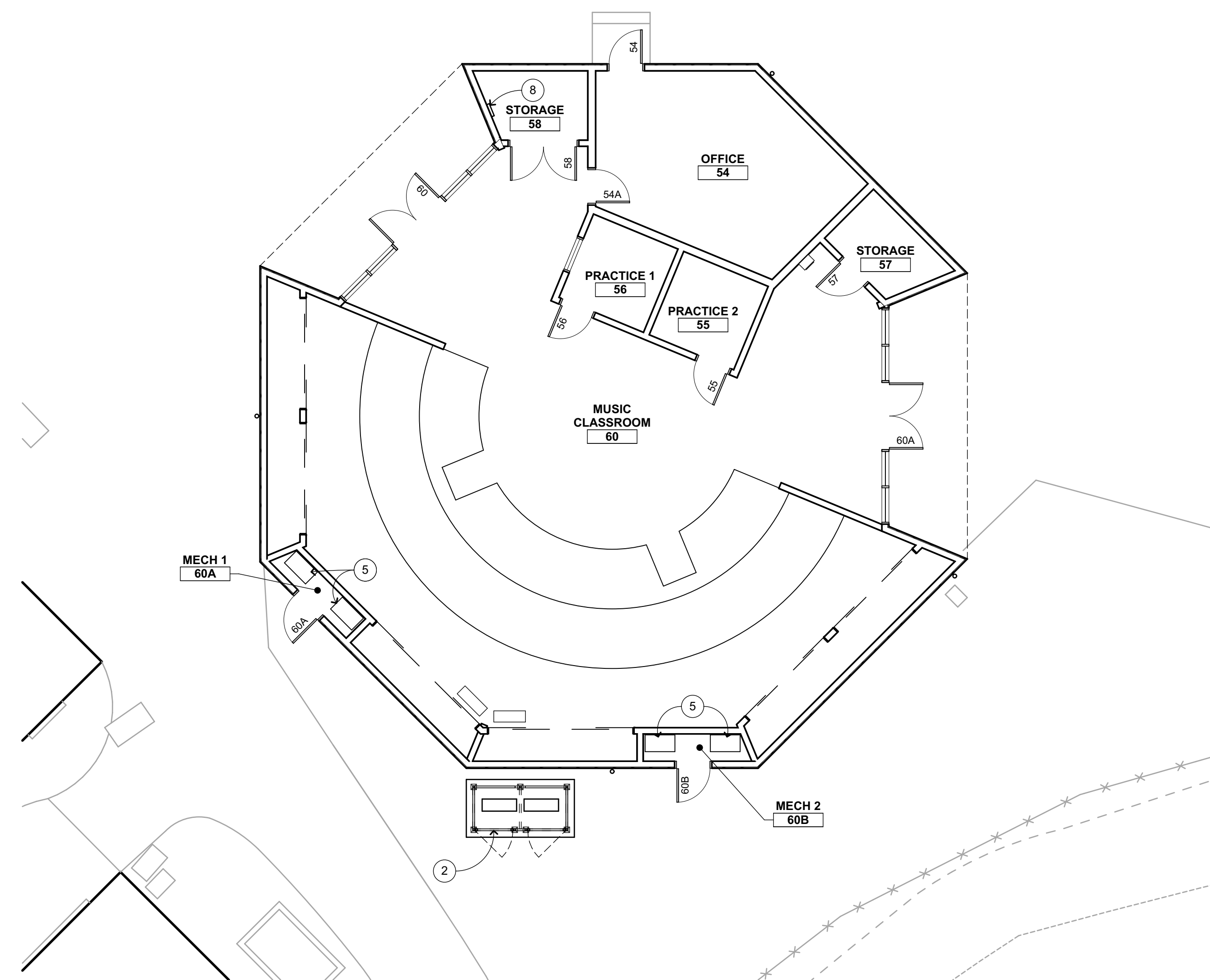
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 DRAWN BY: PG, BSC
 DRAWING SCALE: 1/8" = 1'-0"
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 JANUARY 31, 2022
 SHEET TITLE

**MAKER SPACE &
BAND ROOM
FLOOR PLANS**

SHEET NUMBER
A-2.1



MUSIC CLASSROOM DEMOLITION PLAN 1
1/8" = 1'-0"



MUSIC CLASSROOM FLOOR PLAN 2
1/8" = 1'-0"

DEMOLITION PLAN KEYNOTES

- (D1) DEMOLISH AND REMOVE (E) HOUSEKEEPING PAD & CHAIN LINK MECHANICAL ENCLOSURE
- (D2) DEMOLISH AND REMOVE (E) INTERIOR MECHANICAL EQUIPMENT, S.M.D.

FLOOR PLAN KEYNOTES

- 1 MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT MAKER BLDG, S.M.D. FOR MECHANICAL WORK, FOR ENCLOSURE SEE 1 A-1.2
- 2 MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT MUSIC BLDG, S.M.D. FOR MECHANICAL WORK, FOR ENCLOSURE SEE 2 A-1.2
- 3 MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT ANNEX, S.M.D. FOR MECHANICAL WORK, FOR ENCLOSURE SEE 1 A-1.3
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- 6 MODERNIZED (E) INTERIOR MECHANICAL ITEMS, S.M.D.
- 7 (E) MECHANICAL ITEMS TO REMAIN, PRESERVE & PROTECT, S.M.D.
- 8 (E) ELECTRICAL PANELS, S.E.D.

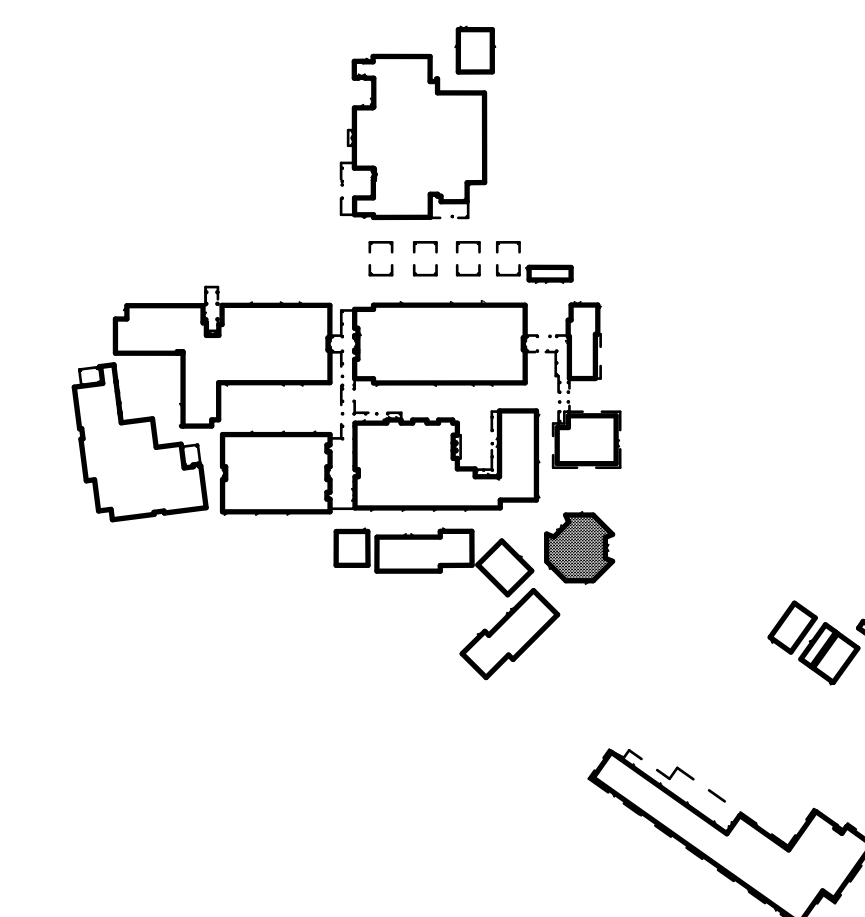
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2. INTERIOR ARCHITECTURAL WORK IS LIMITED TO MECHANICAL CLOSET DOOR & FRAME REPLACEMENT & PAINTING, INCLUDING RELATED WOOD TRIM, AND INCIDENTAL PATCH/REPAIR & PAINTING RELATED TO DOOR REPLACEMENT.
3. PRESERVE & PROTECT (E) DOOR HANDLES W/ INTEGRAL LOCKS AT TIME OF MECHANICAL CLOSET DOOR DEMOLITION. REMOVE HANDLES W/ LOCKS AND STORE SAFELY FOR REINSTALLATION INTO REPLACEMENT DOOR ASSEMBLY.
4. DEMOLITION SHALL BE SUFFICIENT TO COMPLETE THE (N) WORK SHOWN IN THE DRAWINGS. NEATLY CUT AND REMOVE FINISHES AS REQUIRED TO A NATURAL POINT OF DIVISION TO ENABLE INSTALLATION OF BLOCKING, BACKING, FRAMING, SHEATHING, UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR (N) WORK. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR CONCEALED WORK.
5. REPAIR AND REPLACE ALL EXISTING SURFACES AND FINISHES TO EXISTING UNDISTURBED WORK.
6. INSPECT EXPOSED STRUCTURE FOR DAMAGE AND ADVISE ARCHITECT.
7. SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
8. FOR PATCH/REPAIR AT (E) ROOFING & ROOF PENETRATIONS, SEE 13 A-1.4 AND S.M.D. FOR LOCATIONS.
9. REFER TO MECHANICAL & ELECTRICAL DWGS FOR MECHANICAL UNIT INSTALLATIONS NOT OTHERWISE INDICATED.
10. PATCH & PAINT AT LOCATIONS OF THERMOSTAT REMOVAL OR REPLACEMENT. S.M.D. FOR THERMOSTAT LOCATIONS.
11. REFER TO REFLECTED CEILING PLAN FOR CLERESTORY WINDOWS.
12. PROVIDE NON-SLIP SURFACE AT ALL PAVING, INCLUDING HOUSEKEEPING PADS. HEAVY BROOM FINISH AT EXTERIOR CONCRETE PAVING WHERE SLOPED >6%, MEDIUM BROOM FINISH AT SLOPES <6%.

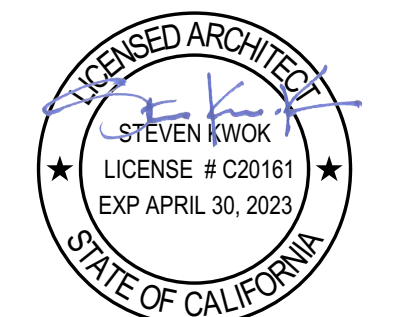
FLOOR PLAN LEGEND

- S.S.D. FOR WOOD FRAMING SIZES
- (E) ITEM TO REMAIN
- (E) ITEM TO BE DEMOLISHED
- (E) WALL TO REMAIN, PROTECT AND PRESERVE

KEYPLAN



QUATTROCCHI KWOK ARCHITECTS
Main: 636 Fifth Street, Santa Rosa, CA 95404
East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607
(707) 576-0829



SIGNED: JANUARY 31, 2022

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**HVAC
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ANNEX, MAKER
SPACE, BAND &
MUSIC ROOMS**

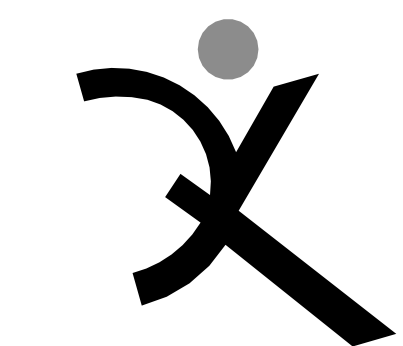
280 WOODLAND AVE
SAN RAFAEL, CA 94901

SAN RAFAEL CITY
SCHOOLS

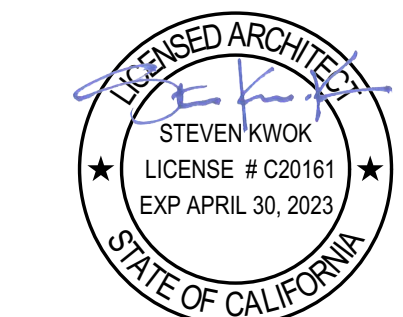
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PTN: 65458-61 FILE NO: 21-39
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JANUARY 31, 2022

**MUSIC
CLASSROOM
FLOOR &
DEMOLITION
PLANS**

SHEET NUMBER
A-2.2



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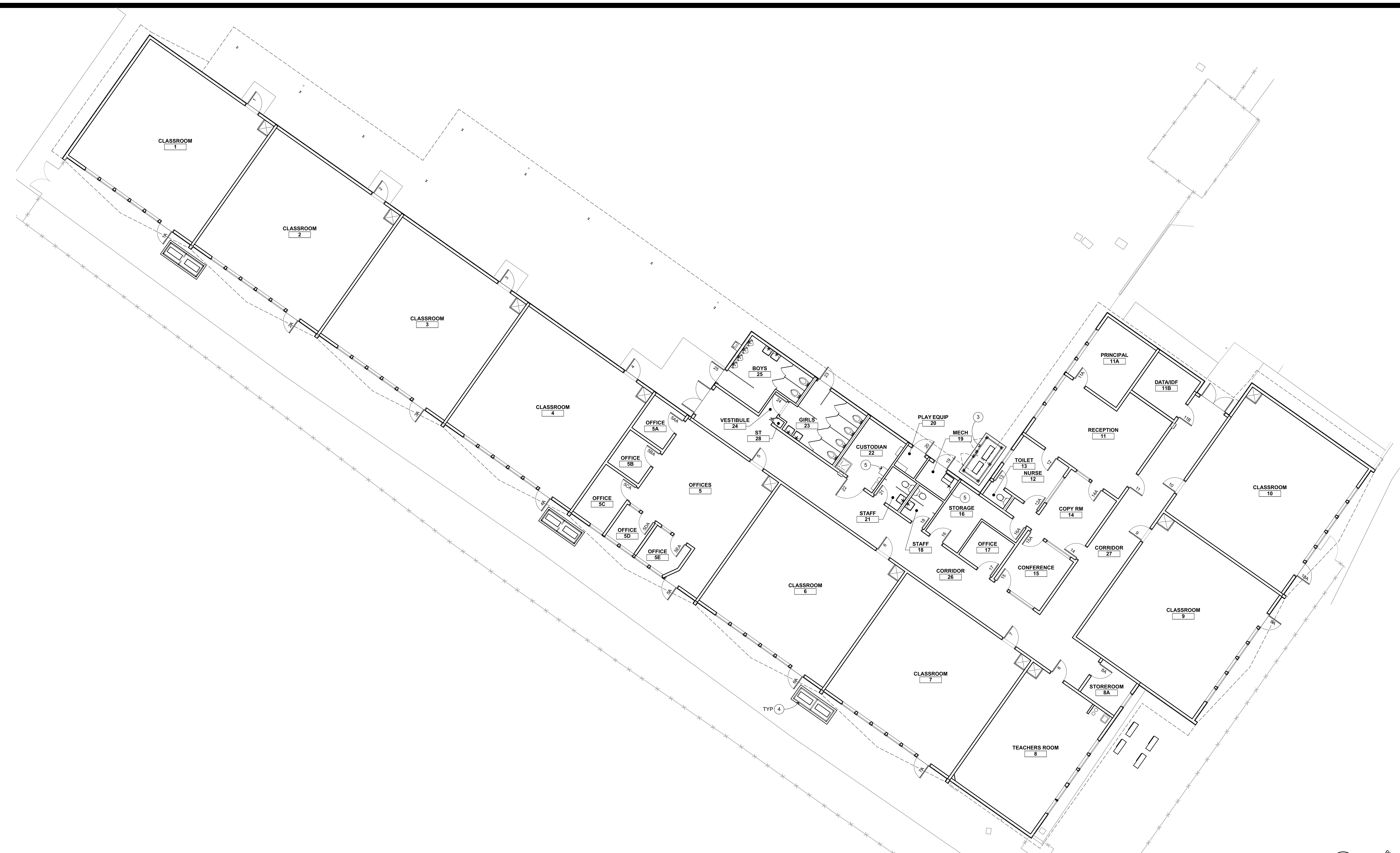
SAN RAFAEL CITY
SCHOOLS

DSA APP NO.	01-120022
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DRAWN BY:	PG, BSC
DRAWING SCALE:	1/8" = 1'-0"
PTN:	65458-61
FILE NO.:	21-39
DSA SUBMITTAL	
JANUARY 31, 2022	
SHEET TITLE	

**70s WING ANNEX
FLOOR PLAN**

SHEET NUMBER

A-2.3



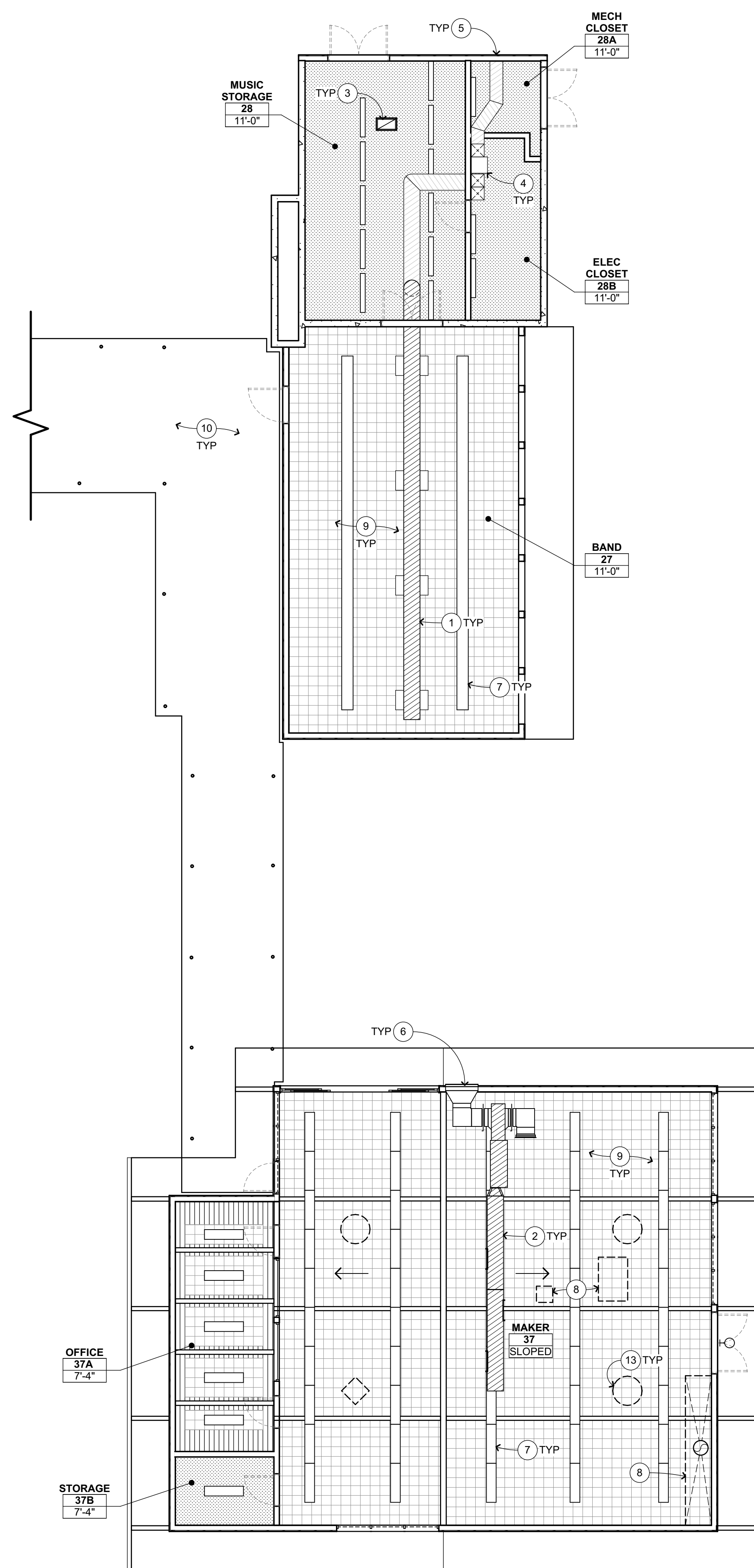
70s WING ANNEX FLOOR PLAN 1
1/8" = 1'-0"



FLOOR PLAN LEGEND	FLOOR PLAN GENERAL NOTES	FLOOR PLAN KEYNOTES	KEYPLAN
S.S.D. FOR WOOD FRAMING SIZES _____ (E) ITEM TO REMAIN - - - - - (E) ITEM TO BE DEMOLISHED _____ (E) WALL TO REMAIN, PROTECT AND PRESERVE	<ol style="list-style-type: none"> COORDINATE ALL WORK WITH THAT SHOWN IN MECHANICAL AND ELECTRICAL DRAWINGS. INTERIOR ARCHITECTURAL WORK IS LIMITED TO MECHANICAL CLOSET DOOR & FRAME REPLACEMENT & PAINTING, INCLUDING RELATED WOOD TRIM, AND INCIDENTAL PATCH/REPAIR & PAINTING RELATED TO DOOR REPLACEMENT. PRESERVE & PROTECT (E) DOOR HANDLES W/ INTEGRAL LOCKS AT TIME OF MECHANICAL CLOSET DOOR DEMOLITION. REMOVE HANDLES W/ LOCKS AND STORE SAFELY FOR REINSTALLATION INTO REPLACEMENT DOOR ASSEMBLY. DEMOLITION SHALL BE SUFFICIENT TO COMPLETE THE (N) WORK SHOWN IN THE DRAWINGS. NEATLY CUT AND REMOVE FINISHES AS REQUIRED TO A NATURAL POINT OF DIVISION TO ENABLE INSTALLATION OF BLOCKING, BACKING, FRAMING, SHEATHING, UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR (N) WORK. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR CONCEALED WORK. REPAIR AND REPLACE ALL EXISTING SURFACES AND FINISHES TO EXISTING UNDISTURBED WORK. INSPECT EXPOSED STRUCTURE FOR DAMAGE AND ADVISE ARCHITECT. SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR. 	<ol style="list-style-type: none"> MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT MAKER BLDG. S.M.D. FOR MECHANICAL WORK. FOR ENCLOSURE SEE (1) A-1.2 MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT MUSIC BLDG. S.M.D. FOR MECHANICAL WORK. FOR ENCLOSURE SEE (2) A-1.2 MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT ANNEX. S.M.D. FOR MECHANICAL WORK. FOR ENCLOSURE SEE (3) A-1.3 MECHANICAL CONDENSING UNITS ENCLOSURE ON HOUSEKEEPING PAD. S.M.D. FOR MECHANICAL WORK & ENCLOSURE, ALSO SEE (4) A-1.3 REPLACEMENT INTERIOR MECHANICAL ITEMS, S.M.D. MODERNIZED (E) INTERIOR MECHANICAL ITEMS, S.M.D. (E) MECHANICAL ITEMS TO REMAIN, PRESERVE & PROTECT, S.M.D. (E) ELECTRICAL ITEMS, S.E.D. 	

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MAKER SPACE AND BAND ROOM RCP 1
1/8" = 1'-0"

RCP KEYNOTES

- 1 (E) DUCTS TO REMAIN, S.M.D.
- 2 DUCTWORK, S.M.D.
- 3 MECHANICAL PENETRATION THRU (E) ROOF/CEILING ASSEMBLY, SEE ROOF PLAN & S.M.D.
- 4 REPLACEMENT MECHANICAL ITEMS BELOW, CONNECT TO (E) DUCTS, S.M.D.
- 5 (E) THRU-WALL MECHANICAL PENETRATION TO REMAIN, S.M.D.
- 6 THRU-WALL MECHANICAL PENETRATION, S.M.D. AND 19
A-1.4 20
A-1.4
- 7 (E) LIGHT FIXTURES TO REMAIN, S.E.D.
- 8 (E) MECHANICAL ITEM TO REMAIN, PRESERVE & PROTECT
- 9 (E) CEILINGS TO REMAIN
- 10 (E) COVERED WALK TO REMAIN
- 11 (E) PRACTICE ROOM CEILINGS BELOW, SEE 2
A-3.2
- 12 WALL MTD MECHANICAL EQUIPMENT, S.M.D.
- 13 PATCH/REPAIR AT (E) ROOF/CEILING ASSEMBLY MECHANICAL PENETRATION, SEE ROOF PLAN, S.M.D., S.E.D.

RCP GENERAL NOTES

- 1. NOTES & SYMBOLS ARE TO APPLY TO ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION, SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
- 2. LIGHT FIXTURES TO REMAIN, PRESERVE & PROTECT, TYP
- 3. S.E.D. FOR HORNS, SPEAKERS, PULL STATIONS, AND OTHER FEATURES NOT OTHERWISE SHOWN.
- 4. S.M.D. FOR PIPING, REGISTERS & VENTS NOT OTHERWISE SHOWN. MECHANICAL DUCT LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN CLEARANCES TO FIXED ELEMENTS.
- 5. PATCH / REPAIR WALL PENETRATIONS, WHERE OCCUR, SEE 14
A-1.4

REFLECTED CEILING PLAN LEGEND

S.S.D. FOR WOOD FRAMING SIZES

CLASSROOM
11'-11'
X'-X'

(E) GYPSUM BOARD TO REMAIN, PRESERVE & PROTECT

(E) 2'x2' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE TO REMAIN, PRESERVE & PROTECT

(E) 2'x4' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE TO REMAIN, PRESERVE & PROTECT

(E) 1'x1' ADHESIVE-APPLIED ACOUSTIC TILE CEILING SYSTEM O/ WD FRMG OR SHTG TO REMAIN, PRESERVE & PROTECT

(E) EXPOSED 1'x6" WD CEILING FINISH O/ WD FRMG

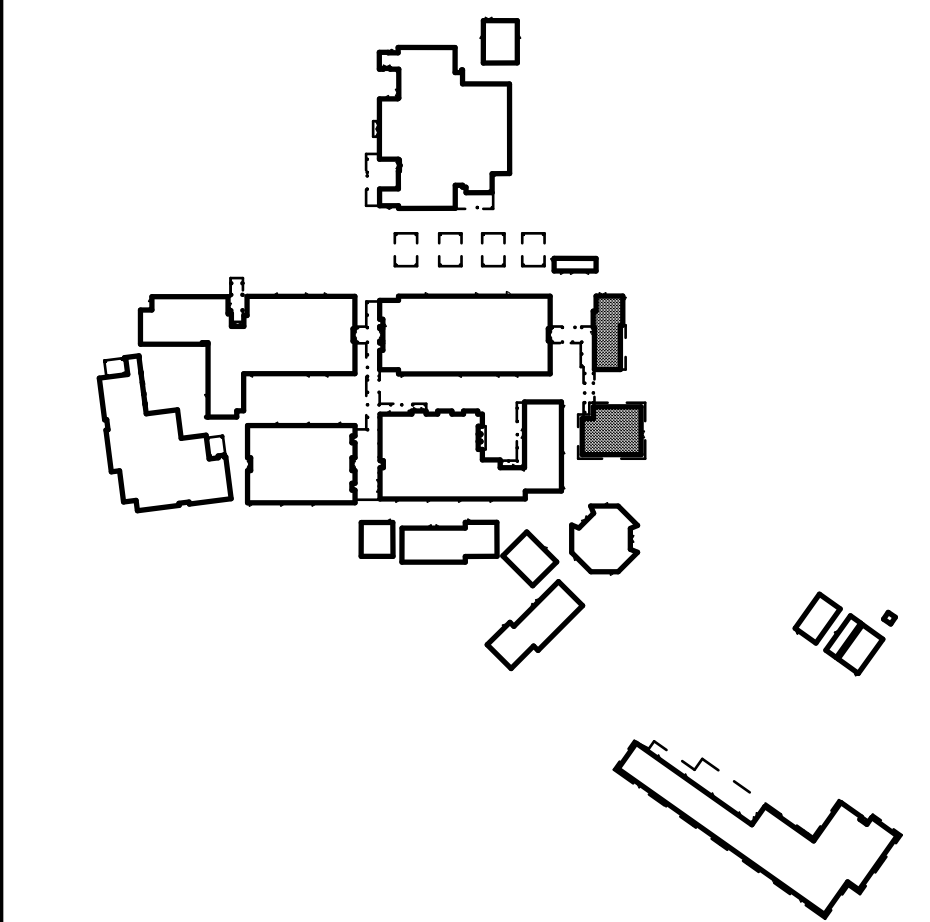
DOORS SHOWN DASHED INDICATE DOOR BELOW, NO DEMOLITION SCOPE AT DOORS

(E) ITEM TO REMAIN

(E) ITEM TO BE DEMOLISHED

(E) WALL TO REMAIN, PROTECT AND PRESERVE

KEYPLAN



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East Bay:
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(707) 576-0829

REGISTERED ARCHITECT
STEVEN KWOK
LICENSE # C20161
EXP APRIL 30, 2023
STATE OF CALIFORNIA

SIGNED: JANUARY 31, 2022

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**DAVIDSON
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**HVAC
IMPROVEMENTS -
ANNEX, MAKER
SPACE, BAND &
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DSA APP NO. 01-120022

ARCH PROJECT NO. 1900.03
DRAWN BY: PG, BSC
DRAWING SCALE: 1/8" = 1'-0"
PTN: 65458-61 FILE NO: 21-39

DSA SUBMITTAL
JANUARY 31, 2022

SHEET TITLE

**MAKER SPACE &
BAND ROOM RCP**

SHEET NUMBER
A-3.1

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RCP KEYNOTES

- 1 (E) DUCTS TO REMAIN, S.M.D.
- 2 DUCTWORK, S.M.D.
- 3 MECHANICAL PENETRATION THRU (E) ROOF/CEILING ASSEMBLY, SEE ROOF PLAN & S.M.D.
- 4 REPLACEMENT MECHANICAL ITEMS BELOW, CONNECT TO (E) DUCTS, S.M.D.
- 5 (E) THRU-WALL MECHANICAL PENETRATION TO REMAIN, S.M.D.
- 6 THRU-WALL MECHANICAL PENETRATION, S.M.D. AND 19
A-1.4 20
A-1.4
- 7 (E) LIGHT FIXTURES TO REMAIN, S.E.D.
- 8 (E) MECHANICAL ITEM TO REMAIN, PRESERVE & PROTECT
- 9 (E) CEILINGS TO REMAIN
- 10 (E) COVERED WALK TO REMAIN
- 11 (E) PRACTICE ROOM CEILINGS BELOW, SEE 2
A-3.2
- 12 WALL MTD MECHANICAL EQUIPMENT, S.M.D.
- 13 PATCH/REPAIR AT (E) ROOF/CEILING ASSEMBLY MECHANICAL PENETRATION, SEE ROOF PLAN, S.M.D., S.E.D.

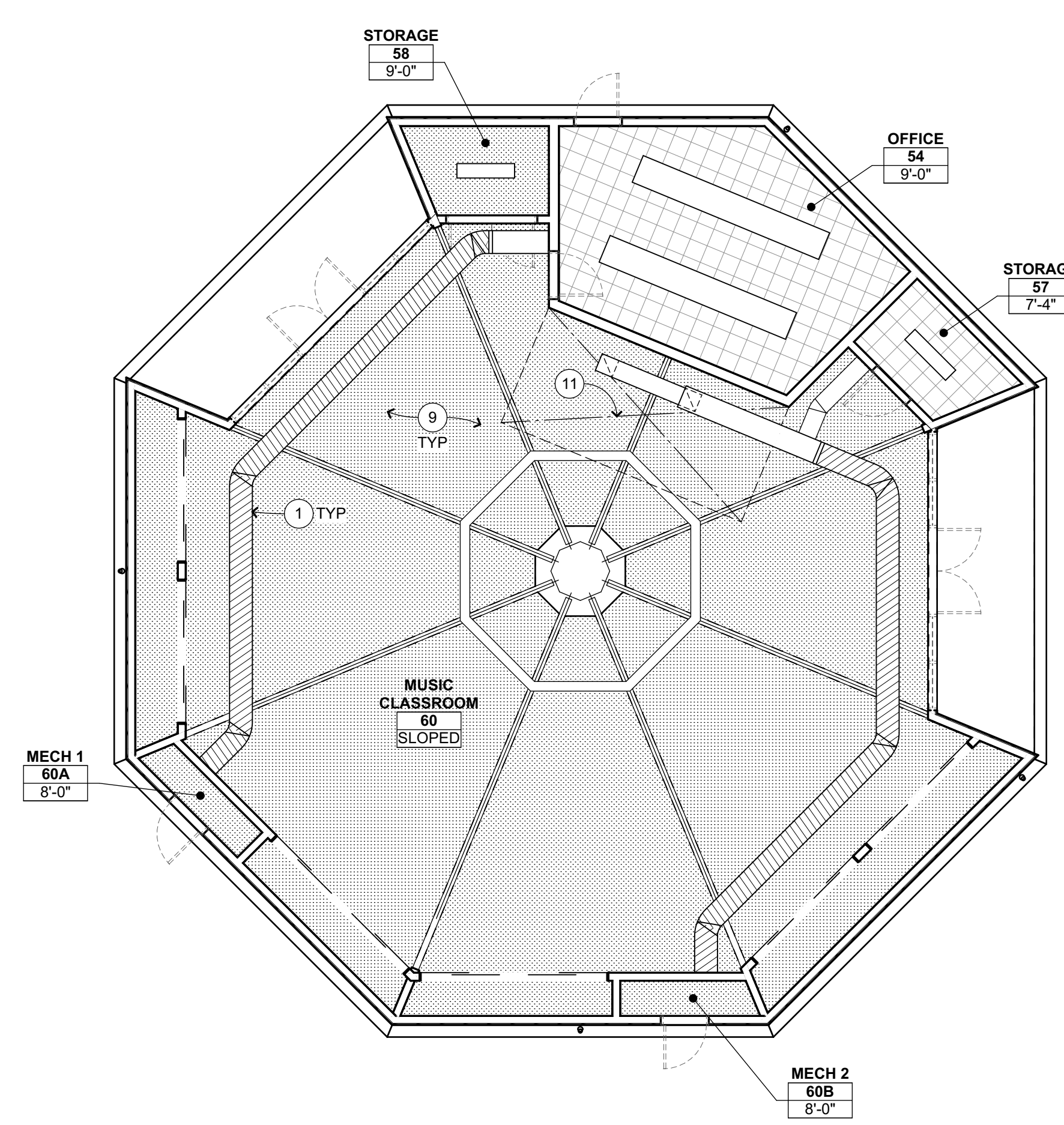
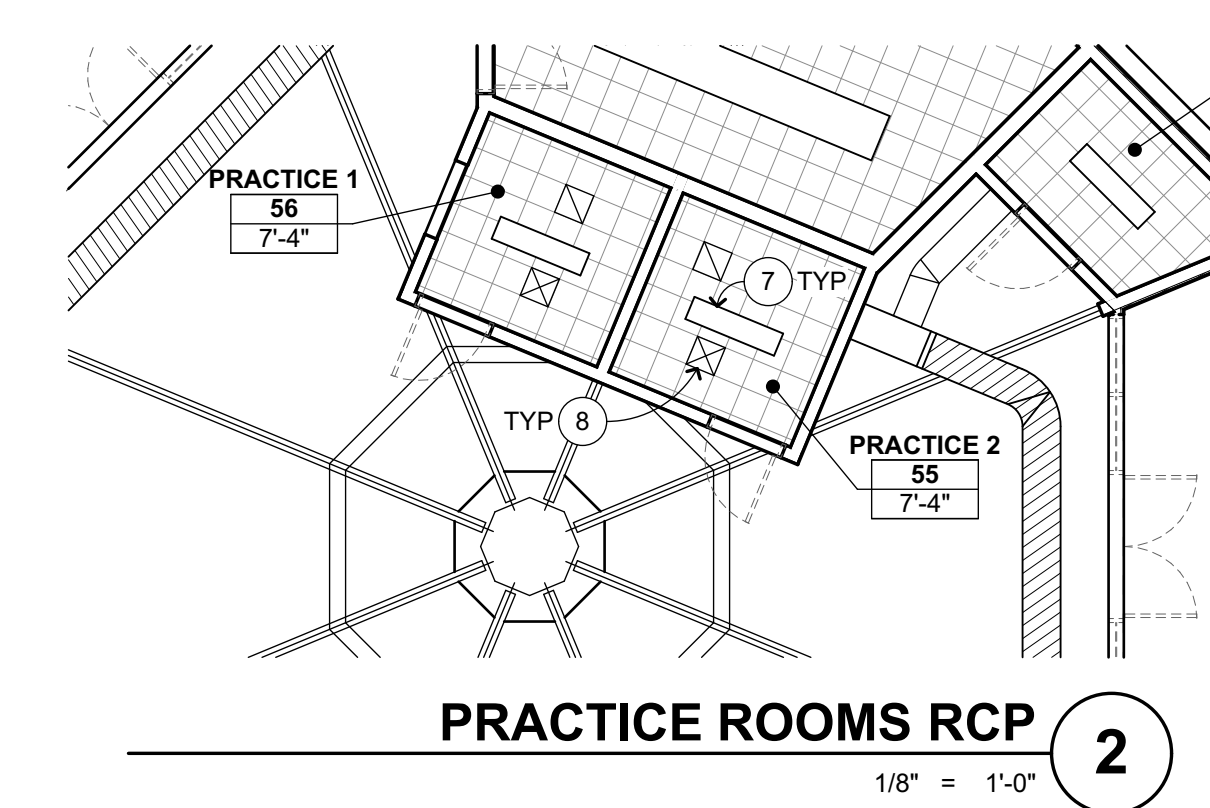
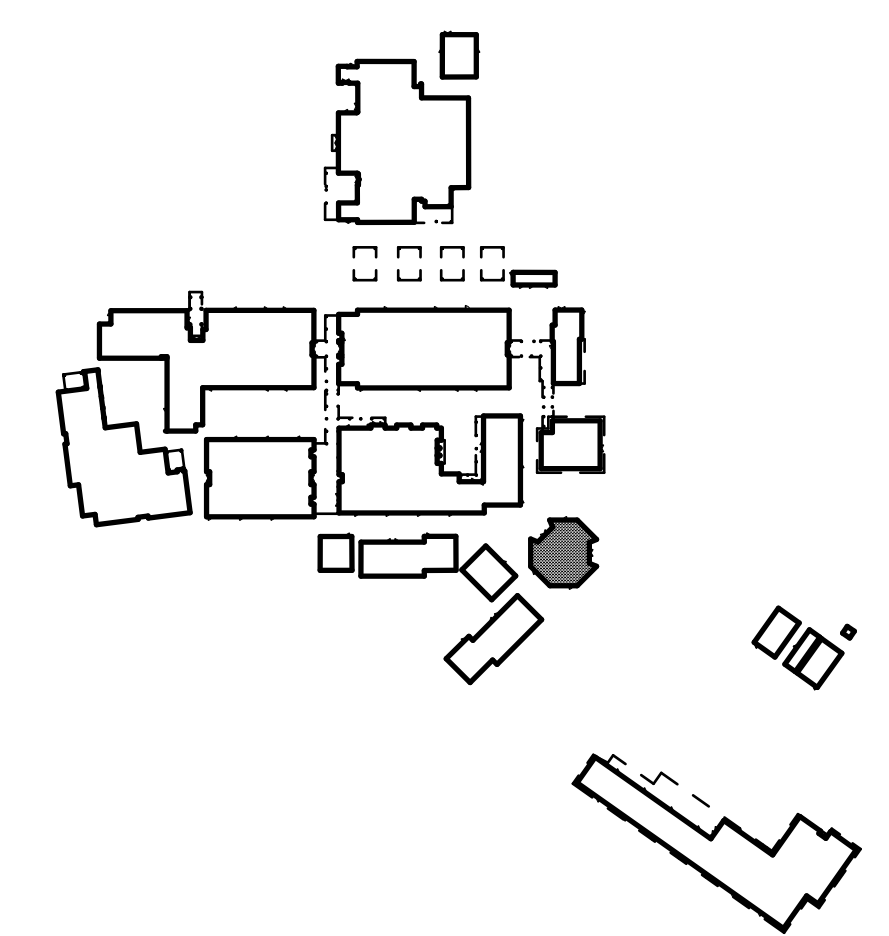
RCP GENERAL NOTES

- 1. NOTES & SYMBOLS ARE TO APPLY TO ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
- 2. LIGHT FIXTURES TO REMAIN, PRESERVE & PROTECT, TYP
- 3. S.E.D. FOR HORNS, SPEAKERS, PULL STATIONS, AND OTHER FEATURES NOT OTHERWISE SHOWN.
- 4. S.M.D. FOR PIPING, REGISTERS & VENTS NOT OTHERWISE SHOWN. MECHANICAL DUCT LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN CLEARANCES TO FIXED ELEMENTS.
- 5. PATCH / REPAIR WALL PENETRATIONS, WHERE OCCUR, SEE 14
A-1.4

REFLECTED CEILING PLAN LEGEND

- S.S.D. FOR WOOD FRAMING SIZES
- CLASSROOM**
11
X-X'
- CLASSROOM NUMBER 11
 X'-X" REFERS TO FINISHED CEILING HEIGHT A.F.F.
 WHERE CEILING HEIGHT IS INDICATED AS "OPEN" OR "-". ROOM IS OPEN TO STRUCTURE ABOVE.
- (E) GYPSUM BOARD TO REMAIN, PRESERVE & PROTECT
 - (E) 2'x2' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE TO REMAIN, PRESERVE & PROTECT
 - (E) 2'x4' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE TO REMAIN, PRESERVE & PROTECT
 - (E) 1'x1' ADHESIVE-APPLIED ACOUSTIC TILE CEILING SYSTEM O/W FRMG OR SHTG TO REMAIN, PRESERVE & PROTECT
 - (E) EXPOSED 1'x6" WD CEILING FINISH O/W FRMG
- DOORS SHOWN DASHED INDICATE DOOR BELOW, NO DEMOLITION SCOPE AT DOORS
- (E) ITEM TO REMAIN
- (E) ITEM TO BE DEMOLISHED
- (E) WALL TO REMAIN, PROTECT AND PRESERVE

KEYPLAN



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 East Bay:
 55 Harrison Street, Suite 525,
 Oakland, CA 94607
 (707) 576-0829

SIGNED: JANUARY 31, 2022

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MIDDLE
SCHOOL**

**HVAC
IMPROVEMENTS -
ANNEX, MAKER
SPACE, BAND &
MUSIC ROOMS**

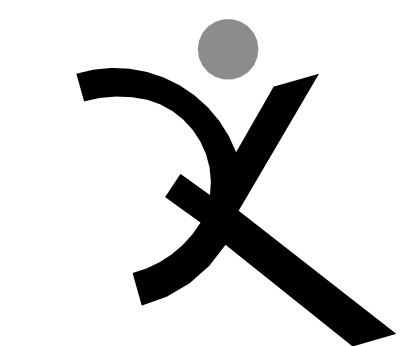
280 WOODLAND AVE
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SCHOOLS

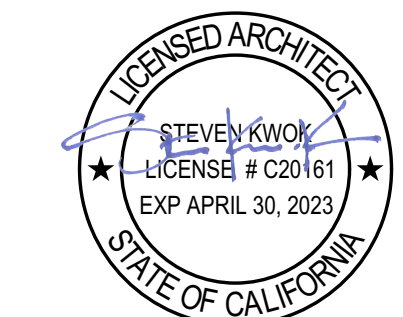
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 DRAWING SCALE: 1/8" = 1'-0"
 PTN: 65458-01 FILE NO: 21-39
DSA SUBMITTAL
 JANUARY 31, 2022
 SHEET TITLE

**MUSIC
CLASSROOM RCP**

SHEET NUMBER
A-3.2



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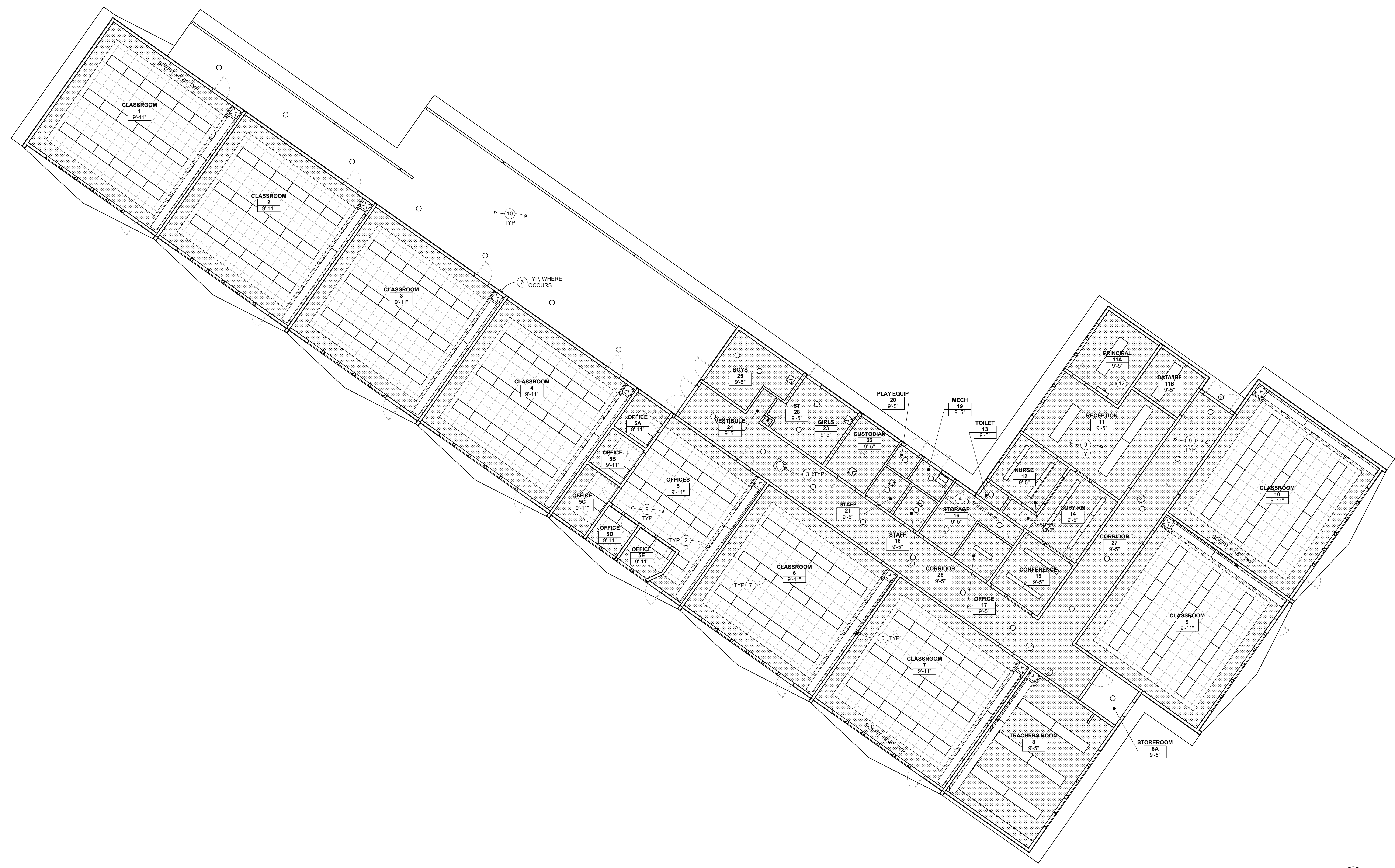
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**70s WING ANNEX
RCP**

SHEET NUMBER

A-3.3

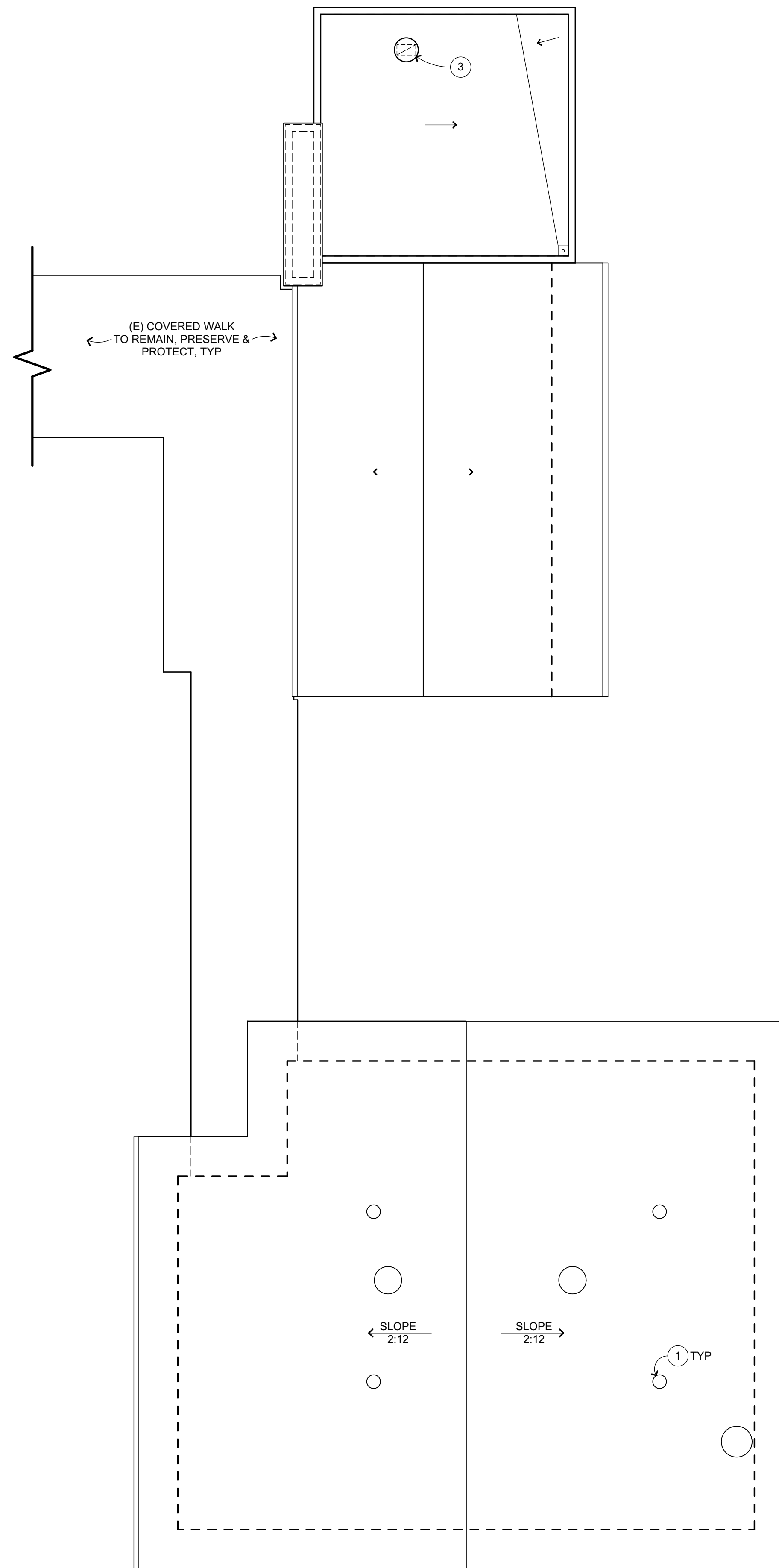


70s WING ANNEX RCP 1
 1/8" = 1'-0"

REFLECTED CEILING PLAN LEGEND	RCP GENERAL NOTES	RCP KEYNOTES	KEYPLAN	
<p>S.S.D. FOR WOOD FRAMING SIZES</p> <p>CLASSROOM CLASSROOM NUMBER 11 X'-X" REFERS TO FINISHED CEILING HEIGHT A.F.F. WHERE CEILING HEIGHT IS INDICATED AS "OPEN" OR "-". ROOM IS OPEN TO STRUCTURE ABOVE.</p> <p>(E) GYPSUM BOARD TO REMAIN, PRESERVE & PROTECT</p> <p>(E) 2'x2' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE TO REMAIN, PRESERVE & PROTECT</p> <p>(E) 2'x4' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE TO REMAIN, PRESERVE & PROTECT</p> <p>(E) 1'x1' ADHESIVE-APPLIED ACOUSTIC TILE CEILING SYSTEM O/ WD FRMS OR SHTG TO REMAIN, PRESERVE & PROTECT</p> <p>(E) EXPOSED 1'x6" WD CEILING FINISH O/ WD FRMG</p> <p>DOORS SHOWN DASHED INDICATE DOOR BELOW, NO DEMOLITION SCOPE AT DOORS</p>	<p>(E) ITEM TO REMAIN</p> <p>(E) ITEM TO BE DEMOLISHED</p> <p>(E) WALL TO REMAIN, PROTECT AND PRESERVE</p>	<p>1. NOTES & SYMBOLS ARE TO APPLY TO ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.</p> <p>2. LIGHT FIXTURES TO REMAIN, PRESERVE & PROTECT, TYP</p> <p>3. S.E.D. FOR HORNS, SPEAKERS, PULL STATIONS, AND OTHER FEATURES NOT OTHERWISE SHOWN.</p> <p>4. S.M.D. FOR PIPING, REGISTERS & VENTS NOT OTHERWISE SHOWN. MECHANICAL DUCT LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN CLEARANCES TO FIXED ELEMENTS.</p> <p>5. PATCH / REPAIR WALL PENETRATIONS, WHERE OCCUR, SEE 14 A-1.4</p>	<p>1 (E) DUCTS TO REMAIN, S.M.D.</p> <p>2 DUCTWORK, S.M.D.</p> <p>3 MECHANICAL PENETRATION THRU (E) ROOF/CEILING ASSEMBLY, SEE ROOF PLAN & S.M.D.</p> <p>4 REPLACEMENT MECHANICAL ITEMS BELOW, CONNECT TO (E) DUCTS, S.M.D.</p> <p>5 (E) THRU-WALL MECHANICAL PENETRATION TO REMAIN, S.M.D.</p> <p>6 THRU-WALL MECHANICAL PENETRATION, S.M.D. AND 19 A-1.4 20 A-1.4</p> <p>7 (E) LIGHT FIXTURES TO REMAIN, S.E.D.</p> <p>8 (E) MECHANICAL ITEM TO REMAIN, PRESERVE & PROTECT</p> <p>9 (E) CEILINGS TO REMAIN</p> <p>10 (E) COVERED WALK TO REMAIN</p> <p>11 (E) PRACTICE ROOM CEILINGS BELOW, SEE 2 A-3.2</p> <p>12 WALL MTD MECHANICAL EQUIPMENT, S.M.D.</p> <p>13 PATCH/REPAIR AT (E) ROOF/CEILING ASSEMBLY MECHANICAL PENETRATION, SEE ROOF PLAN, S.M.D., S.E.D.</p>	

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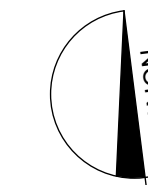
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MAKER SPACE AND BAND ROOM ROOF PLAN

1/8" = 1'-0"

1



ROOF PLAN GENERAL NOTES

- 1 PATCH / REPAIR OF (E) ROOFING AT LOCATIONS OF REMOVED MECHANICAL ITEMS, S.M.D. AND 13
A-1.4
- 2 MECHANICAL ROOFING PENETRATION, S.M.D. AND 18
A-1.4
- 3 MECHANICAL GRAVITY VENT AT (E) BUILT-UP ROOFING, S.M.D. AND 12
A-1.4
- 4 DEMOLISH (E) MECHANICAL UNIT, S.M.D.

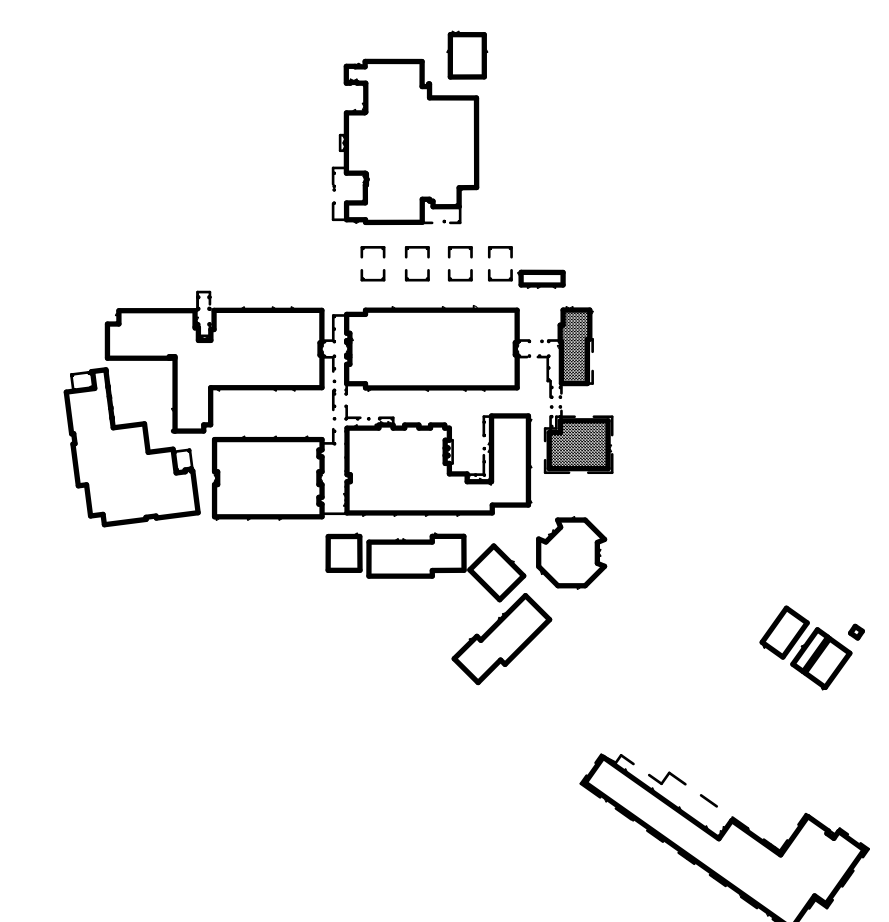
ROOF PLAN GENERAL NOTES

- 1. LOCATE ALL ROOF PENETRATIONS BETWEEN (E) JOISTS.
- 2. MAINTAIN MIN 1/4":12" SLOPE TO DRAIN AT BUR.
- 3. ALL ROOFING TO BE CLASS A.
- 4. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ROOF PENETRATION LOCATIONS NOT OTHERWISE INDICATED, TYPICAL.
- 5. PRESERVE, PROTECT, AND REUSE MECHANICAL UNIT MOUNTING CURBS (AS OCCURS), S.M.D.

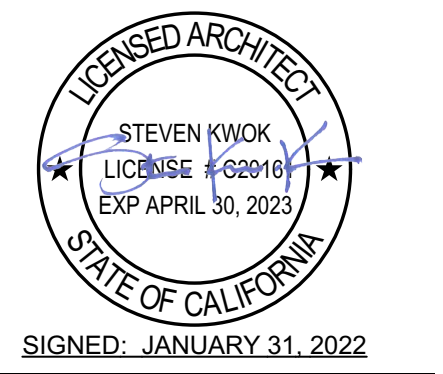
ROOF PLAN LEGEND

- (E) MODIFIED BITUMEN ROOFING, PRESERVE & PROTECT
- ROOF CURB OR PATCH / REPAIR AT (E) MODIFIED BITUMEN ROOFING
- (E) EXTERIOR WALLS BELOW
- (E) ITEM TO REMAIN
- (E) ITEM TO BE DEMOLISHED

KEYPLAN



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DAVIDSON MIDDLE SCHOOL

HVAC IMPROVEMENTS - ANNEX, MAKER SPACE, BAND & MUSIC ROOMS

280 WOODLAND AVE
SAN RAFAEL, CA 94901

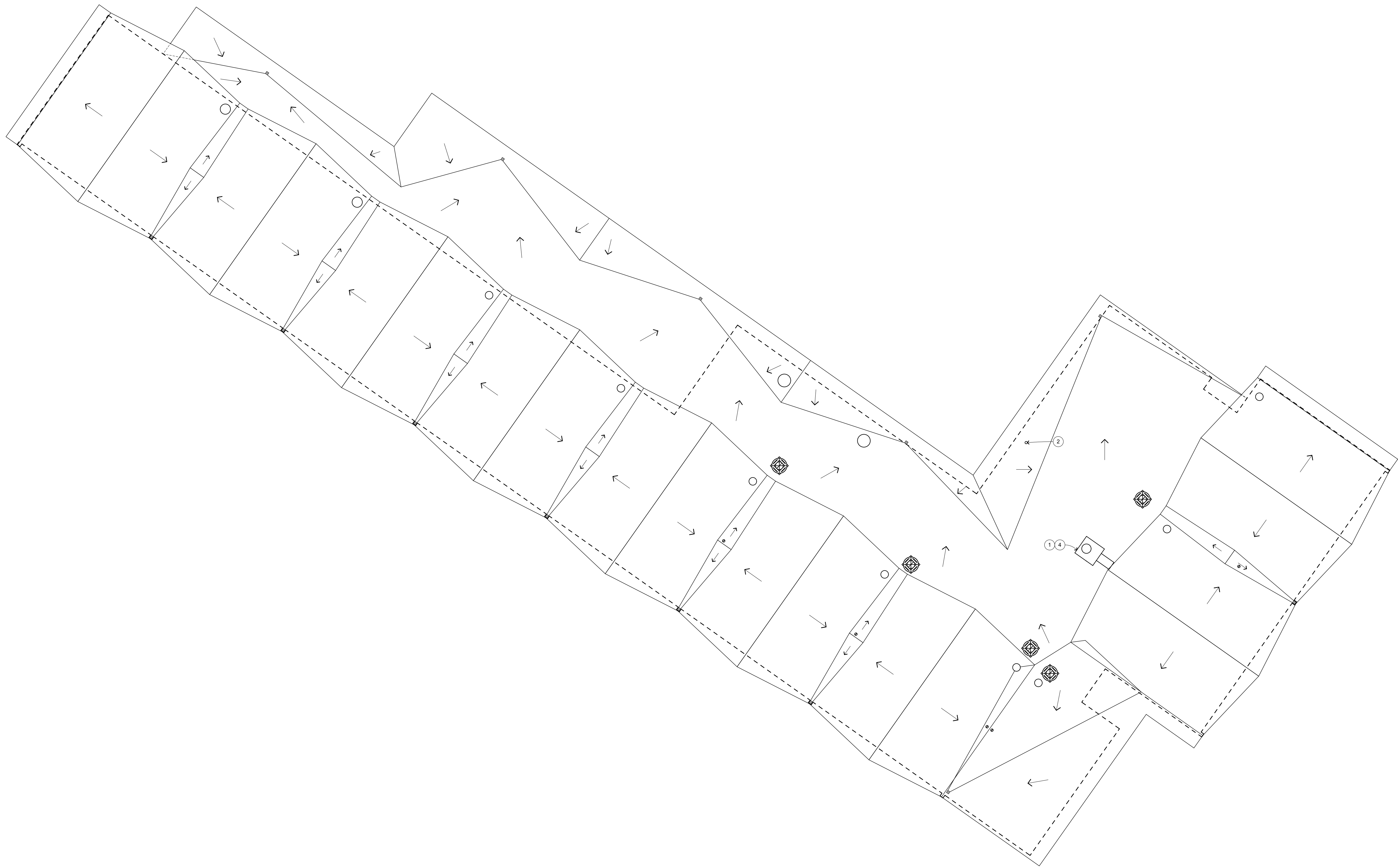
SAN RAFAEL CITY SCHOOLS

DSA APP NO. 01-120022
 ARCH PROJECT NO. 1900.03
 DRAWN BY: PG, BSC
 DRAWING SCALE: 1/8" = 1'-0"
 PTN: 65458-01 FILE NO: 21-39
DSA SUBMITTAL
 JANUARY 31, 2022

MAKER SPACE & BAND ROOM ROOF PLANS


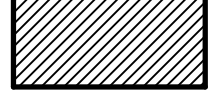
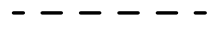

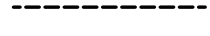
SHEET NUMBER
A-4.1

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70s WING ANNEX ROOF PLAN 1
1/8" = 1'-0"

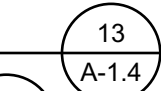


ROOF PLAN LEGEND

-  (E) MODIFIED BITUMEN ROOFING, PRESERVE & PROTECT
-  ROOF CURBS OR PATCH / REPAIR AT (E) MODIFIED BITUMEN ROOFING
-  (E) EXTERIOR WALLS BELOW
-  (E) ITEM TO REMAIN
-  (E) ITEM TO BE DEMOLISHED

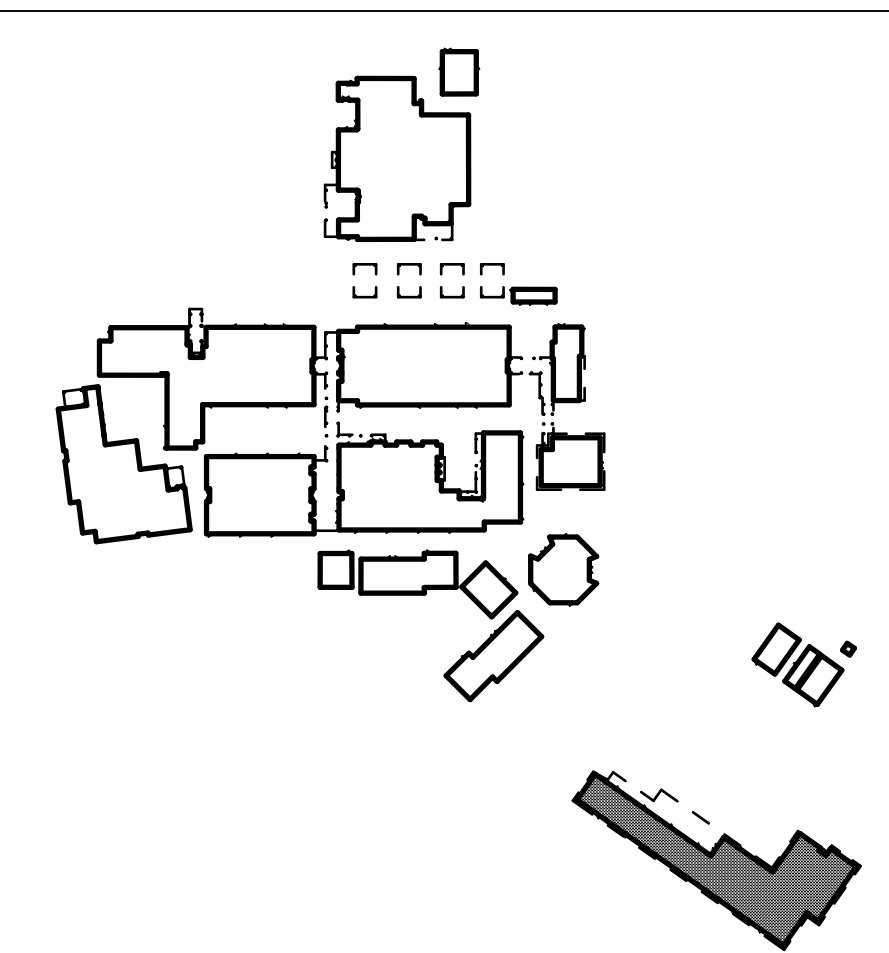
ROOF PLAN GENERAL NOTES

1. LOCATE ALL ROOF PENETRATIONS BETWEEN (E) JOISTS.
2. MAINTAIN MIN 1/4"-12" SLOPE TO DRAIN AT BUR.
3. ALL ROOFING TO BE CLASS A.
4. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ROOF PENETRATION LOCATIONS NOT OTHERWISE INDICATED, TYPICAL.
5. PRESERVE, PROTECT, AND REUSE MECHANICAL UNIT MOUNTING CURBS (AS OCCURS), S.M.D.

ROOF PLAN KEYNOTES

- 1 PATCH / REPAIR OF (E) ROOFING AT LOCATIONS OF REMOVED MECHANICAL ITEMS, S.M.D. AND  13 A-1.4
- 2 MECHANICAL ROOFING PENETRATION, S.M.D. AND  18 A-1.4
- 3 MECHANICAL GRAVITY VENT AT (E) BUILT-UP ROOFING, S.M.D. AND  12 A-1.4
- 4 DEMOLISH (E) MECHANICAL UNIT, S.M.D.

KEYPLAN



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 Main: 636 Fifth Street, Santa Rosa, CA 95404
 East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607 (707) 576-0829


 LICENSE # C20161
 EXP APRIL 30, 2023
 STATE OF CALIFORNIA

SIGNED: JANUARY 31, 2022

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CONSTRUCTION**

**DAVIDSON
MIDDLE
SCHOOL**

**HVAC
IMPROVEMENTS -
ANNEX, MAKER
SPACE, BAND &
MUSIC ROOMS**

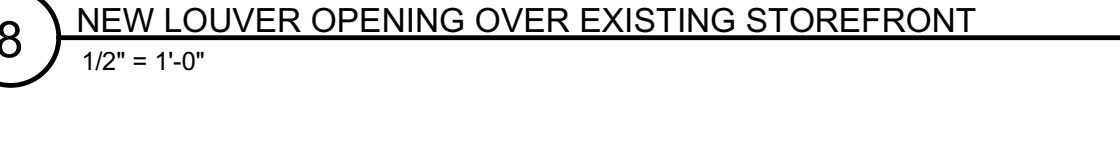
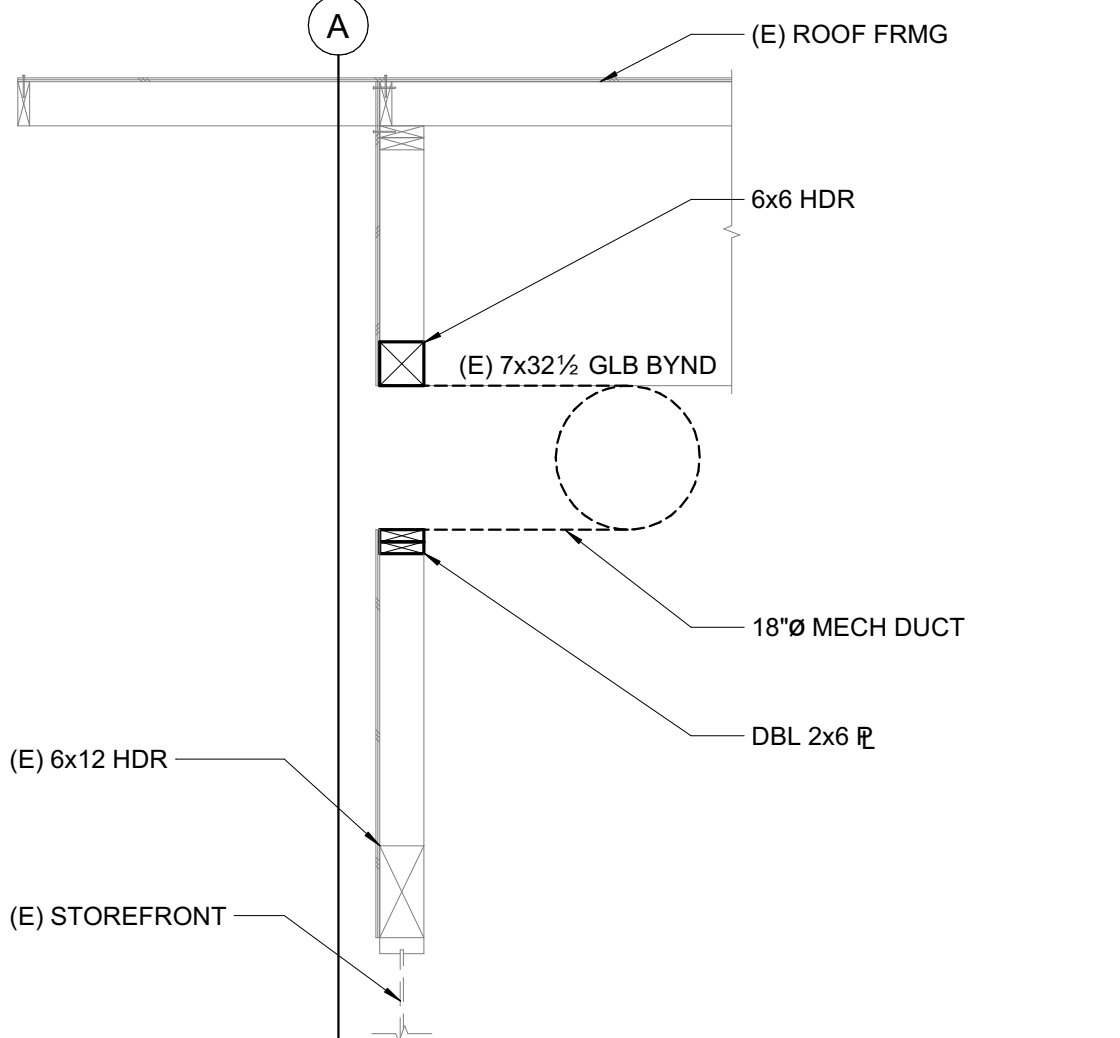
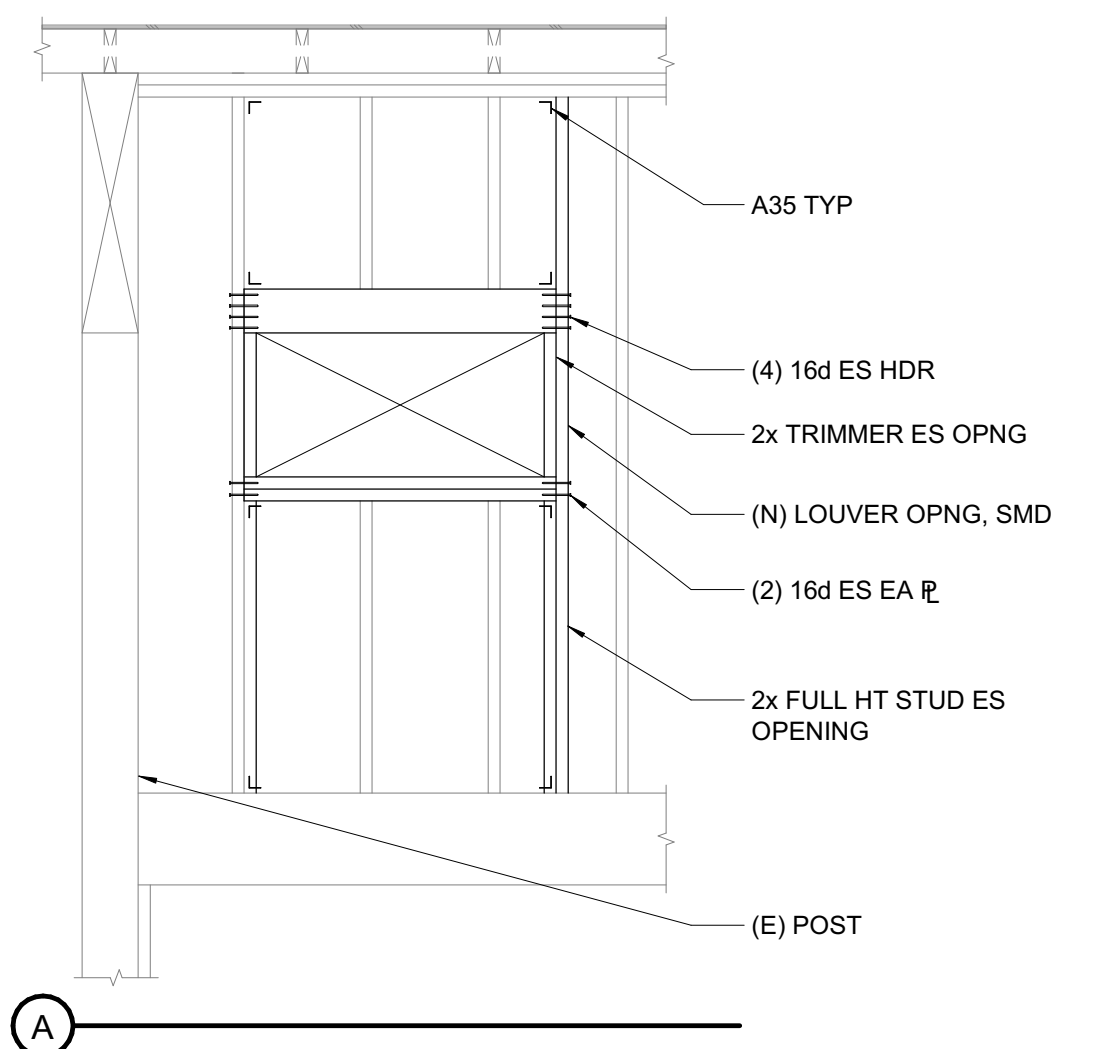
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SAN RAFAEL CITY
SCHOOLS

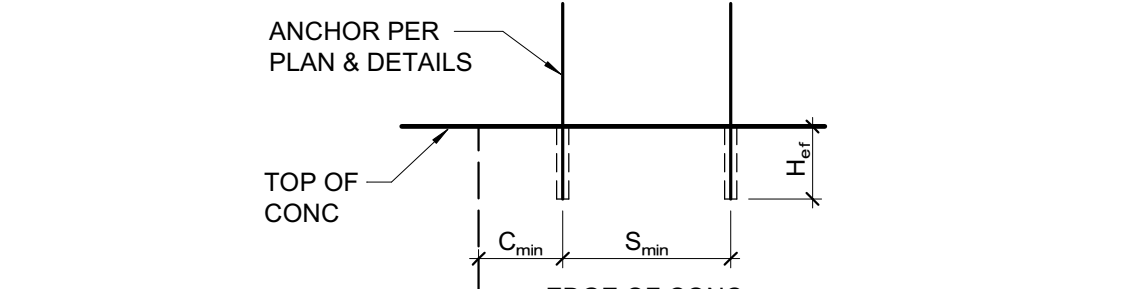
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JANUARY 31, 2022

**70s WING ANNEX
ROOF PLAN**

SHEET NUMBER
A-4.3



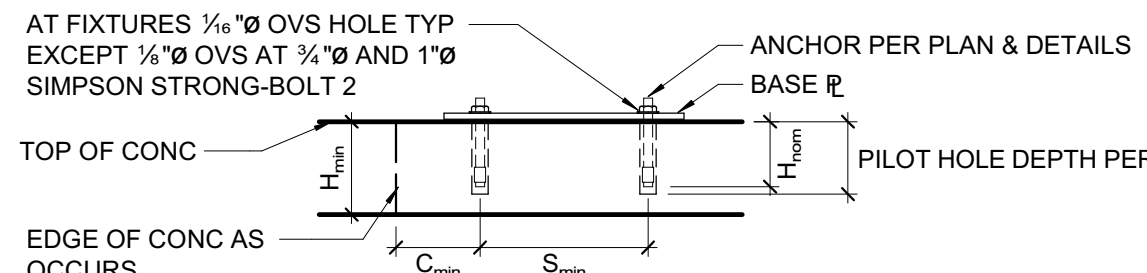
ADHESIVE ANCHOR IN 2500 PSI MIN CONCRETE							
ADHESIVE TYPE	ANCHOR THRD ROD	REBAR	PILOT HOLE	MIN EMBD UNO H _{em}	MIN EDGE DISTANCE C _{min}	MIN SPCG S _{min}	MIN CONG DEPTH H _{con}
SIMPSON SET-XP (ICC-ESR 2598)	1/2"	#4	3/4"	4"	1 1/2"	3"	H _{em} + 3 1/2"
HILTI HIT-HY 200R (ICC-ESR 3187)	N/A	#4	3/4"	4"	1 1/2"	2 1/2"	H _{em} + 1 1/2"



- NOTES:**
- INSTALL ADHESIVE ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT.
 - CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING, AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
 - HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
 - SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS. THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705A.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND ADHESIVE INJECTION. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5. SEE DRAWINGS FOR SPECIFIC TENSION TEST LOADS FOR ANCHORS.

5 ADHESIVE ANCHOR IN CONCRETE
3/4" = 1'-0"

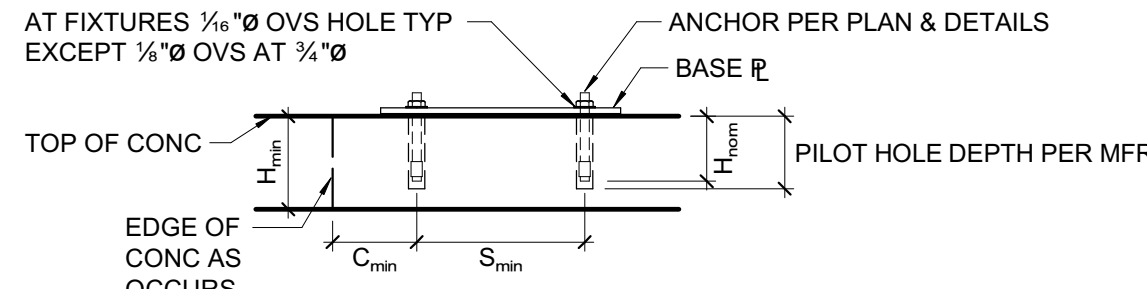
CARBON STEEL EXPANSION ANCHORS IN 2500 PSI MIN CONG						
ANCHOR TYPE	ANCHOR & PILOT HOLE DIA	MIN NOMINAL EMBD H _{em}	MIN EDGE DISTANCE C _{min}	MIN SPCG S _{min}	MIN CONG THICKNESS H _{con}	INSTALL TORQUE (FT-LB)
SIMPSON STRONG-BOLT 2 (ICC-ESR 3037)	3/4"	1 1/4"	6"	3"	3 1/4"	30
HILTI KB1 (IAPMO-ER 678)	3/4"	1 1/4"	6"	8"	3 3/4"	20



- NOTES:**
- INSTALL EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS.
 - CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
 - WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
 - THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705A.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
 - TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

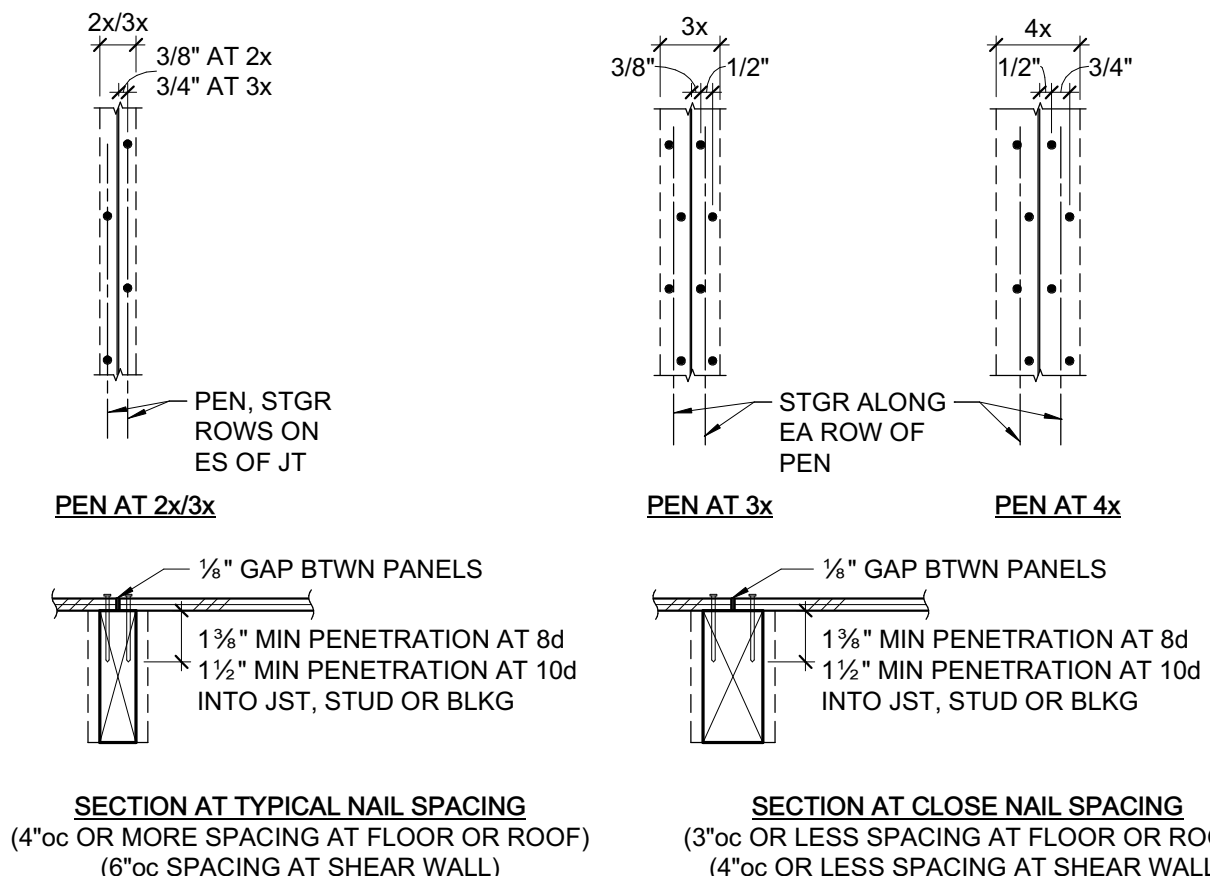
6 EXPANSION ANCHOR IN CONCRETE
3/4" = 1'-0"

STAINLESS STL EXPANSION ANCHORS IN 2500 PSI MIN CONG						
ANCHOR TYPE	ANCHOR & PILOT HOLE DIA	MIN NOMINAL EMBD H _{em}	MIN EDGE DISTANCE C _{min}	MIN SPCG S _{min}	MIN CONG THICKNESS H _{con}	INSTALL TORQUE (FT-LB)
SIMPSON STRONG-BOLT 2 (ICC-ESR 3037)	3/4"	1 1/4"	6"	10"	3 1/4"	30
HILTI KB-T22 (ICC-ESR 4266)	3/4"	1 1/4"	5"	8"	3 1/4"	30



- NOTES:**
- INSTALL EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS.
 - CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
 - WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
 - THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705A.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
 - TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

7 EXPANSION ANCHOR IN CONCRETE
3/4" = 1'-0"

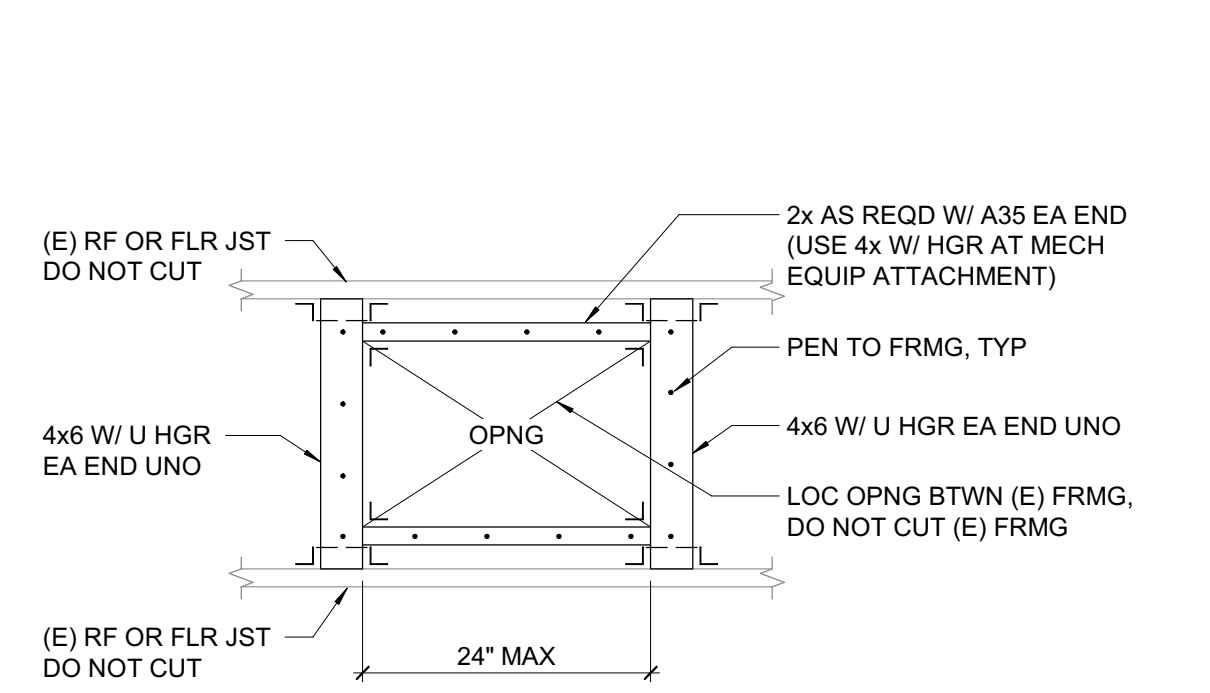


- NOTE:** SHEATHING SHEETS ARE TO BE AS LARGE AS POSSIBLE. STAGGER SHEETS. JOINTS ARE TO BE CENTERED OVER BEARINGS. NAIL HEADS SHALL BE DRIVEN FLUSH W/ SHEATHING. MINIMUM SHEATHING SIZE IS 24" WIDTH x 48" LENGTH AT FLOOR AND ROOF, AND 12" x 48" AT WALLS.

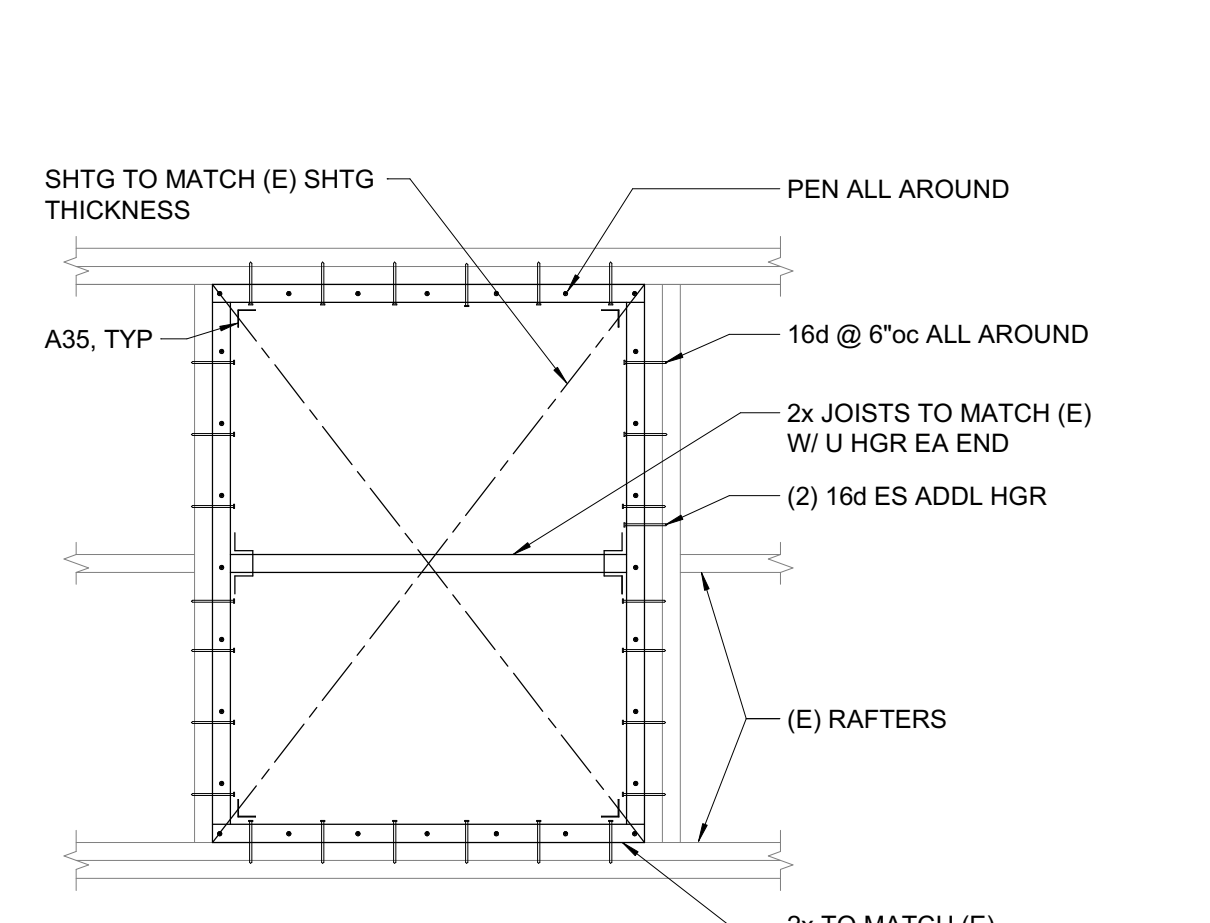
1 SHEATHING NAILING
1 1/2" = 1'-0"

RIM JOIST TO TOP E, TOE NAIL TRUSSES, JOISTS OR RAFTERS AT ALL BEARING POINTS	10d @ 6"oc
TOE NAILS EACH SIDE	(2) 10d
TRUSSES, JOISTS OR RAFTERS TO SIDE OF STUDS	(2) 10d
EIGHT (8) INCH JOISTS OR LESS	(3) 16d
FOR EACH ADDITIONAL 4 INCHES OF DEPTH OF JOIST	(1) 16d
BLOCKING BETWEEN JOISTS OR RAFTERS:	
TO JOIST OR RAFTERS - TOE NAILS EA SIDE, EA END	(2) 10d
TO JOIST OR RAFTER BEARINGS - TOE NAILS EA SIDE	(2) 10d
BLOCKING BETWEEN STUDS, EACH END TOE NAILS	(2) 10d OR (2) 16d
BRIDGING TO JOIST, TOE NAIL EACH END	(2) 16d
2" SUBFLOOR TO JOIST OR GIRDER, BLIND & FACE NAIL	(2) 16d
SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d @ 16"oc
SOLE PLATE TO JOIST OR BLOCKING AT	
BRACED WALL PANELS	(3) 16d @ 16"oc
TOP STUD TO STUD, END NAIL	(2) 16d
STUD TO SOLE PLATE, TOE NAIL	(4) 16d
DOUBLE STUDS AT EXTERIOR WALLS, FACE NAIL	16d @ 12"oc
DOUBLE STUDS, FACE NAIL	16d @ 24"oc
DOUBLE TOP PLATES, FACE NAIL	16d @ 12"oc
TOP PLATES, LAPS & INTERSECTIONS, FACE NAIL	(3) 16d
CONTINUOUS HEADER, TWO PIECES	16d @ 16"oc ALONG EACH EDGE
DOUBLE TOP PLATE LAP AT CORNER	(3) 16d
CONTINUOUS HEADER TO STUD, TOE NAIL	(4) 16d
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	(3) 16d
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	(3) 16d
BUILT-UP CORNER STUDS	16d @ 12"oc
POST TO SILL/SOLETOP PLATE, EACH SIDE TOE NAIL	(4) 10d

2 NAILING SCHEDULE
3/4" = 1'-0"



3 NEW 24" MAXIMUM OPENING
3/4" = 1'-0"



4 NEW INFILL AT EXISTING ROOF
3/4" = 1'-0"



D WOOD FRAMING NOTES

- ALL BEAMS AND JOISTS SHALL BE SEAT CUT FOR FULL UNIFORM BEARING AT SUPPORTS, INCLUDING BEAM SEATS AND COLUMN CAPS.
- SEE 160.1 FOR SHEATHING NAILING REQUIREMENTS. ALL NAILING NOT NOTED OR DETAILED OTHERWISE SHALL BE PER 2019 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC).
- FOR ROOF DRAINAGE, TOP OF FRAMING BETWEEN NOTED POINTS IS A STRAIGHT LINE.
- ALL MECHANICAL SUPPLY AND RETURN OPENINGS TO BE BETWEEN FRAMING UNO.
- JOISTS, RAFTERS AND BLOCKING ARE PER PLAN. HANGER SIZE TO BE CORRECT FULL SIZE FOR JOIST SIZE (I.E. LU210 FOR 2x10). FILL ALL NAIL HOLES.
- ROUND HOLES IN STEEL PLATES TO BE 1/4" OVERSIZE. SLOTTED HOLES IN STEEL PLATES SHALL BE 1/4" WIDER THAN THE BOLT DIAMETER AND HAVE A LENGTH OF 2 TIMES THE BOLT DIAMETER. THE DIRECTION OF THE SLOTTED LENGTH IS INDICATED ON THE DETAILS (VSH OR HSH). INSTALL BOLT AT THE CENTER LINE OF THE HOLE. BOLT HOLES IN WOOD SHALL BE ROUND AND 1/4" OVERSIZE. CUT OFF BOLT THREADED END FLUSH WITH NUT WHEN REQUIRED BY FINISHES AND 1" MAXIMUM FROM NUT OTHERWISE. PROVIDE STANDARD CUT WASHERS UNDER HEAD AND NUT WHERE BOLT BEARS ON WOOD. USE PLATE OR MALLEABLE IRON WASHERS AT EXPOSED CONDITIONS OR AS INDICATED.
- ALL BOLTED OR NAILED STRAP CONNECTIONS SHALL HAVE AN EQUAL NUMBER OF BOLTS OR NAILS EACH SIDE OF THE SPLICE JOINT. THE FIRST BOLT OR NAIL FROM EACH SIDE OF THE SPLICE OR STRAPPED MEMBER SHALL BE EQUIDISTANT FROM THE SPLICE. STRAPS USING 16d NAILS ON 2x MATERIAL TO BE INSTALLED ON THE 1 1/2" EDGE OF THE MEMBER.
- THE CONTRACTOR SHALL VERIFY THAT THE MOISTURE CONTENT OF ALL FRAMING LUMBER AND SHEATHING MEET THE REQUIREMENTS OF THE SPECIFICATIONS AT THE TIME OF INSTALLATION AND AT CLOSE-IN. THE CONTRACTOR SHALL PROVIDE ALLOWANCE FOR DIFFERENTIAL SHRINKAGE BETWEEN FLOORS, DRILL BLOCKING AND LEDGERS AND PROVIDE SKIP BLOCKING AS DETAILED.
- VENTING IS REQUIRED IN ENCLOSED FRAMING AREAS. SAD, DRILL BLOCKING AND LEDGERS AND PROVIDE SKIP BLOCKING AS DETAILED.
- SAD FOR CEILING INFO.
- ALL SHEATHING SHALL HAVE 1/8" GAP AT ALL EDGES AND JOINTS. TYPICAL SHEATHING:

- ROOF SHEATHING: APA RATED SHEATHING (40/20) EXP 1 WITH THICKNESS TO MATCH EXISTING SHEATHING SHEATHING WITH 10d @ 6"oc EDGES (PEN) AND 12"oc FIELD. LAY PERPENDICULAR TO FRAMING MEMBERS. BLOCK EDGES WITH 2x4 LAMB FLAT. NO PANELS LESS THAN 24" WIDE SHALL BE USED. STAGGER SHEETS.

E MATERIAL DATA

(INFORMATION SHOWN IS FOR STRUCTURAL DESIGN REFERENCE ONLY. SEE THE PROJECT SPECIFICATIONS FOR ALL MATERIAL SPECIFICATIONS.)

SAWN LUMBER MEMBER	SPECIES AND MINIMUM GRADE, UNO	F _b (PSI)	F _v (PSI)	E (PSI)
BLOCKING	DOUGLAS FIR - #1	1000	180	1.7x10 ⁶
4x POSTS & BEAMS	DOUGLAS FIR - #1	1000	180	1.7x10 ⁶
2x JOISTS, RAFTERS	DOUGLAS FIR - #1	1000	180	1.7x10 ⁶

FOR METAL CONNECTOR DESIGNATION REFER TO SIMPSON STRONG-TIE PART SPECIFICATIONS.	
CA	CALIFORNIA
CA	CANADA
CB	CHARNEGIR BOLT
CF	COLD FORMED STEEL
CD	COLD DEFORMED STEEL
CL	CERTIFIED GLUED LUMBER
CJ	CONTROL JOINT
CK	COMPLETE JOINT
CL	CEILING
CL	CLEAR
CL	COLUMN
CL	CONCRETE
CL	CONNECTION
CL	COORDINATE
CL	COORDINATION
CL	CONCRETE MASONRY UNIT
CL	CUT WASHER
CL	DESIGNED BARS ANCHOR
CL	DIMENSION
CL	DISTANCE
CL	DOWEL JOINT
CL	DRAWING
CL	DWELL
CL	EACH END
CL	EACH FACE
CL	ELECTRICAL
CL	ELEVATOR/ELEVATION
CL	EQUIPMENT
CL	EXP
CL	EXPANSION
CL	EXT
CL	FOUNDATION
CL	FINISH
CL	FINISH GRADE
CL	FIN
CL	FACE OF CONCRETE
CL	FACE OF MASONRY
CL	FACE OF STUD
CL	FRAMING
CL	FR

A DESIGN CRITERIA

- DESIGN CRITERIA:** 2019 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC)
- ROOF LIVE LOAD:** 20 PSF (REDUCIBLE)
- RISK CATEGORY:** III
- WIND DATA:** ULTIMATE WIND SPEED (3 SEC GUST) IN MPH: 98
WIND EXPOSURE: C
INTERNAL WIND PRESSURE COEFFICIENT (GCPI) = ±0.18
COMPONENTS AND CLADDING DESIGN PRESSURES FOR SYSTEMS DESIGNED BY OTHERS SHALL COMPLY WITH THE "ASCE 7-16" DESIGN STANDARD
SEISMIC IMPORTANCE FACTOR, I: 1.25
MAPPED SPECTRAL RESPONSE ACCELERATIONS: S_{DS} = 1.50; S₁ = 0.60
SITE CLASS: D - DEFAULT
SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 1.20; S₁ = 0.68
SEISMIC DESIGN CATEGORY: D
- EARTHQUAKE DATA:** PROVIDE DEFORMATION COMPATIBILITY PER ASCE 7 SECTION 12.12.5 FOR NON-STRUCTURAL ITEMS, INCLUDING CLADDING, STAIRS, GLAZING, ETC.
- SCOPE:** MECHANICAL UPGRADES AT (4) ONE-STORY WOOD-FRAMED BUILDINGS.

B GENERAL NOTES

- REFER TO SHEET S-0.1 FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.
- STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
- DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
- REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
- COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. USE DETAILS ON SHEET S-0.1 AT CONDITIONS WHERE THESE DETAILS DO NOT APPEAR TO APPLY. NOTIFY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
- VERIFY WEIGHTS AND LOCATIONS OF MECHANICAL UNITS WITH MECHANICAL ENGINEER PRIOR TO PLACEMENT. UNITS VARYING OVER 10% IN WEIGHT SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. CONTRACTOR TO VERIFY MECHANICAL UNIT SIZES AND WEIGHTS AS INSTALLED PRIOR TO INSTALLATION OF SPECIAL FRAMING TO ENSURE CORRECT PLACEMENT UNDER CURBS, ETC. SEE MECHANICAL DRAWINGS FOR ANCHORAGE DETAILS.
- SHORING AND BRACING DESIGN, MATERIALS AND INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. ALL SHALL BE ADEQUATE FOR ALL LOADS. LEAVE IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL FINAL STRUCTURAL CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL ENGAGE A LICENSED CIVIL OR STRUCTURAL ENGINEER TO PROVIDE SHORING.
- SPECIAL INSPECTIONS ARE REQUIRED PER THE TESTING AND INSPECTION FORM. SEE SPECIFICATIONS.
- VEHICULAR TRAFFIC, HEAVY EQUIPMENT AND MATERIAL STAGING SHALL NOT BE ALLOWED ADJACENT TO ANY RETAINING/BASEMENT WALL, NEW OR EXISTING WITHIN A HORIZONTAL DISTANCE EQUAL TO THE WALL HEIGHT MEASURED FROM THE BOTTOM OF FOOTING OR 5'-0" WHICHEVER IS GREATER, UNLESS APPROVED BY THE STRUCTURAL ENGINEER OR NOTED OTHERWISE. WITHIN THIS ZONE, ONLY HAND-OPERATED EQUIPMENT ("WALKERS"), VIBRATORY PLATES, OR PNEUMATIC COMPACTORS) SHALL BE USED TO COMPACT THE BACKFILL SOILS.

C EXISTING CONSTRUCTION NOTES

- IN PREPARING THE PROJECT PLANS, THE SOURCE OF INFORMATION WAS BASED ON THE EXISTING BUILDING PLANS. DSA APPLICATION #9689 DATED 1952, DSA APPLICATION #20838 DATED 1962 AND DSA APPLICATION #29115 DATED 1967. THE CONTRACTOR SHALL VERIFY ALL EXISTING JOB CONDITIONS, REVIEW THE PLANS AND VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH ANY WORK. DRAWINGS FOR THE EXISTING CONSTRUCTION ARE AVAILABLE FOR REVIEW.
- ALL WORK NOT INDICATED AS EXISTING (E) SHALL BE ASSUMED TO BE NEW (N).
- ANY REMOVAL, CUTTING, DRILLING, ETC OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE. SMALL TOOLS SHALL BE USED IN ORDER NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE STRUCTURE. IF STRUCTURAL MEMBERS OR MECHANICAL, ELECTRICAL, OR ARCHITECTURAL ELEMENTS NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE ARCHITECT/ENGINEER SHALL BE IMMEDIATELY NOTIFIED AND PRIOR APPROVAL SHALL BE OBTAINED BEFORE REMOVAL OF THE MEMBERS.
- DO NOT OVER CUT EXISTING WOOD, CONCRETE, MASONRY OR OTHER WORK TO REMAIN. CUTS SHALL BE MADE NEATLY TO A CORNER, THEN ALTERNATE MEANS SHALL BE USED TO REMOVE REMAINING MATERIAL. CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF OVER CUT MATERIAL AS DIRECTED BY THE ARCHITECT AND/OR ENGINEER.
- EXISTING DAMAGED STRUCTURAL MEMBERS WHICH ARE UNCOVERED SHALL BE REPORTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND REPAIR.
- EXISTING CONCRETE SURFACE ABUTTING NEW CONCRETE SHALL BE ROUGHENED TO 1/4" AMPLITUDE AND THOROUGHLY CLEANED OF DUST, LOOSE AGGREGATE, LANTANCE, ETC.
- EXISTING REINFORCING AND/OR STEEL EMBEDS THAT ARE EXPOSED DURING DEMOLITION SHALL BE WIRE-BRUSHED AND FOREIGN MATERIAL REMOVED PRIOR TO PLACEMENT OF NEW CONCRETE.

SHEET INDEX	
S-0.1	GENERAL NOTES AND SPECIFICATIONS

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DAVIDSON MIDDLE SCHOOL

HVAC IMPROVEMENTS - ANNEX, MAKER SPACE, BAND & MUSIC ROOMS

280 WOODLAND AVE
SAN RAFAEL, CA 94901

SAN RAFAEL CITY SCHOOLS

REVISIONS	

DSA APP NO: 01-120022
ARCH PROJECT NO: 1735.00
ENGINEER: BC / DM
PROJECT MANAGER: CSW
PTN: 65458-61 FILE NO: 21-39
DSA SUBMITTAL

JANUARY 31, 2022

GENERAL NOTES AND SPECIFICATIONS

SHEET NUMBER

S-0.1

FAN COIL SYSTEM INDOOR UNIT SCHEDULE														
MARK	MFR	MODEL	AIRFLOW	OSA (MIN/MAX)	TOTAL COOLING	SENS COOLING	HEATING OUTPUT	ELECTRICAL DATA			WEIGHT	SERVICE	REMARKS	
								V-Ø-HZ	MCA	MOCP	FILTER			
FC 27-1	DAIKIN	FXTQ60TAVJUA	1800 CFM	150/375	60000 Btu/h	41300 Btu/h	66000 Btu/h	208/230-1-60	32	35	MERV 13	167 lb	BAND CLASSROOM MAKER SPACE	1,2,3,4,6 1,2,3,4,7
FC 37-1	DAIKIN	FXTQ50TAVJUA	1800 CFM	350/350	60000 Btu/h	41300 Btu/h	66000 Btu/h	208/230-1-60	32	35	MERV 13	167 lb	MUSIC CLASSROOM	1,2,3,4,8
FC 60-1	DAIKIN	FXTQ42TAVJUA	1200 CFM	175/415	42000 Btu/h	41300 Btu/h	66000 Btu/h	208/230-1-60	32	35	MERV 13	150 lb	MUSIC CLASSROOM	1,2,3,4,8
FC 60-2	DAIKIN	FXTQ42TAVJUA	1200 CFM	175/415	42000 Btu/h	41300 Btu/h	66000 Btu/h	208/230-1-60	32	35	MERV 13	150 lb	MUSIC CLASSROOM	1,2,3,4,8
FC 70-1	DAIKIN	FXTQ48TAVJUA	1350 CFM	185/185	48000 Btu/h	41300 Btu/h	66000 Btu/h	208/230-1-60	32	35	MERV 13	150 lb	LIBRARY 11, CLERK 14, PRINCIPAL 15, CHLD PSYCH 17	1,2,3,4,5,9
FC 70-2	DAIKIN	FTXS09LVJU	381 CFM	25/25	9000 Btu/h	8100 Btu/h	1700 Btu/h	208/230-1-60	8	15	MERV 13	20 lb	ANNEX PRINCIPAL OFFICE	1,2,3,5,10

NOTES:

- PROVIDE WITH THERMOSTAT INTERFACE BY DAIKIN. UNIT CONTROLLER TO COMMUNICATE WITH EXISTING ALERTON BACNET EMS, CO2 SENSOR AND ECONOMIZER CONTROLLER IF SHOWN ON CONTROL DIAGRAM. THERMOSTAT AND CO2 SENSOR SHALL BE MOUNTED MAX 48" AFF.
- PROVIDE WITH EXTERNAL 2" FILTER RACK AND MERV13 FILTERS.
- FURNISH & INSTALL GLOBAL PLASMA SOLUTIONS NEEDLEPOINT BI-POLAR IONIZATION SYSTEM MODEL FC24 IN EACH INDOOR UNIT. SEE SPECIFICATIONS.
- FURNISH FC WITH ACCESSORY SAW STRIP HEATER DAIKIN PART NO HKS05XC.
- PROVIDE CONDENSATE PUMP. SEE PLANS FOR CD PIPE ROUTING.
- MOUNT UPRIGHT FANCOIL IN BAND ROOM PER DETAIL AM-4.
- MOUNT HORIZONTAL FANCOIL IN MAKER SPACE PER DETAIL BM-4.1
- MOUNT UPRIGHT FANCOIL IN MUSIC BUILDING PER DETAIL CM-4.1
- MOUNT UPRIGHT FANCOIL IN ANNEX PER DETAIL DM-4.1
- MOUNT HIGH WALL FANCOIL IN ANNEX PER DETAIL CM-4.2

GRAVITY RELIEF SCHEDULE				
MARK	MFR	MODEL NO	ROOF OPENING	WEIGHT
GRV 27-1	GREENHECK	GRSR20	20"Ø	24 LB

HEAT PUMP OUTDOOR UNIT SCHEDULE											
MARK	MODEL NUMBER	UNIT SIZE	TOTAL COOLING (MBH)	TOTAL HEATING CAPACITY	SEER	ELECTRICAL DATA			WEIGHT	SERVICE	REMARKS
						V-Ø-HZ	MCA	MOCP			
HP 27-1	RXTQ60TAVJUA	5	57.5	57.0	18.00	208-1-60	29.1	35	225 lb	FC 27-1	1,2
HP 37-1	RXTQ60TAVJUA	5	57.5	57.0	18.00	208-1-60	29.1	35	225 lb	FC 37-1	1,2
HP 60-1	RXTQ48TAVJUA	4	45.5	49.5	18.00	208-1-60	29.1	35	176 lb	FC 60-1	1,2
HP 60-2	RXTQ48TAVJUA	4	45.5	49.5	18.00	208-1-60	29.1	35	176 lb	FC 60-2	1,2
HP 70-1	RXTQ48TAVJUA	4	45.5	49.5	18.00	208-1-60	29.1	35	176 lb	FC 70-1	1,2
HP 70-2	FTXS09LVJU	3/4	9.0	12.0	15.30	208-1-60	8.0	15	75 lb	FC 70-2	1,2

NOTES:

- PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & ACCESSORIES FOR USE WITH R410A REFRIGERANT.
- MOUNT AS SHOWN IN DETAIL AM-4.2

EXHAUST FAN SCHEDULE											
MARK	MFR	MODEL NO	AIRFLOW	FAN RPM	INLET SONES	ELECTRICAL DATA			WEIGHT	SERVICE	REMARKS
						OPER. HP	WATTS	V-Ø-Hz			
EF 70-1	GREENHECK	SP-A390-VG	300 CFM	1200	4	1/15	52 W	115-1-60	24.00 lbf	NURSE OFFICE	1

NOTES:

- UNIT SHALL HAVE GALVANIZED STEEL SCROLL AND HOUSING. NON-YELLOWING GRILLE. SPRING LOADED BDD, PLUG TYPE DISCONNECT, VARI-GREEN MOTOR WITH POTENTIOMETER, UL 507 LISTING, POLYPROPYLENE WHEEL.

CONDENSING UNIT SCHEDULE										
MARK	MFR	MODEL NO.	UNIT CAPACITIES (MBH)	ELECTRICAL DATA			WEIGHT	SERVICE	REMARKS	
			COOLING	SEER	V-Ø-HZ	MCA	MOCP			
CU 70-1	DAIKIN	D21VSA3618A	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 1	
CU 70-2	DAIKIN	D21VSA3618A	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 2	
CU 70-3	DAIKIN	D21VSA3618A	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 3	
CU 70-4	DAIKIN	D21VSA3618A	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 4	
CU 70-5	DAIKIN	D21VSA3618A	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 5	
CU 70-6	DAIKIN	D21VSA3618A	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 6	
CU 70-7	DAIKIN	D21VSA3618A	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 7	
CU 70-8	DAIKIN	D21VSA3618A	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 8	
CU 70-9	DAIKIN	D21VSA3618A	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 9	
CU 70-10	DAIKIN	D21VSA3618A	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 10	

NOTES:

- PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & ACCESSORIES FOR USE WITH R410A REFRIGERANT.
- MOUNT AS SHOWN IN DETAIL BM-4.2

INDOOR COOLING COIL SCHEDULE						
MARK	MFR	MODEL	AIRFLOW	COIL APDF, " WG	SERVICE	REMARKS
CC 70-1	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 1	1-7
CC 70-2	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 2	1-7
CC 70-3	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 3	1-7
CC 70-4	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 4	1-7
CC 70-5	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 5	1-7
CC 70-6	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 6	1-7
CC 70-7	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 7	1-7
CC 70-8	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 8	1-7
CC 70-9	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 9	1-7
CC 70-10	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 10	1-7

NOTES:

- FURNISH & INSTALL CASED COIL AS SCHEDULED WITH REFRIGERANT LINE SET OF SIZES MATCHING EQUIPMENT REQUIREMENTS. OEM EQUIPMENT SHALL INCLUDE TXV & FILTER DRIER.
- FURNISH & INSTALL GLOBAL PLASMA SOLUTIONS NEEDLEPOINT BI-POLAR IONIZATION SYSTEM MODEL FC24 IN EACH FURNACE.
- FURNISH & INSTALL CONDENSATE PUMP IN EACH ENCLOSURE.
- CHANGE MOTOR CONNECTION TO NEW HIGHER SPEED TAP C TO MAINTAIN AIRFLOW WITH INCREASED AIR PRESSURE DROP FROM NEW MERV13 2" FILTERS AND COIL.
- OUTDOOR AIR SHALL BE UPGRADED TO 2019 STANDARD WITH DCV/ECONOMIZER. CLASSROOM TITLE 24 MINIMUM OA 345 CFM. DCV MINIMUM OA 135 CFM. TEACHER ROOM TITLE 24 MINIMUM OA 290 CFM. DCV MINIMUM OA 90 CFM.
- PROVIDE CONDENSATE PUMP WITH EACH NEW COOLING COIL. SEE PLANS FOR CD PIPE ROUTING.
- MOUNT COOLING COIL PER DETAIL DM-4.1

VENTILATION RATING PROCEDURE							
ROOM #	ROOM NAME	Area	ASHRAE 62.1 OCCUPANCY	VACANT OSA (MIN)	OCCUPIED OSA (MAX)	DESIGN OSA (MIN/MAX)	OCCUPANCY SENSOR (Y/N)
1	CLASSROOM	897	62-Educational Facilities - Classrooms Age 9 Plus	135	341	150/350	Y
2	CLASSROOM	897	62-Educational Facilities - Classrooms Age 9 Plus	135	341	150/350	Y
3	CLASSROOM	900	62-Educational Facilities - Classrooms Age 9 Plus	135	342	150/350	Y
4	CLASSROOM	897	62-Educational Facilities - Classrooms Age 9 Plus	135	341	150/350	Y
5	OFFICES	528	62-Educational Facilities - Classrooms Age 9 Plus	135	342	150/350	Y
6	CLASSROOM	900	62-Educational Facilities - Classrooms Age 9 Plus	135	342	150/350	Y
7	CLASSROOM	901	62-Educational Facilities - Classrooms Age 9 Plus	136	343	150/350	Y
8	TEACHER ROOM	576	62-Office Buildings - Breakrooms	87	288	100/300	Y
9	CLASSROOM	896	62-Educational Facilities - Classrooms Age 9 Plus	135	342	150/350	Y
10	CLASSROOM	900	62-Educational Facilities - Classrooms Age 9 Plus	135	342	150/350	Y
11	RECEPTION	384	62-Educational Facilities - Libraries	102	102	105/105	N
12	NURSE	123	62-Office Buildings - Office Space	19	19	25/25	N
14	COPY RM	186	62-Office Buildings - Office Space	28	28	30/30	N
15	CONFERENCE	138	62-Office Buildings - Office Space	21	21	25/25	N
17	OFFICE	68	62-Office Buildings - Office Space	11	11	25/25	N
24	VESTIBULE	19	62-Office Buildings - Main Entry Lobbies	3	10	25/25	N
26	CORRIDOR	779	62-General - Corridor	117	117	125/125	N
27	CORRIDOR	451	62-General - Corridor	68	68	75/75	N
27A	BAND ROOM	978	62-Educational Facilities - Classrooms Age 9 Plus	147	372	150/375	Y
37	SHOP	1971	62-Educational Facilities - Classrooms Age 9 Plus	296	749	300/750	Y
37A	OFFICE	259	62-Office Buildings - Office Space	39	39	50/50	N
54	OFFICE	315	62-Office Buildings - Office Space	48	48	50/50	N
55	PRACTICE 2	66	62-Office Buildings - Office Space	10	10	25/25	N
56	PRACTICE 1	66	62-Office Buildings - Office Space	10	10	25/25	N
60	MUSIC CLASSROOM	2161	62-Educational Facilities - Classrooms Age 9 Plus	325	822	325/825	Y

Applicable Code: 2019 CBC 02/05/2020 Revised: 02/14/2020

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA-approved construction documents. The following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2019 CBC Sections 1617A.1.18 through 1617A.1.26 and ASCE 7-16 Chapters 13, 26, and 30:

- All permanent equipment and components.
- Temporary, movable or mobile equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110/220 volt receptacles having a flexible cable.
- Temporary, movable or mobile which is heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component is required to be restrained in a manner approved by DSA.

The following mechanical and electrical components shall be positively attached to the structure but need not demonstrate design compliance with the references noted above. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit. Flexible connections must allow movement in both traverse and longitudinal directions:

- Components weighing less than 400 pounds and having a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
- Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

The anchorage of all mechanical, electrical and plumbing components shall be subject to the approval of the design professional in general responsible charge of structural engineer. Delegated responsibility and acceptance by DSA. The project inspector will verify that all components and equipment have been anchored in accordance with the above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-16 Section 13.3 as defined in ASCE 7-16 Sections 13.6.5, 13.6.6, 13.6.7, 13.6.8, and 2019 CBC, Sections 1617A.1.24, 1617A.1.25 and 1617A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., OSHPD OPM for 2013 CBC or later), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the haging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

- MP MD PP E Option 1: Detailed on the approved drawings with project specific notes and details
- MP MD PP E Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) #OPM-09K2-13

AIR TERMINAL SCHEDULE		MANUFACTURER: TITUS (EXCEPT AS NOTED)	
RG		RETURN GRILLE	50F - 1/2" x 1/2" x 1/2" EGGRATE, ALUMINUM GRID
SDG		SPIRAL DUCT SUPPLY GRILLE	SERIES S301FS: ALUMINUM DUCT GRILLE, WHITE POWDER COATED FINISH, 3/4" BLADE SPACING, DIRECT MOUNT TO SPIRAL DUCT, PROVIDE WITH AIR SCOOP, INSTALL IN 45 DEGREE UNLESS OTHERWISE NOTED.
CR		CEILING RETURN	50F - 1/2" x 1/2" x 1/2" EGGRATE, ALUMINUM GRID
EG		EXHAUST GRILLE	50F - 1/2" x 1/2" x 1/2" EGGRATE, ALUMINUM GRID

NOTES:

- ADAPTER NEEDED FOR TRANSITION FROM SQUARE NECK TO ROUND DUCT.
- SIZE (NECK/FACE) TYPE FACE SIZE FOR T-BAR CEILING ONLY (CM. NO. OF THROW)

APPLICABLE GOVERNING CODES:

- 2019 CALIFORNIA BUILDING CODE
- 2019 CALIFORNIA ELECTRICAL CODE
- 2019 CALIFORNIA MECHANICAL CODE
- 2019 CALIFORNIA PLUMBING CODE
- 2019 CALIFORNIA ENERGY CODE
- 2019 CALIFORNIA FIRE CODE
- 2019 CALIFORNIA GREEN BUILDING STANDARDS

MECHANICAL LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
		EQUIPMENT TYPE
		EQUIPMENT NUMBER
		DETAIL / DRAWING NUMBER
		SHEET NUMBER
	SA OR OA	SECTION THRU SUPPLY AIR OR OUTSIDE AIR DUCT
	RA	SECTION THRU RETURN AIR
	EXH	SECTION THRU EXHAUST AIR
		ROUND DUCT DOWN
	DN OR UP	SLOPE DUCT DOWN OR UP IN DIRECTION OF FLOW
	AL	ACOUSTICAL LINING
	FC	FLEXIBLE DUCT CONNECTION
	VD	VOLUME DAMPER
	FD	FIRE DAMPER
	TV	TURNING VANES
		FLEXIBLE DUCT
		45° ROUND DUCT TAKE-OFF
		45° RECTANGULAR DUCT TAKE-OFF
		90° TURN - ROUND DUCT
		90° RADIUS TURN - ROUND OR RECTANGULAR DUCT
		SQUARE TO ROUND DUCT TRANSITION
		DUCT TRANSITION
		RECTANGULAR DUCT 90° SPLIT
		THERMOSTAT @ 48" AFF MAX TO TOP
		CO2 SENSOR
		PRESSURE SENSOR
	AP	ACCESS PANEL
	POC	POINT OF CONNECTION
	POD	POINT OF DEMOLITION
	BHP	BRAKE HORSEPOWER
	HP	HORSEPOWER
	SD	SEE ARCHITECTURAL DRAWINGS
	SSD	SEE STRUCTURAL DRAWINGS
	SCD	SEE CIVIL DRAWINGS
	AFC	ABOVE FINISH CEILING CLASSROOM
	CR	CLASSROOM
	BDD	BACKDRAFT DAMPER
	RAD	RETURN AIR DAMPER
	RS/RL	REFRIGERANT SUCTION / REFRIGERANT LIQUID
	UTR	UP THRU ROOF

MECHANICAL SHEET LIST

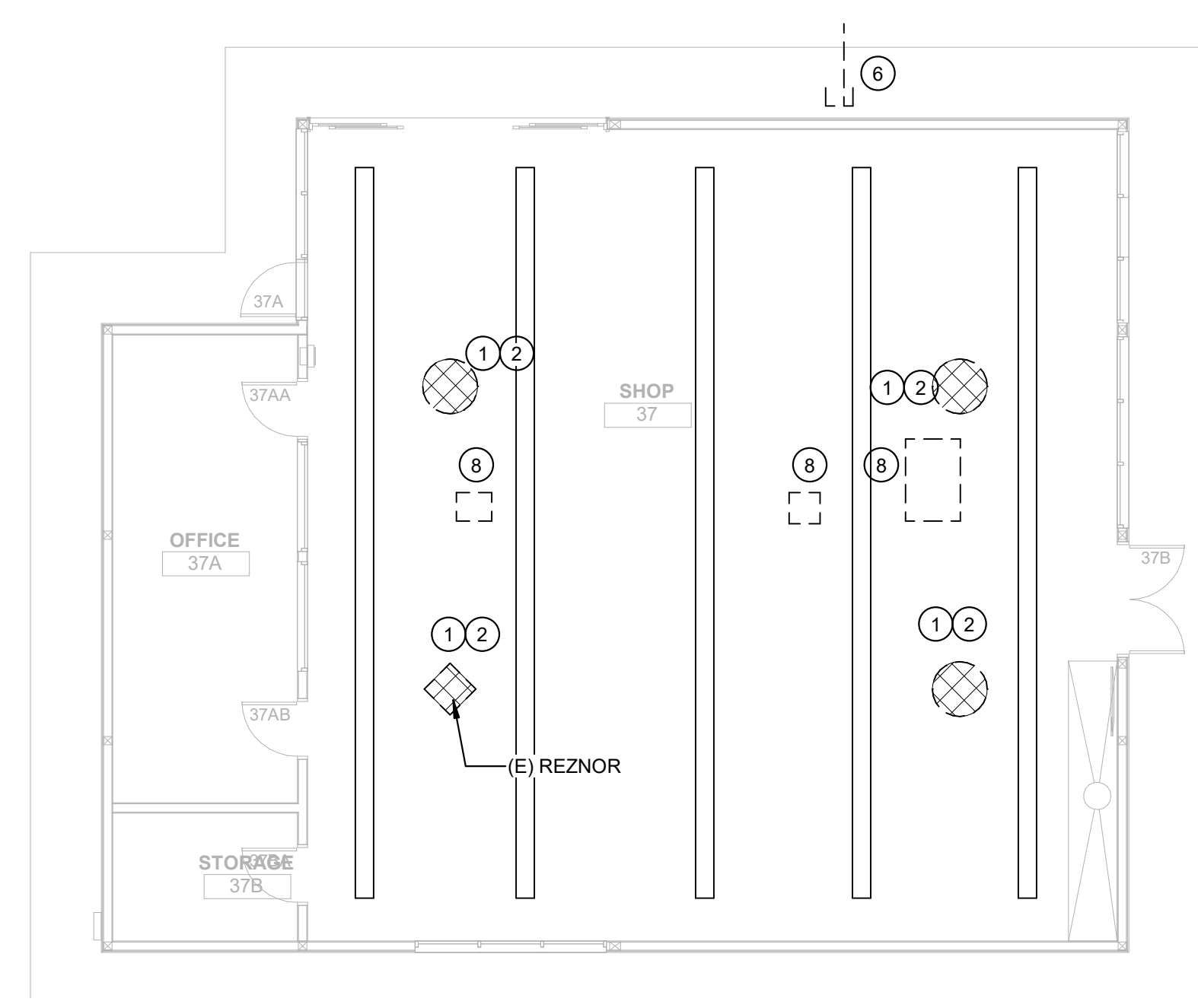
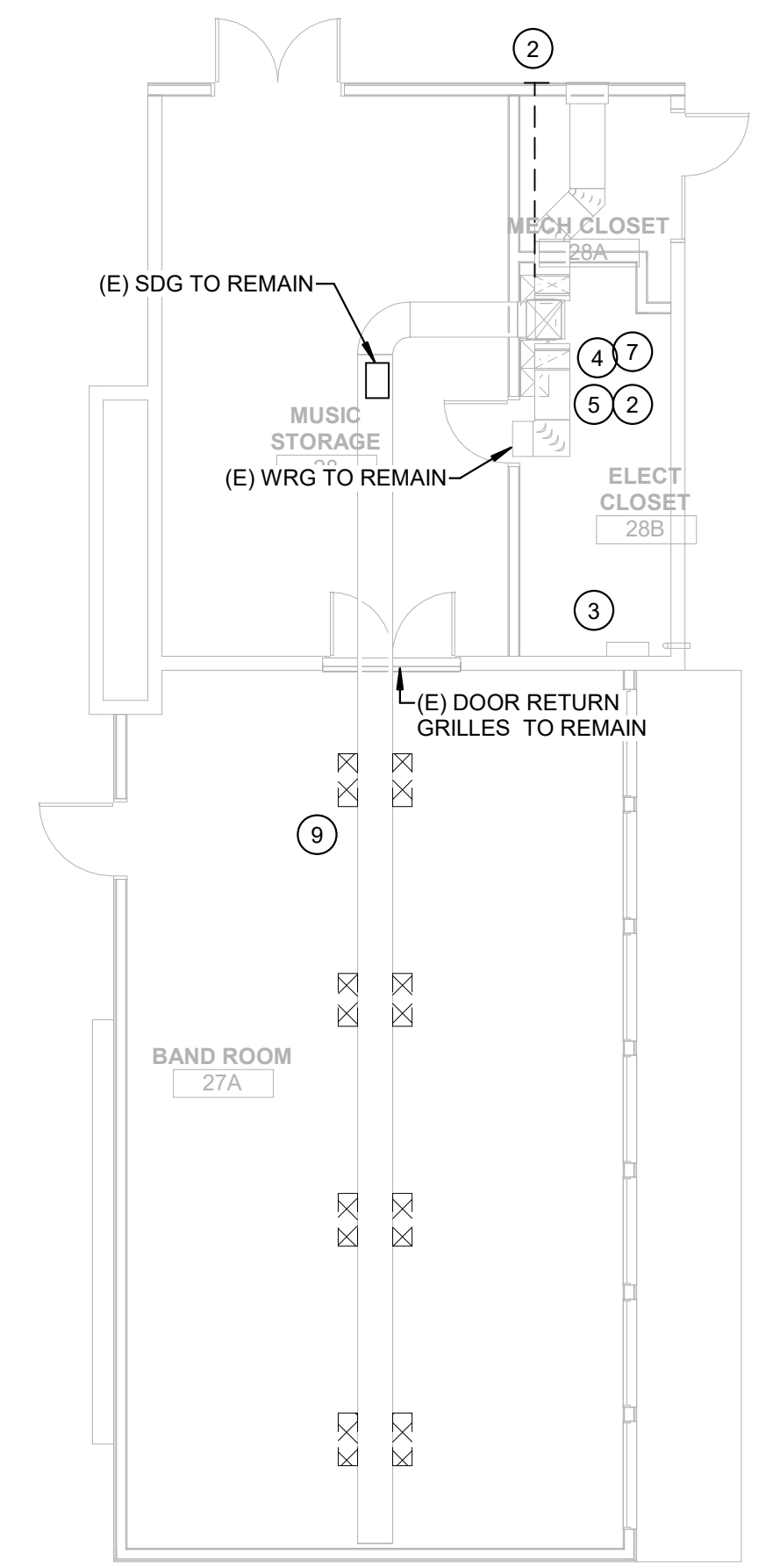
M-1.1	MECHANICAL SCHEDULES & LEGENDS
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GENERAL NOTES

- A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1.
- B. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ETC.
- C. THIS CONTRACTOR SHALL RETAIN SPECIFIC EQUIPMENT AS DIRECTED BY OWNER AND DELIVER TO OWNER SPECIFIED LOCATION.
- D. ALL EQUIPMENT, MECHANICAL EQUIPMENT, PIPING, VALVING, CONTROLS, ETC. RENDERED USELESS BY THIS WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE.
- E. LOCATION OF EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AIR OUTLETS, PIPING, CONTROLS, VALVING, ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK.
- F. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
- G. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.
- H. TEMPORARY CAP EXISTING OPEN DUCTS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION.
- J. DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW.
- K. DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW.
- L. SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE IN ACCORDANCE WITH THE OPM-0043-13.
- M. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER OR FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

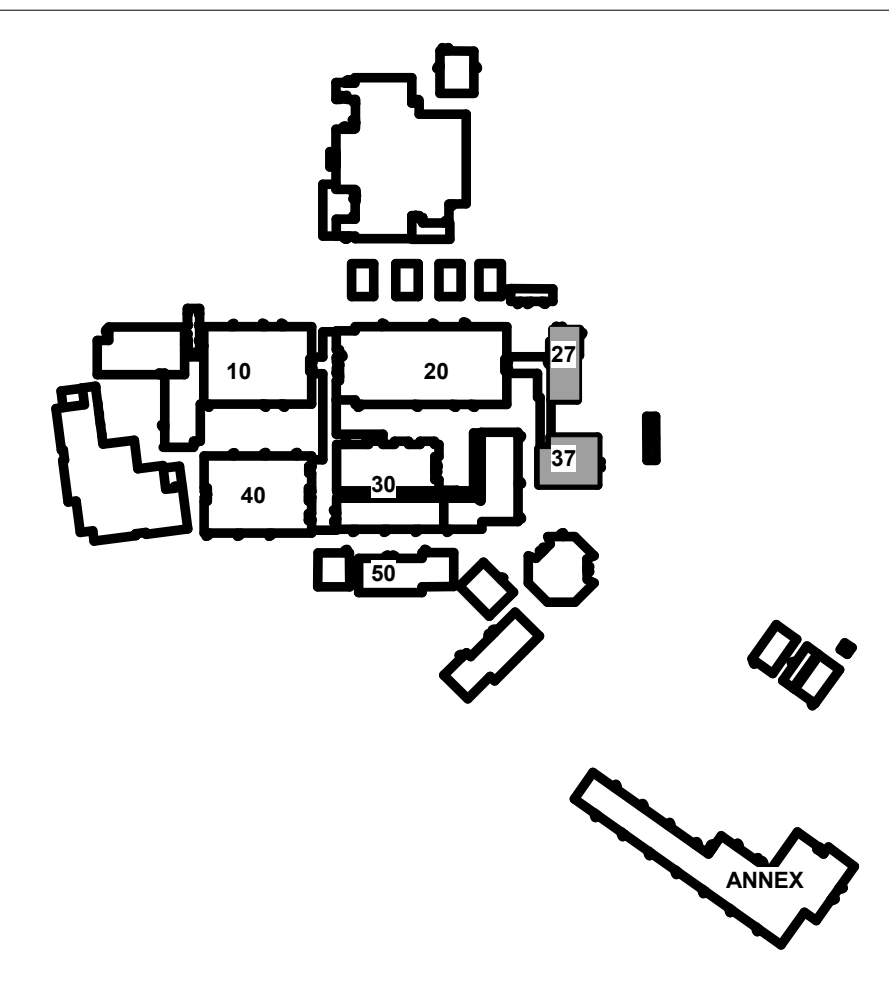
DEMOLITION SHEET NOTES

- 1. DEMOLISH THERMOSTAT. SEE PLANS FOR NEW THERMOSTATS.
- 2. DEMOLISH FURNACE & COMBINATION FLUE. SAD FOR ROOF PATCHING WORK.
- 3. DEMOLISH GAS PIPING BRANCH TO FURNACE IN ELECTRICAL ROOM.
- 4. DEMOLISH MANUAL DAMPER AND OUTSIDE AIR DUCT TO MOKING BOX. IN PREPARATION OF NEW OA DAMPER.
- 5. RETURN DUCT TO REMAIN.
- 6. DEMOLISH GAS PIPING IN CLASSROOM & CAP EXISTING GAS PIPE OUTSIDE. PATCH WALL SAD.
- 7. DEMOLISH CD PIPING. PREPARE CD PIPE ABOVE FLOOR FOR NEW CONNECTION. SEE SHEET M-2.1 FOR NEW WORK.
- 8. EXISTING SMOKEEATER AIR CLEANER, CEILING EXHAUST GRILLES AND ROOF MOUNTED EXHAUST FANS TO REMAIN.
- 9. DEMOLISH SUPPLY AIR DIFFUSERS AND MANUAL VOLUME DAMPERS, TYP. 8.



1 DEMOLITION MECHANICAL FLOOR PLAN - MAKER SPACE AND BAND ROOM
1/8" = 1'-0"

KEYPLAN



**PRELIMINARY
NOT FOR
CONSTRUCTION**

**DAVIDSON
MIDDLE
SCHOOL**

**HVAC
IMPROVEMENTS -
ANNEX, MAKER
SPACE, BAND &
MUSIC ROOMS**

280 WOODLAND AVE
SAN RAFAEL, CA 94901

SAN RAFAEL CITY
SCHOOLS

REVISIONS

NO.	DESCRIPTION

DSA APP NO. 01-120022
ARCH PROJECT NO: 1900.03
DRAWN BY: MG/SC
DRAWING SCALE: 1/8" = 1'-0"
PTN 65458-61 FILE NO: 21-39
DSA SUBMITTAL
JANUARY 31, 2022

SHEET TITLE
**DEMOLITION
MECHANICAL
FLOOR PLAN -
MAKER SPACE
AND BAND ROOM**

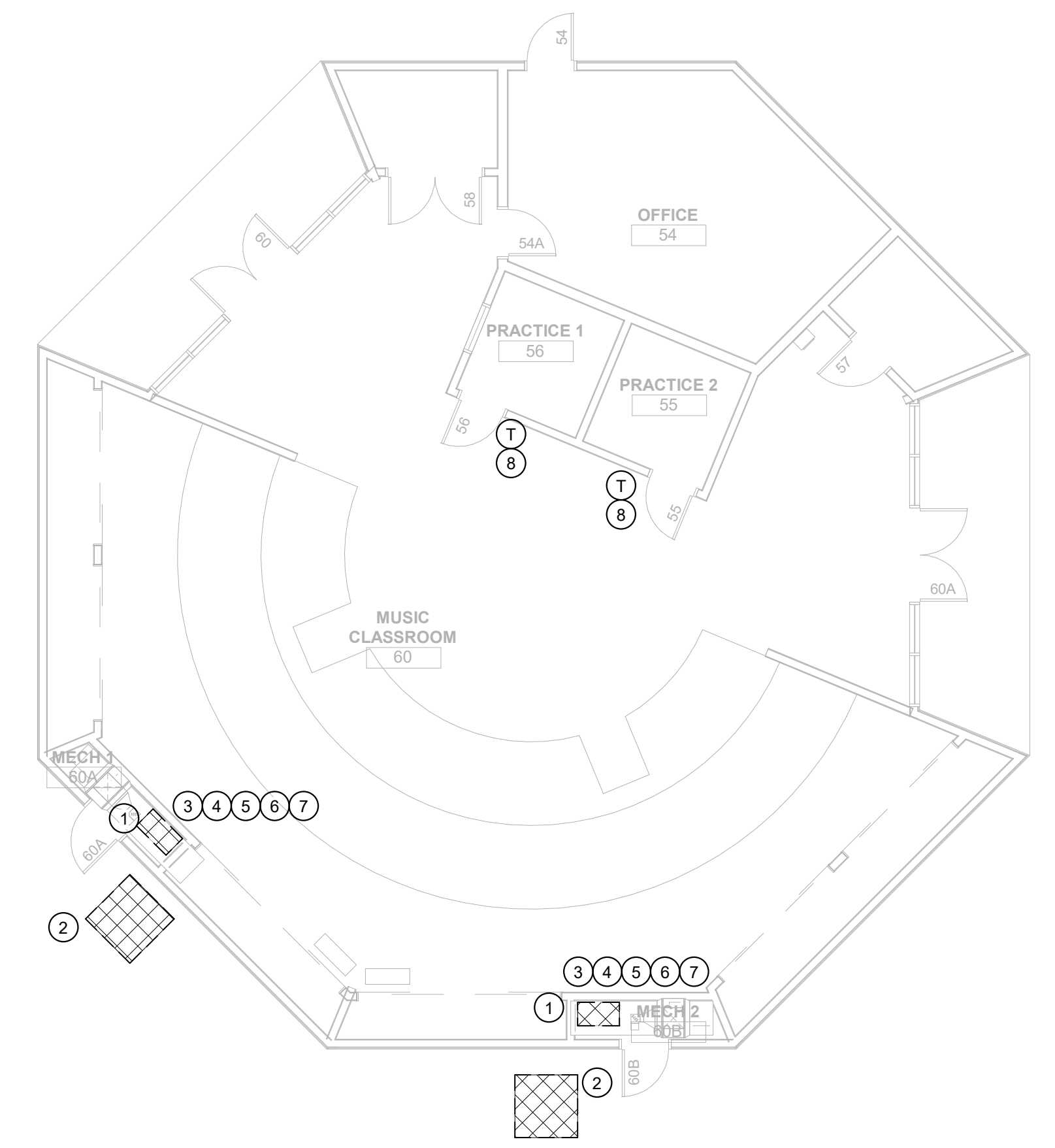
SHEET NUMBER
MD-2.1

GENERAL NOTES

- A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1.
- B. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ETC.
- C. THIS CONTRACTOR SHALL RETAIN SPECIFIC EQUIPMENT AS DIRECTED BY OWNER AND DELIVER TO OWNER SPECIFIED LOCATION.
- D. ALL EQUIPMENT, MECHANICAL EQUIPMENT, PIPING, VALVING, CONTROLS, ETC. RENDERED USELESS BY THIS WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE.
- E. LOCATION OF EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AIR OUTLETS, PIPING, CONTROLS, VALVING, ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK.
- F. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
- G. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.
- H. TEMPORARY CAP EXISTING OPEN DUCTS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION.
- J. DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW.
- K. DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW.
- L. SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE IN ACCORDANCE WITH THE OPM-0043-13.
- M. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER OR FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

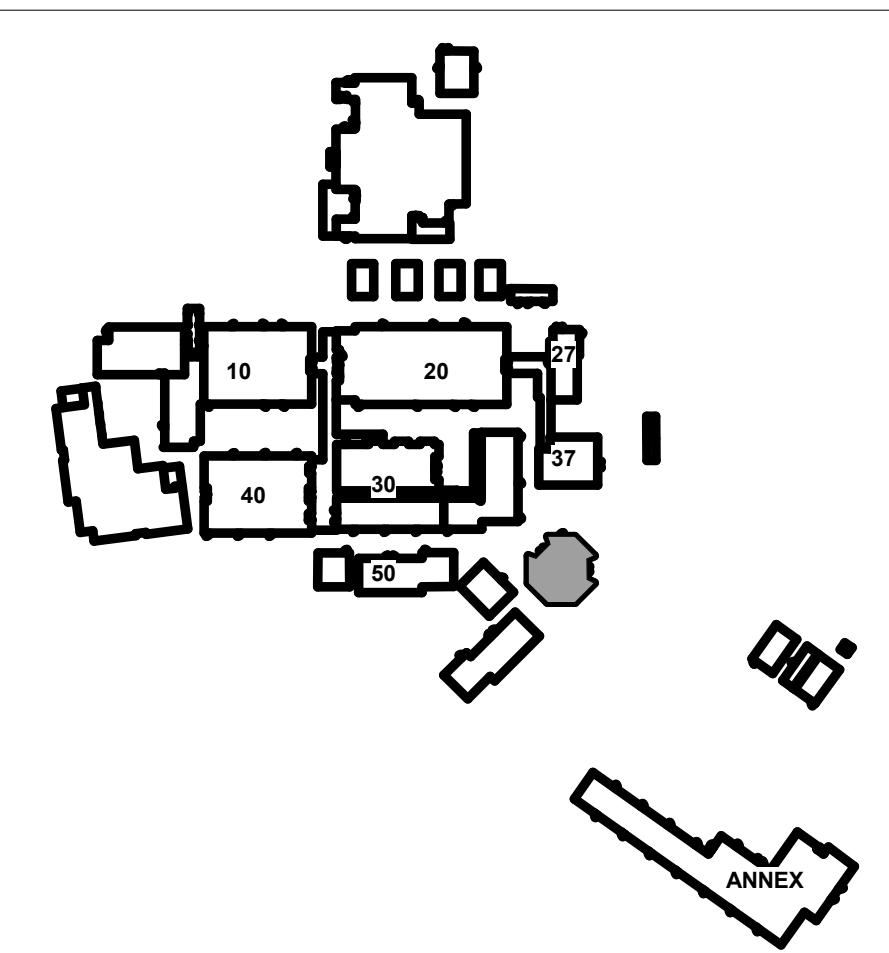
DEMOLITION SHEET NOTES

- 1 DEMOLISH (E) FURNACE, SEE SHEET M-2.2 FOR NEW WORK.
- 2 DEMOLISH (E) CONDENSING UNIT, EXISTING DUCTWORK TO REMAIN. SEE SHEET M-2.2 FOR NEW FURNACE WORK.
- 3 DEMOLISH FLUE, PATCH ROOF. DEMOLISH GAS PIPING AS SHOWN.
- 4 RECOVER REFRIGERANT, DEMOLISH REFRIGERANT LINES AND COOLING COIL.
- 5 CUT AND REMOVE SECTION OF DUCT ON FLOOR TO MAKE ROOM FOR NEW UNIT BASE AND NEW ECONOMIZER, CLEAN AND PREPARE CLOSET FOR INSTALLATION OF NEW FANCOIL, UNIT MOUNTING BASE, EXTERNAL FILTER RACK, CUBE ECONOMIZER.
- 6 DEMOLISH CONDENSATE DRAIN PIPING.
- 7 DEMOLISH ABANDONED OA DUCTWORK, EXISTING OVERHEAD SUPPLY DUCT AND COMBUSTION AIR LOUVER TO REMAIN.
- 8 DEMOLISH EXISTING THERMOSTAT.
- 9 DEMOLISH INSULATION ON WALL IN LIEU OF CLEANING, CLEAN CLOSETS, CLEAN AND REFURBISH LOUVERS TO LIKE NEW CONDITION.

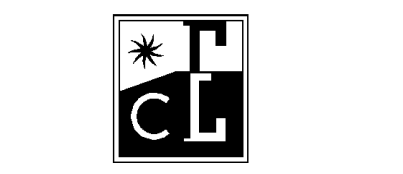


1 DEMOLITION MECHANICAL FLOOR PLAN - MUSIC CLASSROOM
1/8" = 1'-0"

KEYPLAN



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MUSIC ROOMS**

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SAN RAFAEL CITY
SCHOOLS

REVISIONS

NO.	DESCRIPTION

DSA APP NO. 01-120022
ARCH PROJECT NO: 1900.03
DRAWN BY: Author
DRAWING SCALE: 1/8" = 1'-0"
PTN 65458-61 FILE NO: 21-39
DSA SUBMITTAL
JANUARY 31, 2022

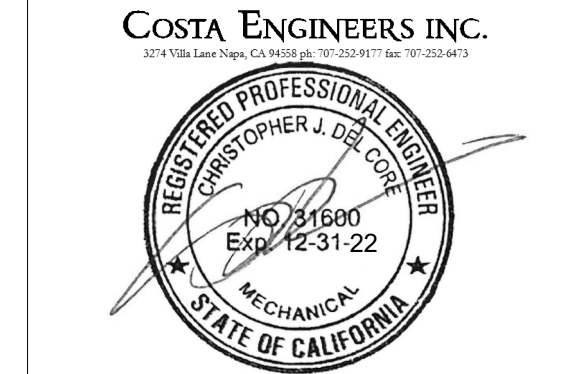
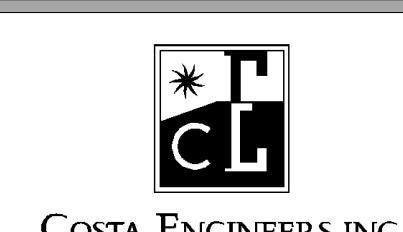
SHEET TITLE
**DEMOLITION
MECHANICAL
FLOOR PLAN -
MUSIC
CLASSROOM**

SHEET NUMBER

MD-2.2



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REVISIONS	

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DSA SUBMITTAL
 JANUARY 31, 2022

SHEET TITLE
**DEMOLITION
 MECHANICAL
 FLOOR PLAN -
 ANNEX**

SHEET NUMBER
MD-2.3



1 DEMOLITION MECHANICAL FLOOR PLAN - ANNEX
 1/8" = 1'-0"

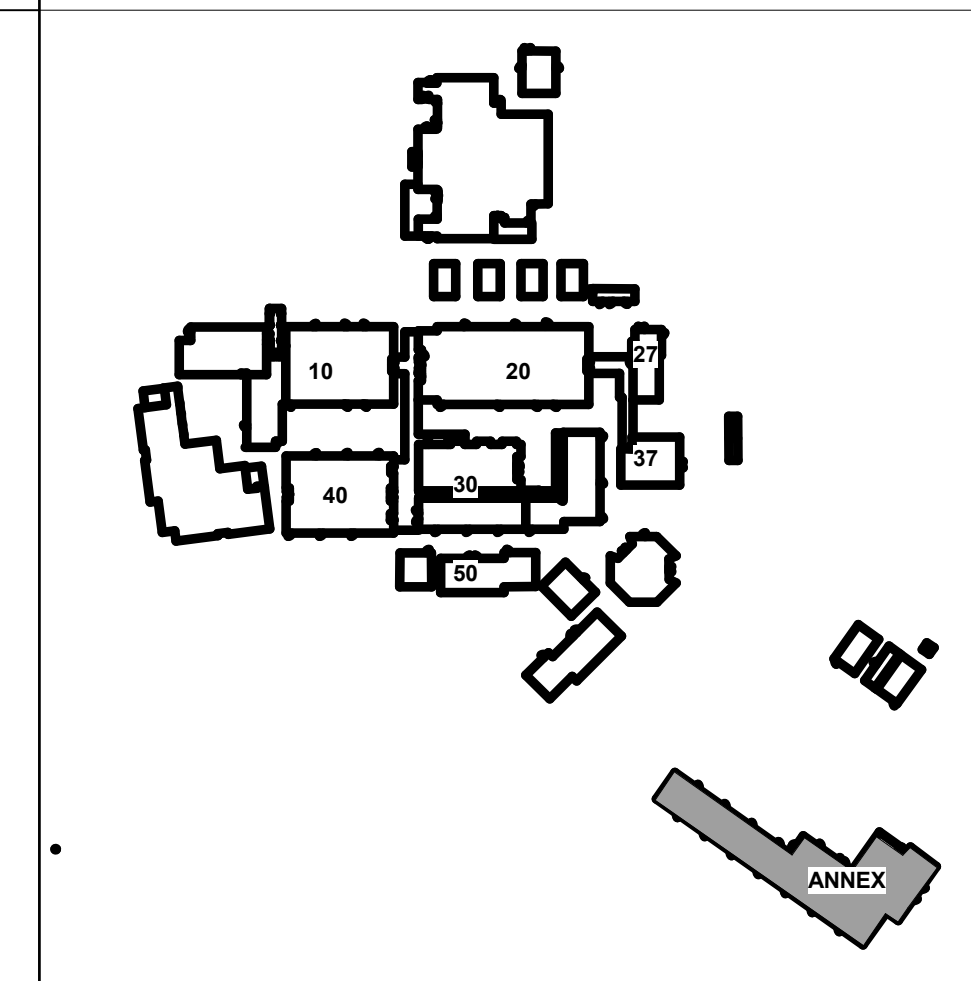
DEMOLITION SHEET NOTES

- 1 EXISTING THERMOSTAT TO REMAIN
- 2 TEMPORARILY REMOVE EXISTING FURNACE AND HOLD FOR REINSTALLATION. DEMOLISH SUPPLY PLENUM AND TRIM ACCESSORY AT TOP OF TEAM ENCLOSURE. SEE SHEET M-2.3 FOR NEW WORK.
- 3 TEMPORARILY REMOVE EXISTING FLUE ABOVE TEAM ENCLOSURE AND HOLD FOR REINSTALLATION. SEE SHEET M-2.2 FOR NEW WORK.
- 4 DEMOLISH FURNACE AND RETURN PLENUM, OA INTAKE LOUVER AND DAMPER TO REMAIN. FIRE DAMPER AND RETURN DUCT TO REMAIN. PREPARE AREA FOR NEW WORK. SEE SHEET M-2.3 FOR NEW WORK.
- 5 DEMOLISH DUCTWORK AND AIR DISTRIBUTION DEVICES. SEE SHEET MD-3.1 FOR CONTINUATION. PROVIDE NEW DROP CEILING TILES TO REPLACE AIR DISTRIBUTION DEVICES. SAD

GENERAL NOTES

- A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.
- B. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ETC.
- C. THIS CONTRACTOR SHALL RETAIN SPECIFIC EQUIPMENT AS DIRECTED BY OWNER AND DELIVER TO OWNER SPECIFIED LOCATION.
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- F. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
- G. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.
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KEYPLAN



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1 DEMOLITION MECHANICAL ROOF PLAN - ANNEX
1/8" = 1'-0"

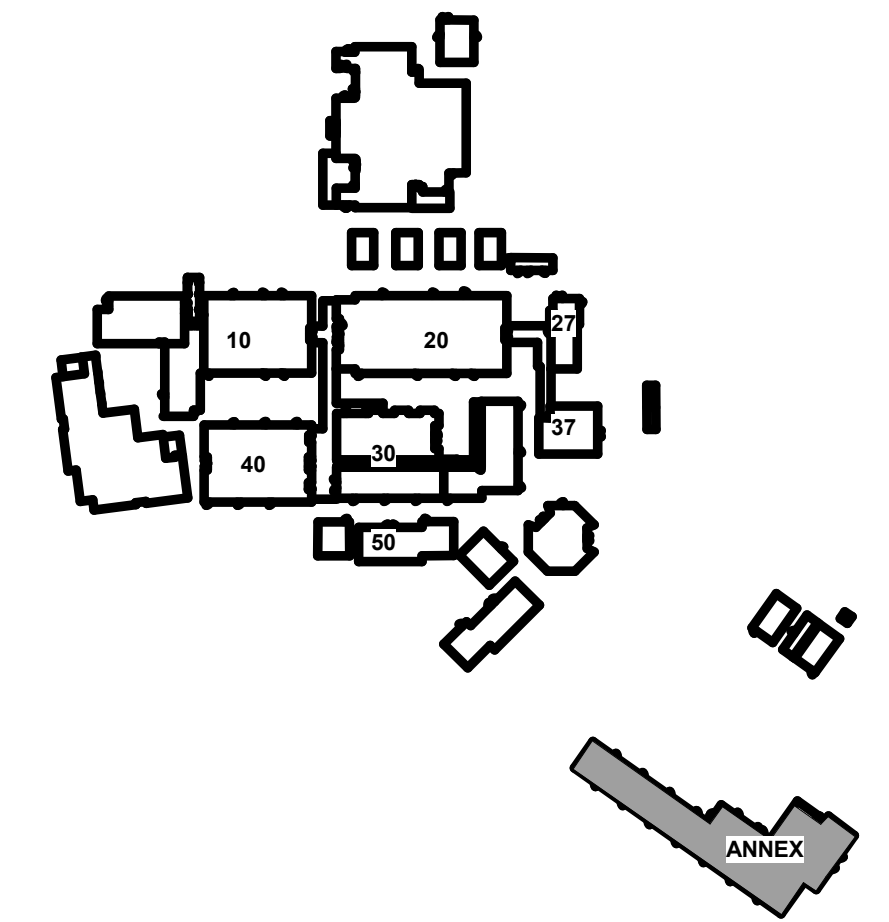
SHEET NOTES

- 1 DEMOLISH RTU AND DUCTWORK THRU WALL. SEE MD-2.3 FOR CONTINUATION OF DEMOLITION WORK. PATCH ROOF. SAD
- 2 DEMOLISH RTU AND DUCTWORK THRU WALL. SEE MD-2.3 FOR CONTINUATION OF DEMOLITION WORK. PATCH ROOF. SAD

GENERAL NOTES

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KEYPLAN



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 STATE OF CALIFORNIA
 No. 17901
 Exp. 12-31-22

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SAN RAFAEL CITY
SCHOOLS

REVISIONS

NO.	DESCRIPTION

DSA APP NO. 01-120022
 ARCH PROJECT NO. 1900.03
 DRAWN BY: Author
 DRAWING SCALE: 1/8" = 1'-0"
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 JANUARY 31, 2022

**DEMOLITION
MECHANICAL
ROOF PLAN -
ANNEX**

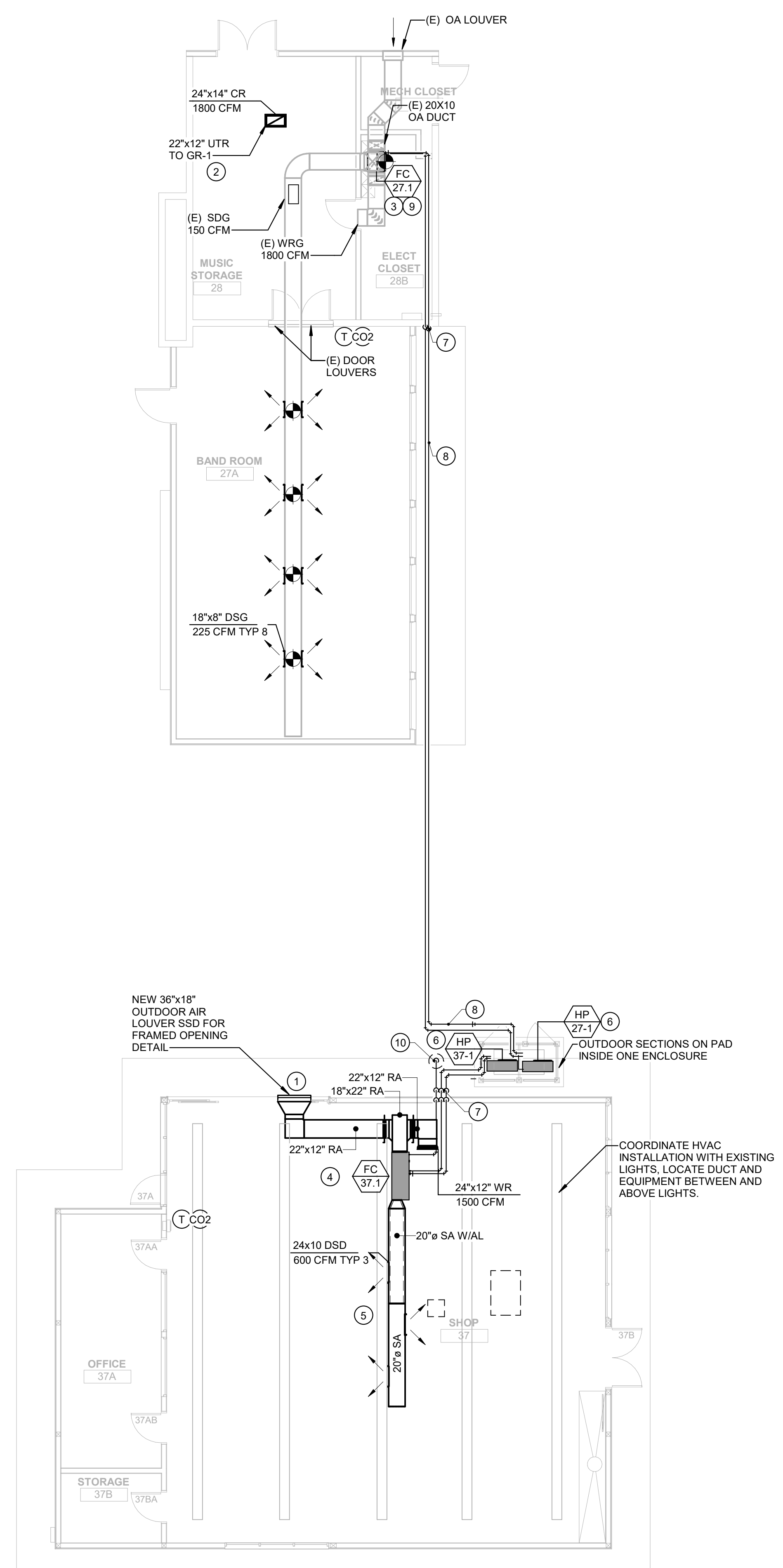
SHEET NUMBER
MD-3.1

GENERAL NOTES

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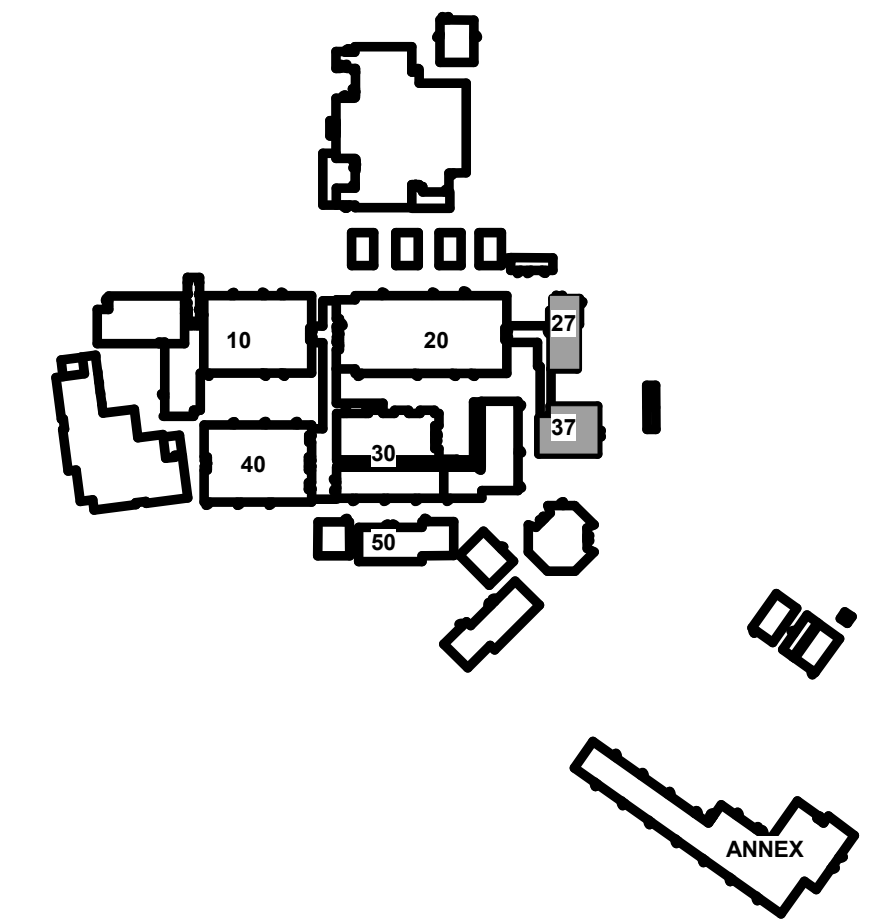
SHEET NOTES

- ① INTAKE LOUVER IN WALL. SAD FOR LOUVER DETAIL. LOUVER SHALL NOT INTERFERE WITH EXISTING SHEAR WALL.
- ② INSTALL GRAVITY RELIEF ON ROOF PER DETAIL.
- ③ INSTALL UPRIGHT FAN/COIL AS SHOWN IN DETAIL.
- ④ INSTALL HORIZONTAL FAN/COIL AS SHOWN IN DETAIL.
- ⑤ INSTALL DUCTWORK AS SHOWN IN DETAIL.
- ⑥ INSTALL HEAT PUMP AS SHOWN IN DETAIL.
- ⑦ REFRIGERANT PIPE THRU WALL PER DETAIL.
- ⑧ SLEEVED UNDERGROUND REFRIGERANT PIPING PER DETAIL.
- ⑨ CONNECT NEW CD PIPING TO EXISTING ADJACENT CD PIPE ABOVE FLOOR.
- ⑩ CD PIPING TO DRYWELL PER DETAIL.

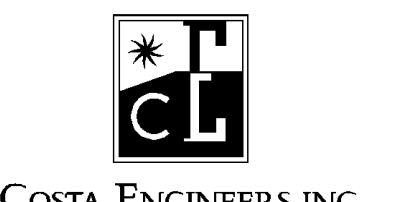


1 MECHANICAL FLOOR PLAN - MAKER SPACE AND BAND ROOM
1/8" = 1'-0"

KEYPLAN



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Main Office:
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(707) 576-0829



COSTA ENGINEERS INC.
REGISTERED PROFESSIONAL ENGINEER
NO. 57991
Exp. 12-31-22
MECHANICAL
STATE OF CALIFORNIA

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REVISIONS

NO.	DESCRIPTION

DSA APP NO. 01-120022
ARCH PROJECT NO: 1900.03
DRAWN BY: MG/SC
DRAWING SCALE: 1/8" = 1'-0"
PTN 65458-61 FILE NO: 21-39
DSA SUBMITTAL
JANUARY 31, 2022

SHEET TITLE
**MECHANICAL
FLOOR PLAN -
MAKER SPACE
AND BAND ROOM**

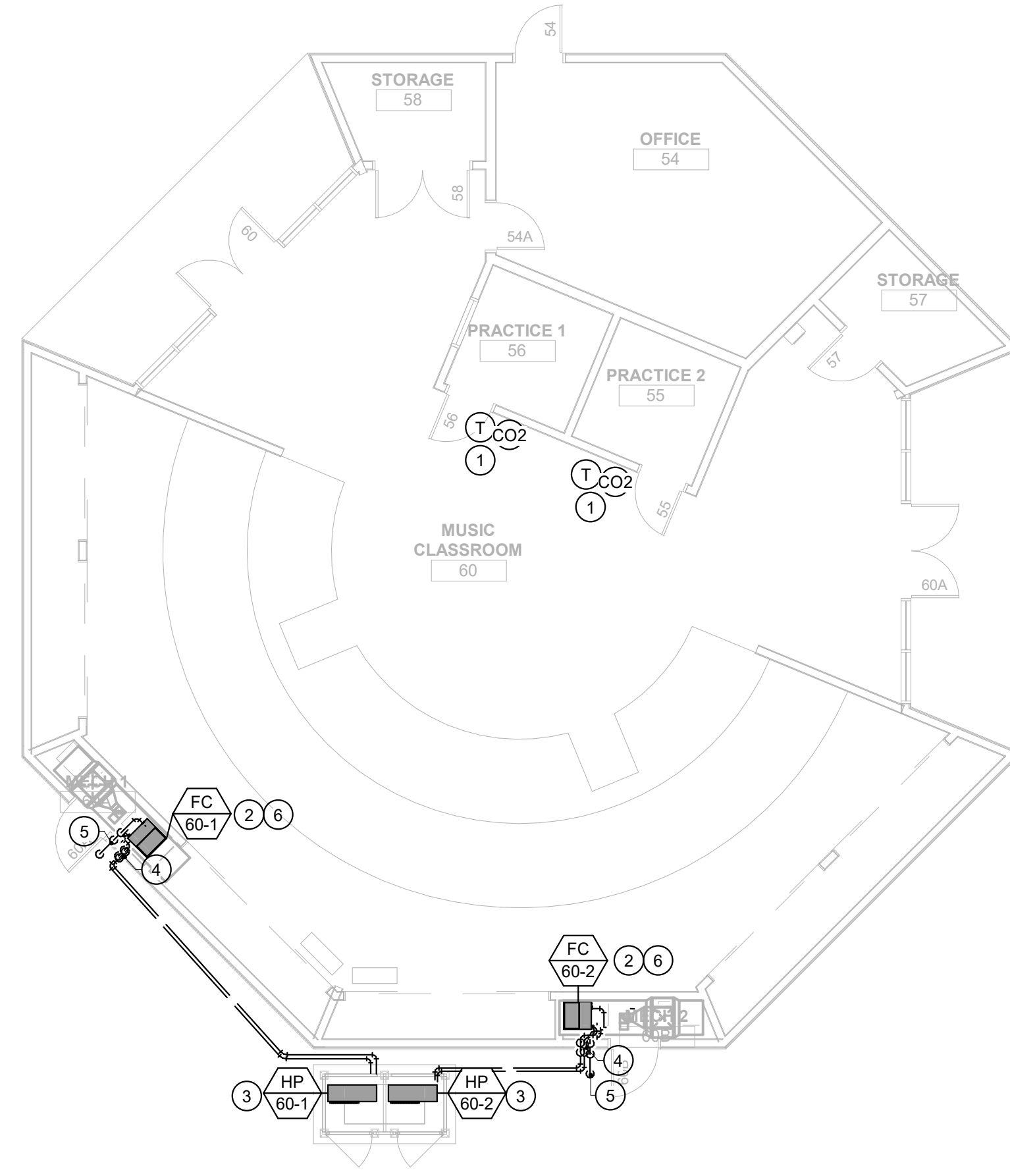
SHEET NUMBER
M-2.1

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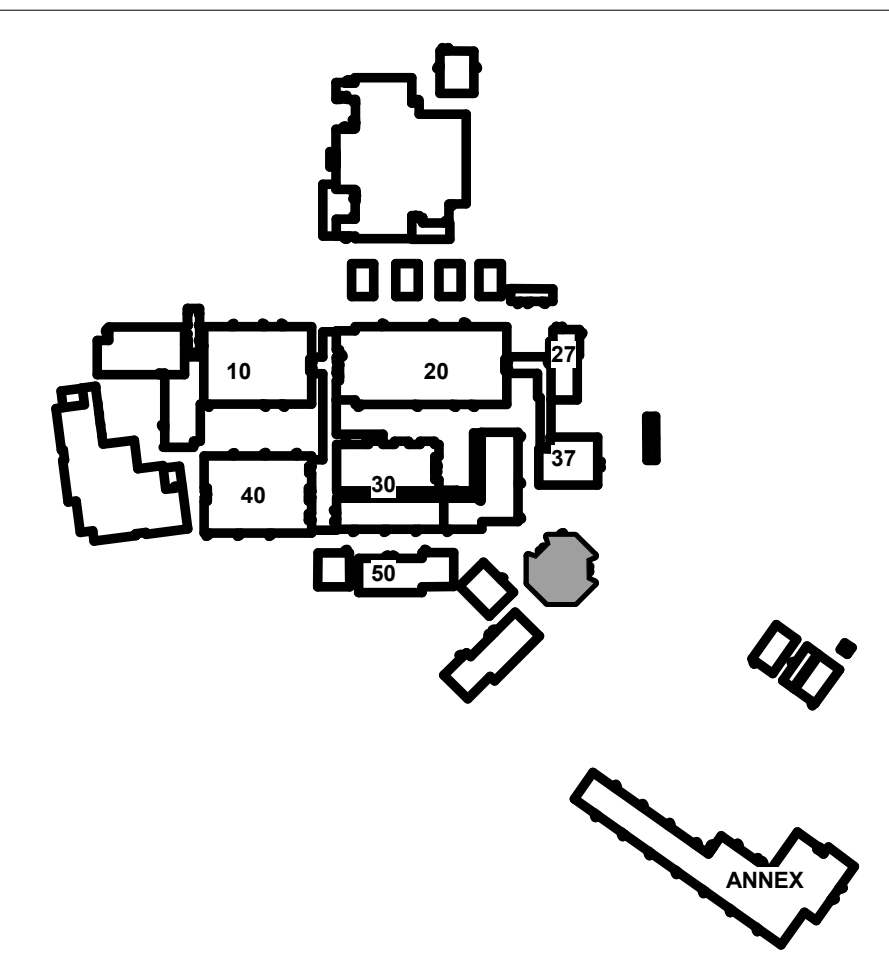
SHEET NOTES

- 1. INSTALL NEW T'STAT & CO2 SENSOR.
- 2. INSTALL NEW FC MAKE CONNECTIONS TO EXISTING DUCTWORK. SEE DETAIL. C
M-4.1
- 3. INSTALL NEW HP AS SHOWN IN DETAIL. A
M-4.2
- 4. INSTALL NEW REFRIGERANT LINES. ROUTE THRU WALL AS SHOWN IN DETAIL. F
M-4.2
- 5. INSTALL NEW CONDENSATE PIPING. ROUTE THRU WALL AND TERMINATE IN NEW DRY WELL. SEE B
M-4.3
- 6. INSTALL 2" DUCT LINER BOARD ON WALL IN LIEU OF INSULATION.



1 MECHANICAL FLOOR PLAN - MUSIC CLASSROOM
1/8" = 1'-0"

KEYPLAN



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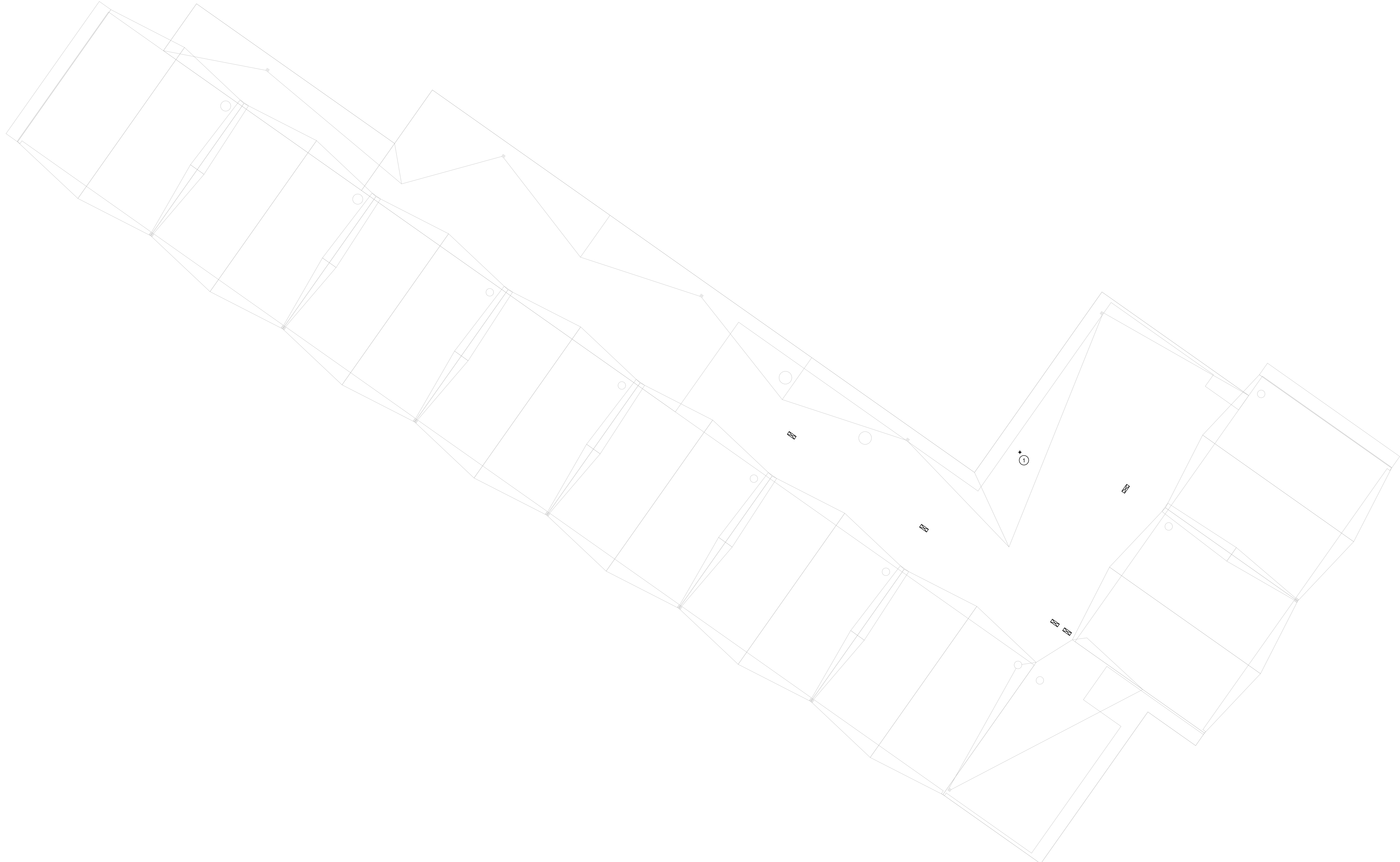
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JANUARY 31, 2022

SHEET TITLE
**MECHANICAL
FLOOR PLAN -
MUSIC
CLASSROOM**

SHEET NUMBER
M-2.2

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1 MECHANICAL ROOF PLAN - ANNEX
1/8" = 1'-0"

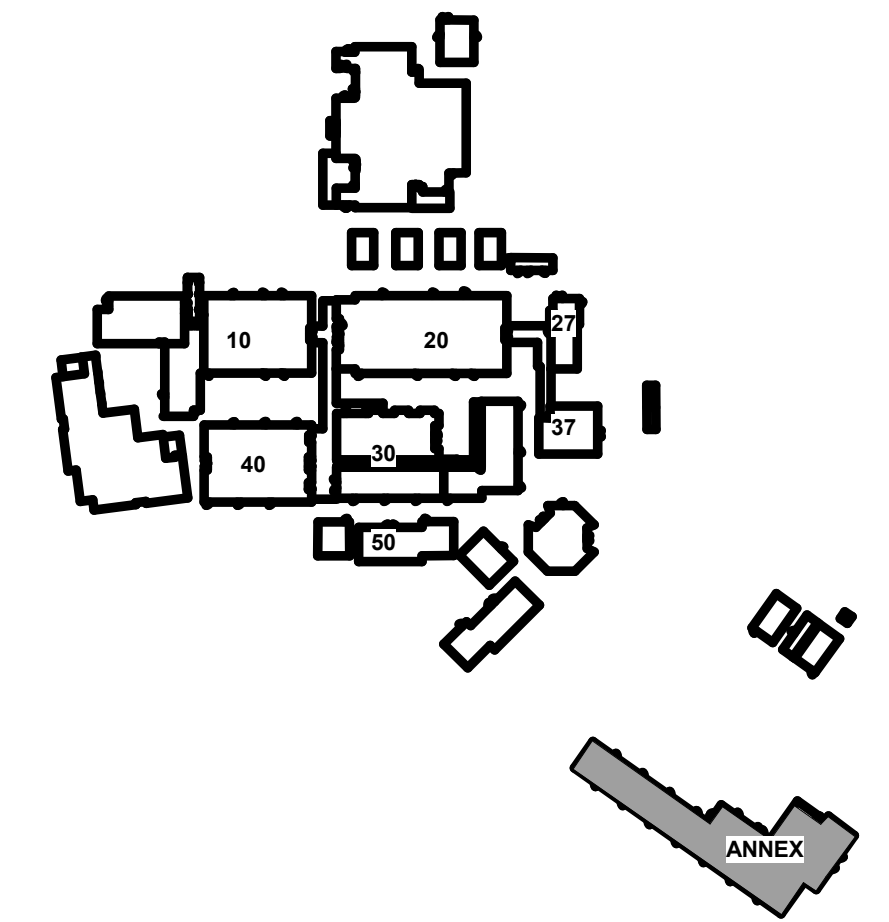
SHEET NOTES

- ① 10" EXHAUST UTR FROM NURSE OFFICE. PROVIDE WEATHERTIGHT DUCT TERMINATION. INSTALL PER DETAIL DM-4.2. SAD FOR FLASHING REQUIREMENTS.

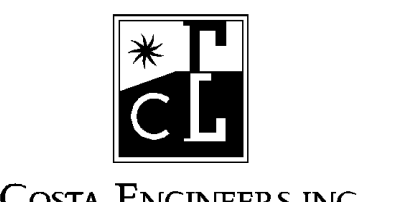
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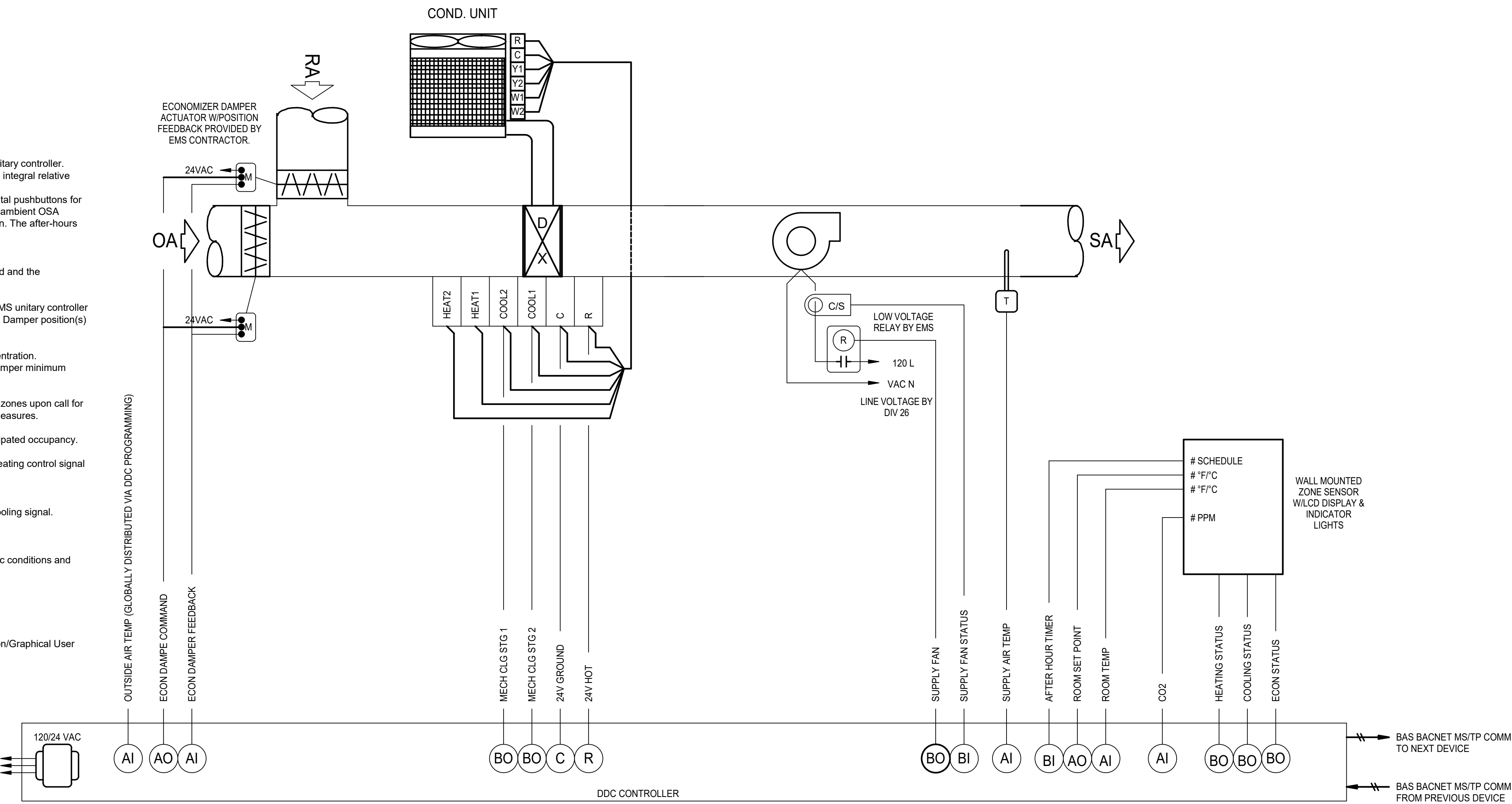
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**MECHANICAL
ROOF PLAN -
ANNEX**

SHEET NUMBER
M-3.1

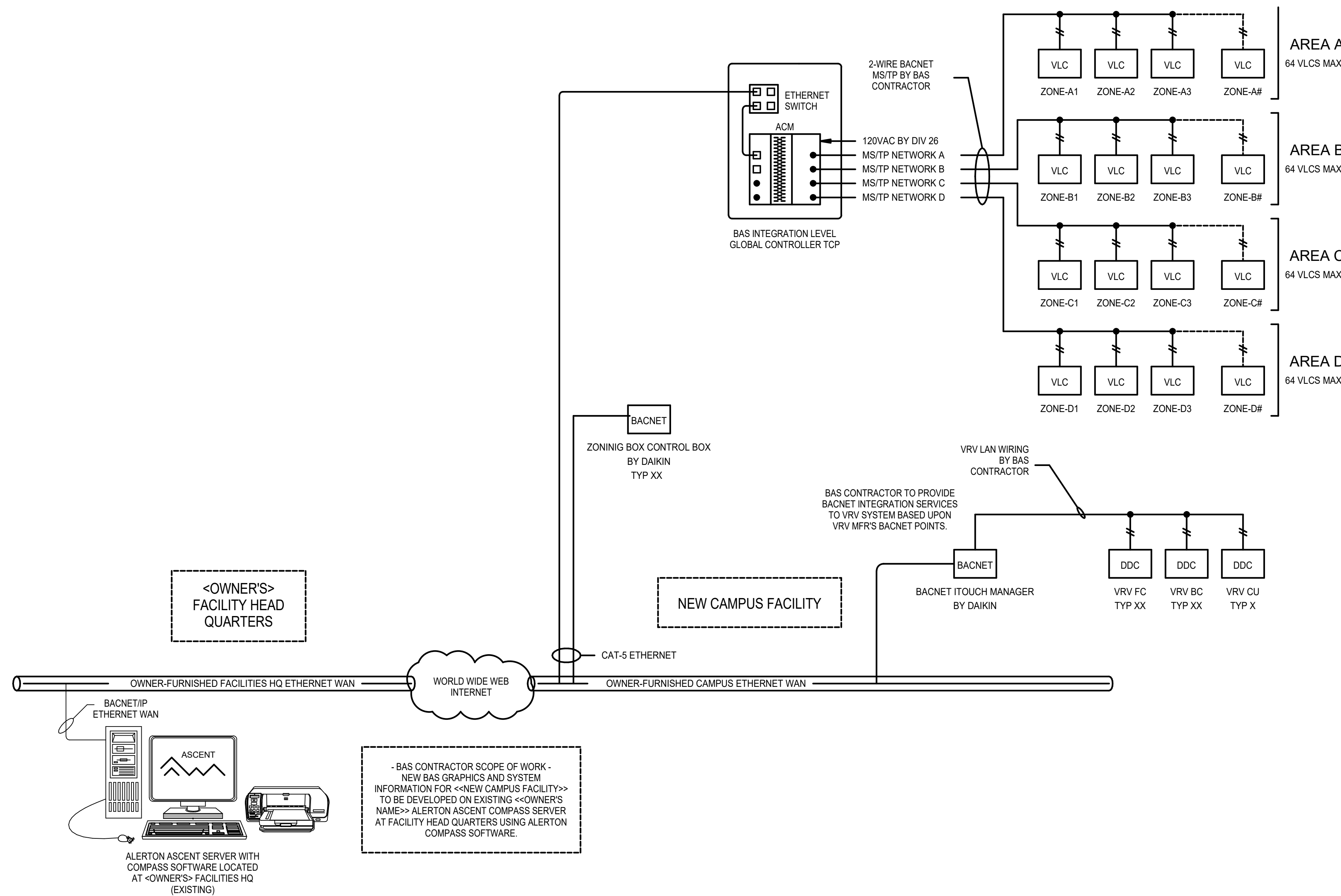
Fan Coil Unit with DX heating, DX Cooling, Economizer & Demand Control Ventilation

1. System Overview
 - a. Each FC unit will be directly controlled by its own dedicated EMS (Energy Management System) unitary controller.
 - b. EMS unitary controller will be connected to a wall mounted electronic zone temperature sensor with integral relative humidity sensor and CO2 sensor.
 - c. Electronic zone temperature sensor shall have a touch screen LCD interface which includes: 1) digital pushbuttons for warmer/cooler setpoint control; 2) visual display of room temperature, room humidity, room CO2 and ambient OSA temperature; and 3) digital pushbutton after-hours override timer control, with user adjustable duration. The after-hours override duration shall have the ability to be limited from the front-end.
2. Unit Fan Operation
 - a. When the zone is in Occupied Mode or in Afterhours Mode, the fan shall run continuously.
 - b. During the Unoccupied Mode as determined by EMS time schedule, the unit fan cycles with demand and the temperature is controlled by the unoccupied space temperature heating and cooling setpoints.
3. Minimum Outdoor Air Ventilation
 - a. During Occupied Mode or Afterhours Mode, the economizer damper shall be commanded by the EMS unitary controller to maintain a position which satisfies the Minimum Outdoor Air ventilation requirements for the zone. Damper position(s) determined by Air Balancing Contractor.
4. Demand Control Ventilation
 - a. EMS unitary controller will be connected to a wall mounted CO2 sensor to monitor zone CO2 concentration.
 - b. During Occupied Mode or Afterhours Mode, the EMS unitary controller shall reset the outside air damper minimum position to maintain the CO2 concentration below 1,000 ppm.
5. Automatic Demand Reduction Controls
 - a. EMS shall be programmed with capability to implement centralized demand shed for all non-critical zones upon call for Automatic Demand Reduction. Critical zones shall not be impacted by demand shed conservation measures.
6. Zone Pre-Occupancy Purge
 - a. The EMS shall schedule the zone to be in Occupied Mode one hour prior to the actual time of anticipated occupancy.
7. Heating operation
 - a. The controller compares the heating setpoint with the space temperature and determines a need-heating control signal to maintain room setpoint.
 - b. Economizer to be commanded to Min CFM setting during heating mode.
8. Cooling operation
 - a. The controller compares the cooling setpoint with the space temperature and determines a need-cooling signal.
 - b. The first stage of cooling will enable the economizer to provide free cooling for as long as possible.
 - c. The second stage will enable the compressor(s) to maintain room setpoint.
9. Fault Detection Diagnostics
 - a. The EMS DDC Controller shall monitor the following economizer actuator Fault Detection Diagnostic conditions and broadcast results via EMS network:
 - i. Temperature Sensor Failure/Fault
 - ii. Economizer not economizing when enabled
 - iii. Economizer economizing when disabled
 - iv. Economizer damper modulation failure
 - v. Excess outdoor air
10. Monitoring - The following conditions shall be monitored and displayed at EMS Operator Workstation/Graphical User Interface:
 - a. Supply air temperature.
 - b. Room temperature.
 - c. Room CO2 concentration.
 - d. Current mode (heating/cooling/fan).
 - e. Supply air temperature
 - f. Current command status of fan, economizer, compressor(s).
 - g. Run time meter on fan.
 - h. Fan Status thru Current Switch.
 - i. Economizer actuator feedback status.



A FAN COIL UNIT w/ ECONOMIZER & DEMAND CONTROL VENTILATION

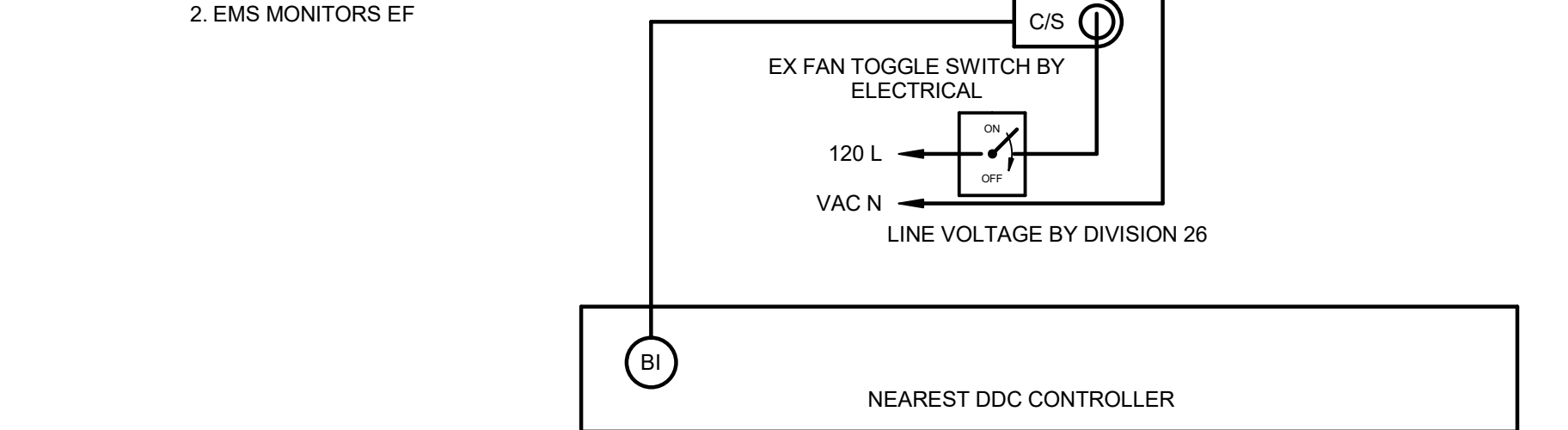
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B NETWORK ARCHITECTURE

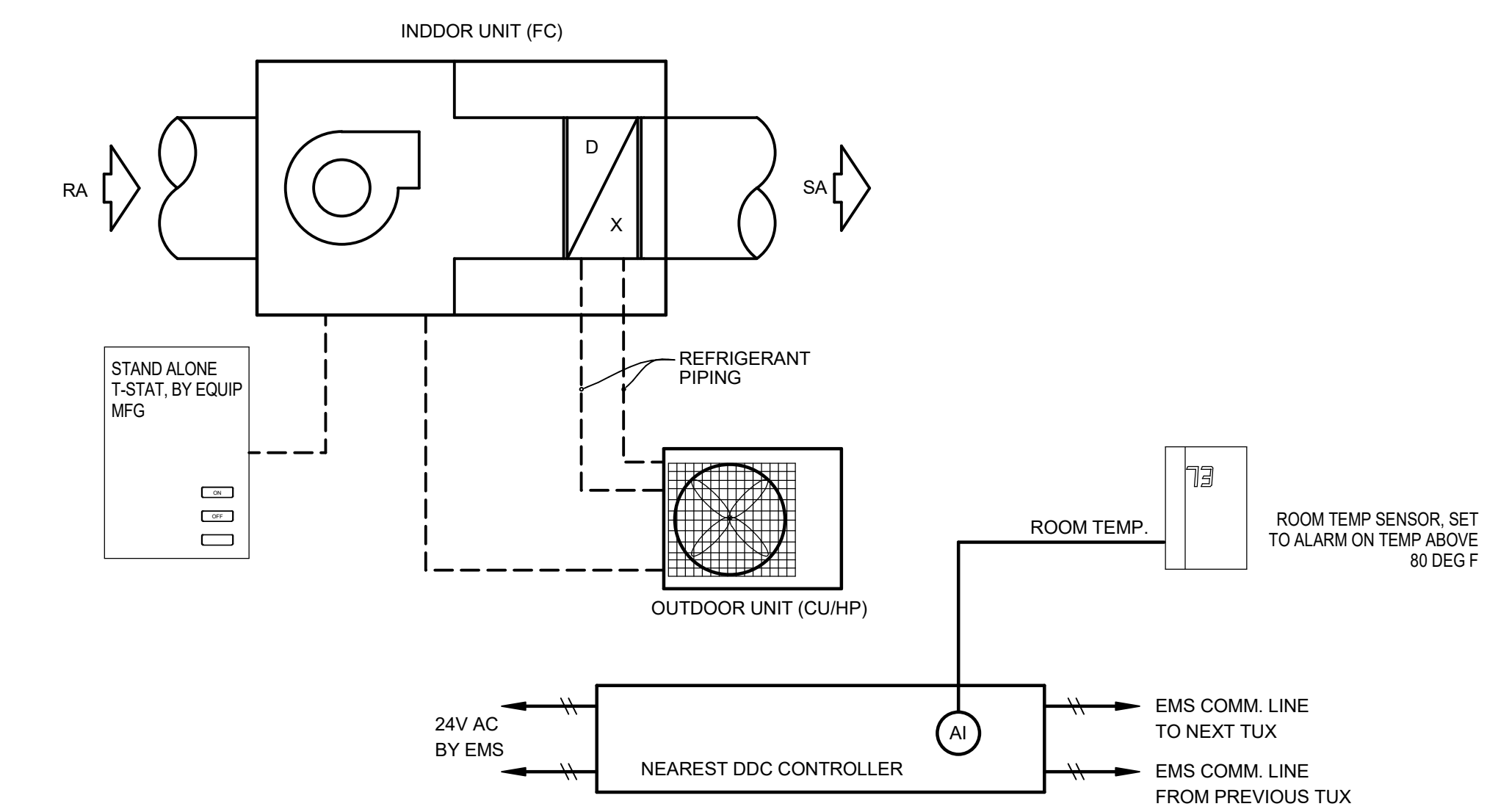
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SEQUENCE OF OPERATIONS
1. Fan shall operate at all times when FC-70-1 operates.
2. EMS MONITORS EF



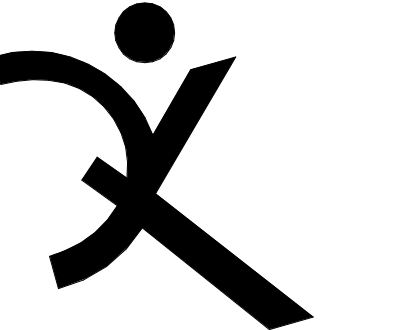
C WALL SWITCH EF CONTROL (EF-70-1)

SCALE: NONE

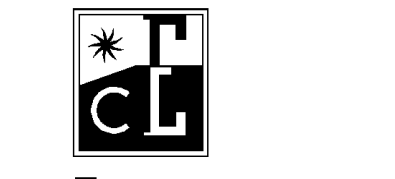


D DUCTLESS SPLIT SYSTEM CONTROL DIAGRAM (HP-70-2)

SCALE: NONE



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NO.	DATE	DESCRIPTION

DSA APP NO: 01-120022

ARCH PROJECT NO: 1900.03

DRAWN BY: Author

PTN 65458-61 FILE NO: 21-39

DSA SUBMITTAL

JANUARY 31, 2022

SHEET TITLE

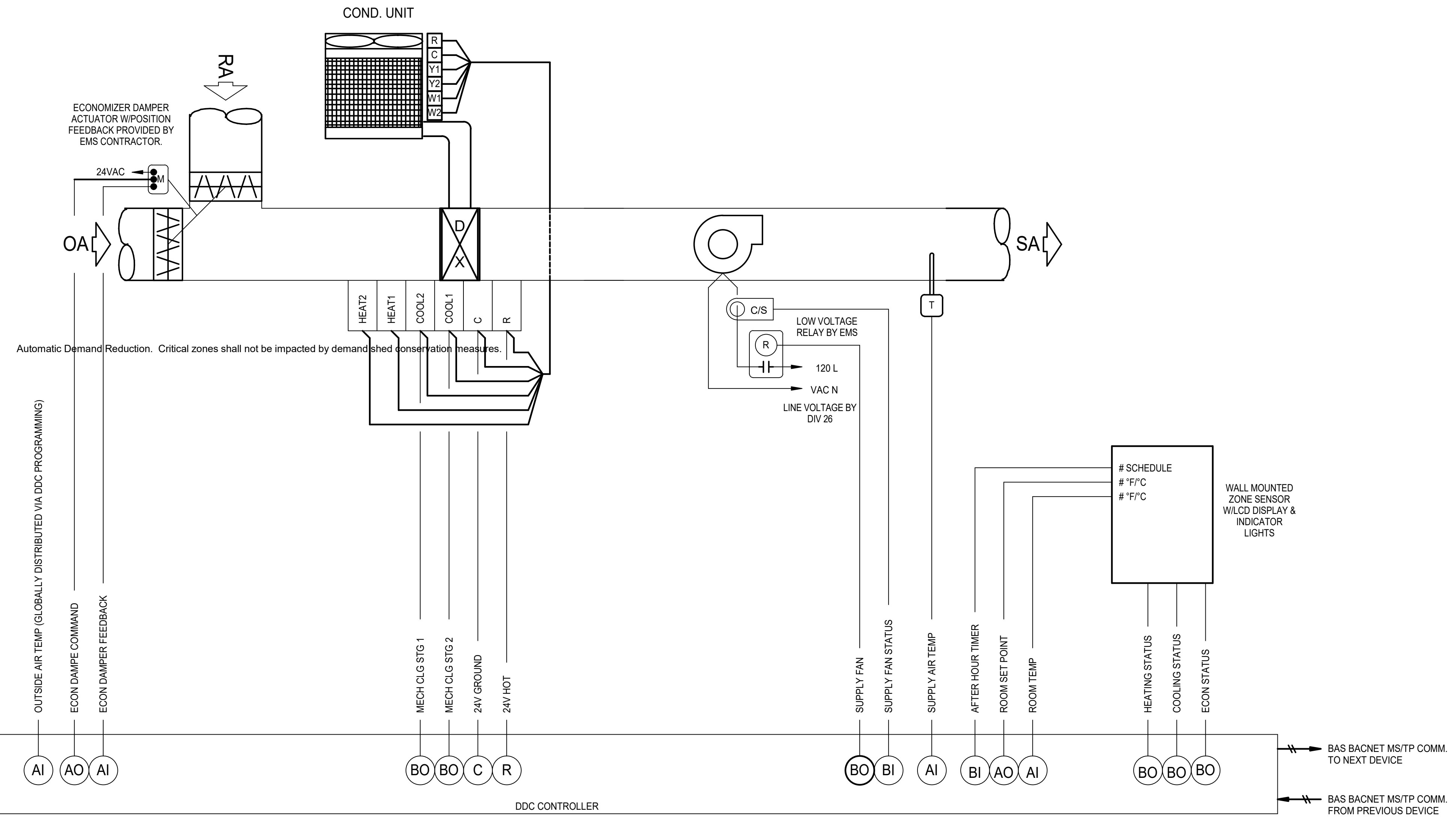
CONTROL
DIAGRAMS

SHEET NUMBER

M-5.1

Fan Coil Unit with DX heating, DX Cooling, Economizer

1. System Overview
 - a. Each FC unit will be directly controlled by its own dedicated EMS (Energy Management System) unitary controller.
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 - c. Electronic zone temperature sensor shall have a touch screen LCD interface which includes: 1) digital pushbuttons for warmer/cooler setpoint control, 2) visual display of room temperature, room humidity, room CO2 and ambient OSA temperature, and 3) digital pushbutton after-hours override timer control, with user adjustable duration. The after-hours override duration shall have the ability to be limited from the front-end.
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 - a. When the zone is in Occupied Mode or in Afterhours Mode, the fan shall run continuously.
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3. Minimum Outdoor Air Ventilation
 - a. During Occupied Mode or Afterhours Mode, the economizer damper shall be commanded by the EMS unitary controller to maintain a position which satisfies the Minimum Outdoor Air ventilation requirements for the zone. Damper position(s) determined by Air Balancing Contractor.
4. Automatic Demand Reduction Controls
 - a. EMS shall be programmed with capability to implement centralized demand shed for all non-critical zones upon call for Zone Pre-Occupancy Purge.
 - d. The EMS shall schedule the zone to be in Occupied Mode one hour prior to the actual time of anticipated occupancy.
6. Heating operation
 - a. The controller compares the heating setpoint with the space temperature and determines a need-heating control signal to maintain room setpoint.
- b. Economizer to be commanded to Min CFM setting during heating mode.
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 - a. The controller compares the cooling setpoint with the space temperature and determines a need-cooling signal.
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 - e. Supply air temperature
 - f. Current command status of fan, economizer, compressor(s).
 - g. Run time meter on fan.
 - h. Fan Status thru Current Switch.
 - i. Economizer actuator feedback status.

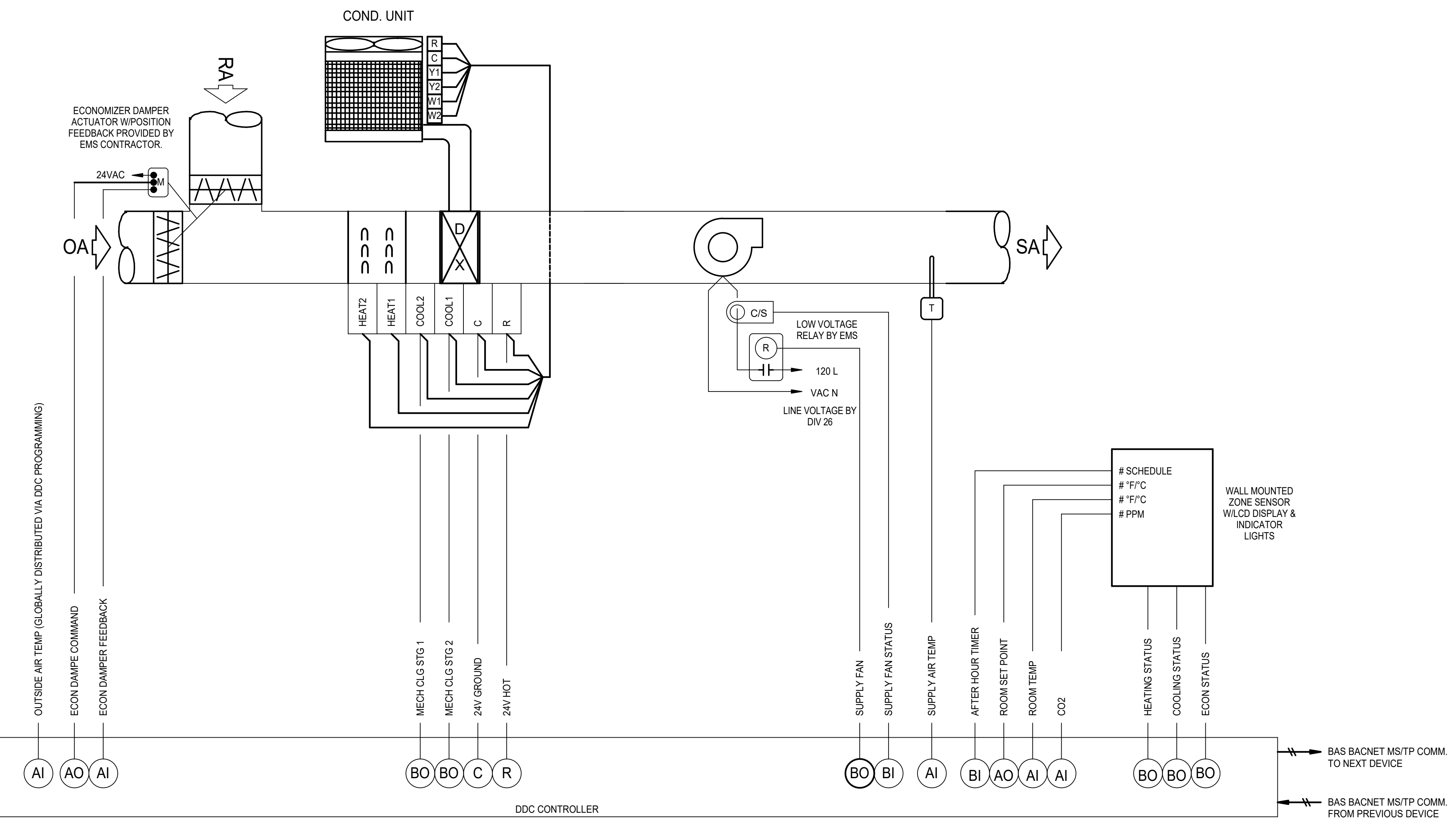


A FAN COIL UNIT w/ ECONOMIZER

SCALE: NONE

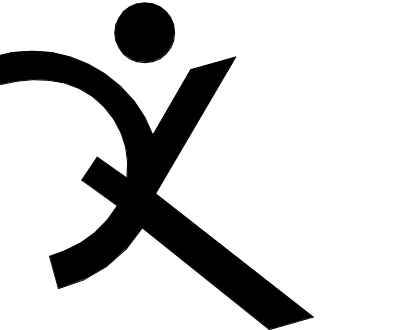
GAS FIRED FURNACE with DX heating, DX Cooling, Economizer

1. System Overview
 - a. Each unit will be directly controlled by its own dedicated EMS (Energy Management System) unitary controller.
 - b. EMS unitary controller will be connected to a wall mounted electronic zone temperature sensor with integral relative humidity sensor and CO2 sensor.
 - c. Electronic zone temperature sensor shall have a touch screen LCD interface which includes: 1) digital pushbuttons for warmer/cooler setpoint control, 2) visual display of room temperature, room humidity, room CO2 and ambient OSA temperature, and 3) digital pushbutton after-hours override timer control, with user adjustable duration. The after-hours override duration shall have the ability to be limited from the front-end.
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 - a. EMS unitary controller will be connected to a wall mounted CO2 sensor to monitor zone CO2 concentration.
 - b. During Occupied Mode or Afterhours Mode, the EMS unitary controller shall reset the outside air damper minimum position to maintain the CO2 concentration below 1,000 ppm.
5. Automatic Demand Reduction Controls
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6. Zone Pre-Occupancy Purge
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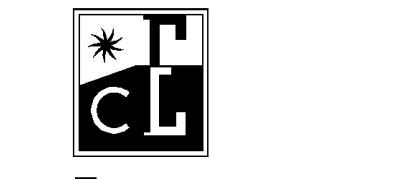


B GAS FIRE FURNACE w/ ECONOMIZER & DEMAND CONTROL VENTILATION

SCALE: NONE



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JANUARY 31, 2022
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CONTROL
DIAGRAMS

SHEET NUMBER

M-5.2

ELECTRICAL EQUIPMENT ANCHORAGE

ELECTRICAL ANCHORAGE NOTES:

ALL ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16, CHAPTER 13, 26, AND 30.

- 1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g., HAND WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

- A. COMPONENT WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM WALL.

THE ANCHORAGE OF ALL ELECTRICAL COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (e.g., OSHPD OPM FOR 2013 CBC), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

ELECTRICAL DISTRIBUTION SYSTEMS ARE: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

LIGHT FIXTURES:

ALL LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURE. A MINIMUM OF TWO SCREWS OR APPROVED FASTENERS ARE REQUIRED AT EACH LIGHT FIXTURE, PER ASTM E580, SECTION 5.3.1.

SURFACE-MOUNTED LIGHT FIXTURES SHALL BE ATTACHED TO THE MAIN RUNNER WITH AT LEAST TWO POSITIVE CLAMPING DEVICES. THE CLAMPING DEVICE SHALL COMPLETELY SURROUND THE SUPPORTING CEILING RUNNER AND BE MADE OF STEEL WITH A MINIMUM THICKNESS OF #14 GAGE. ROTATIONAL SPRING CATCHES DO NOT COMPLY. A #12 GAGE SLACK SAFETY WIRE SHALL BE CONNECTED FROM EACH CLAMPING DEVICE TO THE STRUCTURE ABOVE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE EIGHT (8) FEET OR LONGER OR EXCEED 56 LB. MAXIMUM SPACING BETWEEN SUPPORTS SHALL NOT EXCEED EIGHT (8) FEET.

LIGHT FIXTURES WEIGHING LESS THAN OR EQUAL TO 10 LB. SHALL HAVE A MINIMUM OF ONE (1) #12 GAGE SLACK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.

LIGHT FIXTURES WEIGHING GREATER THAN 10 LB. BUT LESS THAN OR EQUAL TO 56 LBS. MAY BE SUPPORTED DIRECTLY ON THE CEILING RUNNERS, BUT THEY SHALL HAVE A MINIMUM OF TWO (2) #12 GAGE SLACK SAFETY WIRES CONNECTED FROM THE FIXTURE HOUSING AT DIAGONAL CORNERS TO THE STRUCTURE ABOVE. EXCEPT: ALL LIGHT FIXTURES GREATER THAN TWO (2) BY FOUR FEET WEIGHING LESS THAN 56 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE AT EACH CORNER.

ALL LIGHT FIXTURES WEIGHING GREATER THAN 56 LB. SHALL BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES (ONE AT EACH CORNER) ATTACHED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS. THE FOUR (4) TAUT #12 GAGE WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, SHALL BE CAPABLE OF SUPPORTING FOUR (4) TIMES THE WEIGHT OF THE FIXTURE.

GENERAL DEMOLITION NOTES

- 1. THE CONTRACTOR SHALL VERIFY IN THE FIELD ALL LINES, LEVELS, DIMENSIONS AND EXISTING CONDITIONS. THE INFORMATION ON THE DRAWINGS REGARDING EXISTING ELECTRICAL EQUIPMENT AND BRANCH CIRCUITS IS THE RESULT OF FIELD SURVEY AND IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. IT IS INTENDED, HOWEVER, AS A GUIDE FOR USE IN VERIFICATION ONLY.
2. ANY EXISTING ELECTRICAL EQUIPMENT IN THE AREA OF NEW CONSTRUCTION NOT SHOWN ON THE EXISTING PLANS SHALL BE DOCUMENTED AND SUBMITTED TO THE ENGINEER FOR DETERMINATION OF ACTION REQUIRED.
3. WHEREVER THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT IS CALLED FOR AND ALL EQUIPMENT ON A PARTICULAR BRANCH CIRCUIT IS TO BE REMOVED, ALL CONDUIT AND WIRE BACK TO THE PANEL SHALL BE ENTIRELY REMOVED AND THE CIRCUIT IN PANEL SHALL BE MARKED "SPARE". THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT, AND WIRE AS WELL.
4. WHEREVER THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT IS CALLED FOR AND ALL EQUIPMENT ON A PARTICULAR BRANCH CIRCUIT IS NOT TO BE REMOVED, THE CIRCUIT SHALL BE MAINTAINED CONTINUOUS TO THE EXISTING EQUIPMENT THROUGHOUT THE PROJECT WITH MINIMUM INTERRUPTIONS OF POWER. THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT, AND WIRE AS WELL.
5. WHENEVER THE REMOVAL OF EXISTING CONSTRUCTION REVEALS ELECTRICAL WORK THAT IS TO REMAIN, BUT IS IN CONFLICT WITH NEW CONSTRUCTION, RELOCATE THE EXISTING ELECTRICAL WORK AS NECESSARY TO AVOID ANY CONFLICT. RELOCATION WORK SHALL BE DONE TO MINIMIZE ANY INTERRUPTIONS OF POWER.
6. CARE SHALL BE TAKEN IN ORDER TO IDENTIFY AND PROTECT ALL EXISTING ELECTRICAL WORK THAT IS TO REMAIN.
7. ENSURE RECONNECTION OF EXISTING DEVICES WHOSE CIRCUITS HAVE BEEN INTERRUPTED BY DEMOLITION BY PROVIDING NEW CONNECTION TO ANOTHER EXISTING TO REMAIN DEVICE OR PANEL.
8. ALL EXISTING ELECTRICAL EQUIPMENT SHOWN ON THE PLANS FOR NEW WORK ARE THOSE WHICH ARE TO BE REUSED DURING SOME PHASE OF THE NEW CONSTRUCTION OR REQUIRE SOME SPECIAL CONSIDERATIONS.
9. WHENEVER THE REMOVAL OF EXISTING ELECTRICAL PANELBOARDS ARE CALLED FOR AND ALL EXISTING BRANCH CIRCUITS ARE NOT TO BE REMOVED, THE EXISTING BRANCH CIRCUITS SHALL BE CONNECTED TO OTHER EXISTING ELECTRICAL EQUIPMENT OR PANELS STILL IN USE WITH MINIMUM INTERRUPTIONS OF POWER. ALSO, IF REQUIRED, THESE SAME BRANCH CIRCUITS SHALL BE RECONNECTED TO RELOCATED EXISTING OR NEW PANELBOARDS AS PART OF THE NEW CONSTRUCTION. THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT AND WIRE AS WELL.
10. THE ELECTRICAL CONTRACTOR SHALL REVISE EXISTING PANEL SCHEDULES TO CORRESPOND TO ACTUAL CONDITIONS AFTER ALL DEMOLITION AND NEW WORK IS COMPLETED.
11. REMOVE ALL ABANDONED CONDUIT AND WIRE ABOVE CEILINGS.
12. WHEN ELECTRICAL EQUIPMENT OR DEVICE IS REMOVED FROM AN EXISTING WALL OR CEILING WHICH IS TO REMAIN, PATCH ABANDONED OPENINGS TO MATCH EXISTING FINISH.
13. IN GENERAL, THE DEMOLITION PLANS SHOW ALL EXISTING EQUIPMENT THAT IS TO BE REMOVED UNLESS NOTED OTHERWISE. HOWEVER, ELECTRICAL EQUIPMENT, WHETHER SHOWN ON THIS DRAWING OR NOT, WHERE LOCATED IN THE AREA SCHEDULED TO BE DEMOLISHED, SHALL BE REMOVED COMPLETELY (INCLUDING CONDUIT AND WIRES BACK TO THE LAST REMAINING FIXTURE, OUTLET, DEVICE, ETC.) UNLESS OTHERWISE NOTED. COORDINATE DEMOLITION WORK WITH ARCHITECT AND GENERAL CONTRACTOR.
14. EXISTING CONDUIT FEEDS UP THROUGH FLOOR SHALL BE CUT OFF AND PLUGGED FLUSH WITH FLOOR WHERE EXISTING WALLS, ETC., ARE REMOVED. REMOVE CONDUCTORS FROM THE POINT BACK TO LAST OUTLET REMAINING IN SERVICE.
15. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS, EQUIPMENT, ETC. REMAINING IN OPERATION WHICH IS BEING FED BY AN ABANDONED OUTLET - MAINTAINING CONTINUITY SHALL CONSIST OF ROUTING OF CONDUIT, WIRE, ETC. AS REQUIRED.
16. IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF EXISTING CIRCUITS AND ADJUST CIRCUIT NUMBERS ACCORDING TO EXISTING CONDITIONS IF REQUIRED.
17. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS. IN AS-FOUND CONDITION, EQUIPMENT THAT IS TO BE TURNED OVER SHALL BE BOXED AND TAGGED TO IDENTIFY THE SPECIFIC EQUIPMENT. EQUIPMENT TO BE TEMPORARILY REMOVED DUE TO THE CONSTRUCTION SHALL BE CLEANED AND RE-INSTALLED IN ITS ORIGINAL CONDITION OR AS REQUIRED.
18. WHERE EXISTING WALLS HAVE BEEN REMOVED, AND THERE ARE EXISTING CONDUIT FEEDS WHICH HAVE BEEN CUT OFF AND CAPPED FLUSH WITH THE FLOOR, IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND DIMENSION ALL SUCH CONDUITS ON THE "AS-BUILT" DRAWINGS.
19. IF ANY EQUIPMENT THAT IS SCHEDULED TO REMAIN IN OPERATION IS DAMAGED BY THE CONTRACTOR, IT SHALL BE REPLACED TO ITS ORIGINAL CONDITION SATISFACTORY TO THE OWNER AT CONTRACTOR'S EXPENSE.

SYMBOLS LIST

Table listing electrical symbols and their descriptions, including: MAIN SWITCHBOARD, DISTRIBUTION PANEL OR MOTOR CONTROL CENTER; FLUSH MOUNTED PANELBOARD, 6'-6" TO TOP; SURFACE MOUNTED PANELBOARD, 6'-6" TO TOP; FUSED EQUIPMENT DISCONNECT SWITCH WITH FUSE SIZE AS RECOMMENDED BY EQUIPMENT MANUFACTURER; MOTOR DISCONNECT SWITCH; HORSEPOWER RATED, NON FUSE; COMBINATION MAGNETIC MOTOR STARTER & MOTOR CIRCUIT PROTECTOR; MAGNETIC MOTOR STARTER; VARIABLE FREQUENCY DRIVE, FURNISHED BY MECHANICAL, INSTALLED & CONNECTED COMPLETELY BY ELECTRICAL; MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION; MOTOR WITH FLEXIBLE CONDUIT CONNECTION AND DISCONNECT; LINE VOLTAGE MOTOR RATED TOGGLE SWITCH INSTALLED AT EQPT SHOWN; TRANSFORMER; CONCRETE PULLBOX, SIZE AS REQUIRED OR SHOWN - CHRISTY OR EQUAL WITH LABELED LID PER USE; COPPER GROUND ROD; FLUSH CEILING MOUNTED JUNCTION BOX, U.O.N.; FLUSH WALL MOUNTED JUNCTION BOX, UP 18" U.O.N.; 20A 3PG 125V DUPLEX RECEPTACLE, UP 18" U.O.N.; 20A 3PG 125V DUPLEX RECEPTACLE, WEATHERPROOF, UP 18" U.O.N.; 20A 3PG 125V DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER TYPE, UP 18" U.O.N.; WEATHERPROOF ENCLOSURE; CONDUIT AND WIRE CONCEALED IN CEILING OR WALL; CONDUIT AND WIRE CONCEALED IN OR UNDER SLAB OR UNDERGROUND; CONDUIT AND WIRE RUN EXPOSED; CROSSMARKS INDICATE QUANTITY OF #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR, NO HASHMARKS INDICATES (2) #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR, U.O.N.; GROUND WIRE; WIRE SIZE 10 AWG FOR ALL CONDUCTORS, INCLUDING GROUND WIRE, THROUGHOUT THE COMPLETE CIRCUIT; FLEXIBLE METALLIC CONDUIT; HOMERUN TO PANELBOARD OR TERMINAL BOARD, AS NOTED ON PLANS; COMPLETE CONNECTION OF EQUIPMENT; CONDUIT STUBBED OUT, CAPPED AND MARKED; CONDUIT TURNED UP; CONDUIT TURNED DOWN; #4/0 COPPER GROUNDING ELECTRODE CONDUCTOR, U.O.N.; MECHANICAL EQUIPMENT DESIGNATION - SEE MECHANICAL PLANS; NUMBERED SHEET NOTE; UTILITY METER; CURRENT TRANSFORMERS; CIRCUIT BREAKER. NUMBER INDICATES 30A 3-POLE; FEEDER SIZE - SEE POWER SINGLE LINE DIAGRAMS & FEEDER SCHEDULE

ABBREVIATIONS

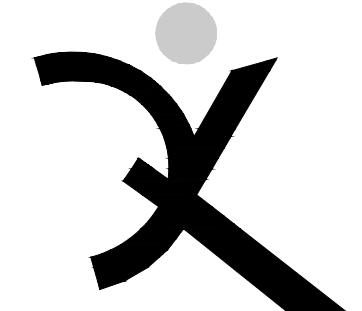
Table of abbreviations: AFF ABOVE FINISHED FLOOR; AFG ABOVE FINISHED GRADE; C CONDUIT; CO CONDUIT ONLY; CU COPPER; E.C. ELECTRICAL CONTRACTOR; EMS ENERGY MANAGEMENT SYSTEM; (E) EXISTING; EQPT EQUIPMENT; (ER) EXISTING EQUIPMENT TO BE RELOCATED; (EX) EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED; EXT EXTERIOR; FMC FLEXIBLE METALLIC CONDUIT; FTL FEED THROUGH LUGS; GFI GROUND FAULT CIRCUIT INTERRUPTING TYPE RECEPTACLE; L LOCKABLE; LV LOW VOLTAGE; MCB MAIN CIRCUIT BREAKER; MFR MANUFACTURER; MLO MAIN LUGS ONLY; MTD MOUNTED; (N) NEW; N.E.C. NATIONAL ELECTRICAL CODE; NEU NEUTRAL; N.I.E.C. NOT IN ELECTRICAL CONTRACT; O.A.H. OVERALL HEIGHT; O.F.C.I. OWNER FURNISHED, CONTRACTOR INSTALLED; PNL PANEL; S.A.D. SEE ARCHITECTURAL DRAWINGS; STC SIGNAL TERMINAL CABINET; TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION; U.O.N. UNLESS OTHERWISE NOTED; VAV VAV BOX, SEE MECHANICAL DIVISION DRAWINGS FOR LOCATIONS. PROVIDE TOGGLE TYPE DISCONNECT SWITCH; WP WEATHER PROOF, NEMA 3R; WPU WEATHER PROOF WHILE IN USE

GENERAL NOTES

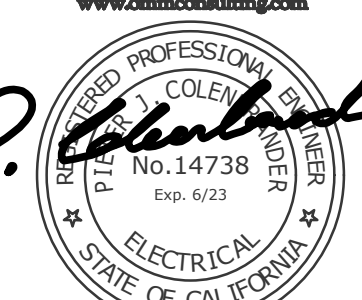
- 1. PRIOR TO BID THE CONTRACTOR SHALL VISIT THE SITE TO ADEQUATELY DETERMINE ALL PRE-EXISTING CONDITIONS. BY THE ACT OF SUBMITTING A BID, THE CONTRACTOR WILL BE DEEMED TO HAVE COMPLIED WITH THE FOREGOING, TO HAVE ACCEPTED SUCH CONDITIONS, AND TO HAVE MADE ALLOWANCES THEREFORE IN PREPARING THE BID.
2. PROVIDE PARITY SIZED GREEN GROUND WIRE IN ALL POWER CONDUITS, BRANCH CIRCUITS (LIGHTING & POWER) AND HOMERUNS. PROVIDE ADDITIONAL ISOLATED GROUND, GREEN WITH YELLOW STRIPE, TO ALL ISOLATED GROUND RECEPTACLES.
3. PROVIDE PULLROPE IN ALL EMPT CONDUITS THROUGHOUT THE PROJECT.
4. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION & CONNECTION REQUIREMENTS OF ALL LUMINAIRE(S) AND ALL OUTLET, SWITCH, AND ELECTRICAL RELATED DEVICE MOUNTING HEIGHTS AND LOCATIONS. COORDINATE LOCATIONS OF ALL LUMINAIRE(S) AND JUNCTION BOXES WITH MECHANICAL DIVISION PRIOR TO ROUGH-IN. COORDINATE LOCATIONS OF ELECTRICAL DEVICES WITH FURNITURE PLANS PRIOR TO ROUGH-IN.
5. REFER TO MECHANICAL PLANS FOR EXACT LOCATION(S) OF ALL MECHANICAL EQUIPMENT, AND CONFIRM EXACT CONNECTION REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL DIVISION. PRIOR TO ROUGH-IN. VERIFY EXACT REQUIREMENTS FOR VOLTAGE, PHASE, HORSE-POWER, OR KVA RATINGS, OF ALL MECHANICAL DIVISION EQUIPMENT REQUIRING ELECTRICAL CONNECTION.
6. VERIFY EXACT CONNECTION REQUIREMENTS, OUTLET TYPE(S), MOUNTING HEIGHT(S) AND LOCATION(S) OF ALL OWNER-SUPPLIED EQUIPMENT, AND ALL EQUIPMENT PROVIDED UNDER OTHER SECTIONS OF THE SPECIFICATIONS, PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL DRAWINGS FOR EQUIPMENT LOCATIONS.
7. COORDINATE TRENCHING WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.
8. ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOORS SHALL BE SEALED AND EQUIPPED WITH U.L. LISTED FIRE PENETRATION ASSEMBLIES TO MAINTAIN FIRE SEPARATION RATING.
9. DO NOT INSTALL ANY OUTLETS BACK TO BACK IN STUD WALLS OR DE-MOUNTABLE PARTITIONS.
10. THE CONTRACTOR SHALL VERIFY ALL CEILING TYPES BEFORE ORDERING OF LUMINAIRE(S). ALSO VERIFY THAT ALL FEATURES CALLED FOR IN LUMINAIRE DESCRIPTIONS ON THE LUMINAIRE SCHEDULE ARE INCLUDED WITH CATALOG NUMBERS LISTED ON THE LUMINAIRE SCHEDULE WHEN LUMINAIRE ORDERS ARE PLACED, AND ARE INCLUDED AS PART OF THE LIGHTING SUBMITTALS FOR THIS PROJECT. IF A DISCREPANCY EXISTS, CONTACT THE ARCHITECT AND ELECTRICAL ENGINEER FOR CLARIFICATION PRIOR TO BID.
11. CIRCUITRY AND CONDUIT ROUTING SHOWN ON THE PLANS IS DIAGRAMMATIC ONLY. THIS CONTRACTOR IS RESPONSIBLE FOR BECOMING COMPLETELY FAMILIAR WITH THE ARCHITECTURAL AND STRUCTURAL CONDITIONS AND LIMITATIONS IN THE BUILDING AND TO PROVIDE ALL LABOR, TOOLS AND MATERIALS REQUIRED TO PRODUCE A COMPLETELY CONCEALED INSTALLATION WHEREVER INDICATED ON THE PLANS.
12. MAINTAIN "AS-BUILT" RECORDS AT ALL TIMES, SHOWING EXACT LOCATION OF ALL UNDERGROUND AND/OR CONCEALED CONDUITS AND SERVICES INSTALLED UNDER THIS CONTRACT, INCLUDING CIRCUIT IDENTIFICATION WHERE APPLICABLE. PROVIDE OWNERS WITH "AS-BUILT" DOCUMENTS AS INDICATED IN THE SPECIFICATIONS, AND/OR CALLED FOR IN THE SPECIFICATIONS.
13. DRAWINGS INDICATE THE LOCATION(S) OF DEVICES, LUMINAIRE(S) AND EQUIPMENT, AND THE CIRCUIT NUMBER AND PANEL DESIGNATED TO SUPPLY THEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETELY CONNECTING ALL ELECTRICAL DEVICES TO CIRCUITS INDICATED ON THE DRAWINGS.
14. UNLESS OTHERWISE NOTED, ALL WORK SHOWN ON DRAWINGS IS NEW AND TO BE PROVIDED AND INSTALLED COMPLETE UNDER THIS CONTRACT.
15. ALL EQUIPMENT GROUNDING SHALL CONFORM TO ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, LATEST EDITION.
16. ALL EXTERIOR CONDUIT ABOVE GRADE, INCLUDING ALL ROOF MOUNTED CONDUIT, SHALL BE GALVANIZED RIGID STEEL. COAT ALL EXPOSED THREADS WITH GALVANIZING PAINT. PAINT ALL SURFACE MOUNTED RACEWAYS AND PULLBOXES TO MATCH SURROUNDING CONDITIONS, AS DIRECTED BY THE ARCHITECT.
17. ALL ELECTRICAL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST EDITION OF THE N.E.C., AS WELL AS STATE, AND LOCAL CODES AND REQUIREMENTS.
18. ALL CONDUIT SHALL BE CONCEALED, UNLESS OTHERWISE NOTED.
19. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE AVAILABLE SHORT CIRCUIT CURRENT AT THE MAIN SWITCHBOARD INCOMING TERMINALS WITH THE UTILITY COMPANY, AND TO VERIFY THAT ALL POWER AND SIGNAL SERVICE PROVISIONS, INCLUDING CONCRETE EQUIPMENT PADS, CONDUITS, PULLBOXES AND CLEARANCES, MEET THE UTILITY COMPANY'S REQUIREMENTS, PRIOR TO INSTALLATION.
20. EQUIPMENT OVERLOADS AND FUSES SHALL BE PROVIDED AND INSTALLED AS PER NAME PLATE ON THE EQUIPMENT ACTUALLY PROVIDED.
21. THE CONTRACTOR SHALL PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES.
22. THE CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
23. ALL EXIT SIGNS SHALL COMPLY WITH THE RELEVANT PORTIONS OF SECTIONS 1008 AND 1013 OF THE CBC.
24. ALL MECHANICAL DIVISION EQUIPMENT LOW VOLTAGE CONTROL WIRING AND RACEWAY SHALL BE PROVIDED AND INSTALLED AS SPECIFIED IN MECHANICAL DIVISION U.O.N.
25. COORDINATE INSTALLATION OF ALL RECESSED LUMINAIRE(S) WITH MECHANICAL DIVISION PRIOR TO INSTALLATION OF HVAC DUCTS AND SPRINKLER HEADS. ENSURE AFTER INSTALLATION OF LUMINAIRE(S) THAT THERE IS NO CONTACT BETWEEN DUCTS AND LUMINAIRE(S) TO AVOID VIBRATION IN LUMINAIRE(S).
26. USE FLEXIBLE CONDUIT FOR ALL MOTOR, TRANSFORMER, RECESSED LUMINAIRE CONNECTIONS, AND CONNECTIONS BETWEEN TWO SEPARATE STRUCTURES AND FOR ALL FINAL CONNECTIONS TO "CRITICAL EQUIPMENT" AS DEFINED IN SPECIFICATIONS. MINIMUM 1/2" DIAMETER, LIQUID TIGHT TYPE USE OUTDOORS AND IN ALL WET LOCATIONS; PROVIDE WITH CODE-SIZE (MINIMUM #12) BARE GROUND WIRE IN ALL FLEXIBLE CONDUIT.
27. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR ALL BRANCH CIRCUITS FEEDING OUTLETS AS NOTED ON THE DRAWINGS.
28. FOR FLUSH MOUNTED PANELBOARDS THE CONTRACTOR SHALL STUB A MINIMUM OF FOUR (4) 3/4" CONDUITS FROM THE PANEL UP INTO THE ACCESSIBLE CEILING ABOVE FOR FUTURE CIRCUITS.
29. ALL CONDUIT CONNECTORS TO OUTLET OR JUNCTION BOXES SHALL HAVE INSULATED THROATS (MANUFACTURED AS AN INTEGRAL PART OF THE CONNECTOR). AFTER-MARKET INSERTABLE THROATS ARE NOT ACCEPTABLE.
30. ALL CIRCUITS IN ALL JUNCTION BOXES AND DEVICES SHALL BE CLEARLY IDENTIFIED BY MEANS OF "EZ" NUMBERING TAGS OR EQUIVALENT, TO IDENTIFY THE CIRCUIT NUMBER OR RELAY SUPPLYING THE CONDUCTOR. ALL JUNCTION BOXES SHALL BE LABELED PER SPECIFICATIONS.
31. ALL SURFACE MOUNTED POWER AND SIGNAL BOXES IN FINISHED AREAS SHALL BE "WIREMOLD" TYPE, WITH MATCHING RACEWAYS. SURFACE MOUNTED STEEL JUNCTION BOXES AND/OR EMT ARE NOT ACCEPTABLE.
32. ALL LOCATIONS OF BARE METAL SURFACE MOUNTED CONDUIT, BOXES, PANEL COVERS, AND RELATED FITTINGS OR ACCESSORIES INSTALLED IN FINISHED AREAS (BOTH INTERIOR AND EXTERIOR) SHALL BE FINISH PAINTED TO MATCH THE SURFACE TO WHICH THEY ARE MOUNTED TO (AFTER INSTALLATION). PAINTING SHALL INCLUDE DIFFERENT COLORS AS REQUIRED TO MATCH EXISTING STRIPING OR OTHER BUILDING FEATURES TO WHICH THE EQUIPMENT IS ATTACHED AND VISIBLE. VERIFY EXACT JUNCTION BOX LOCATION(S) AND ROUTING OF EXPOSED RACEWAYS WITH THE ARCHITECT PRIOR TO ROUGH-IN.
33. PROVIDE A BLANK COVER PLATE (COLOR TO MATCH ADJACENT DEVICES OR AS SPECIFICALLY CALLED FOR IN SPECIFICATIONS) FOR ALL JUNCTION BOXES (NEW AND EXISTING) ON THE PROJECT WHEN NO DEVICE IS INSTALLED.
34. FOR OUTDOOR 15 AND 20-AMPERE, 125 AND 250-VOLT RECEPTACLES: RECEPTACLES LOCATED IN "WET" LOCATIONS SHALL HAVE "IN-USE" TYPE WEATHERPROOF COVER PLATES PROVIDED AND INSTALLED; RECEPTACLES LOCATED IN "DAMP" LOCATIONS SHALL HAVE "IN-USE" TYPE WEATHERPROOF COVER PLATES IN LOCATIONS DEEMED TO BE "IN-USE" WITH CORD AND PLUG ATTACHED.
35. TWO OR THREE DIFFERENT PHASES SUPPLIED BY A 3-PHASE PANEL MAY SHARE A SINGLE NEUTRAL ONLY IF CIRCUIT POSITIONS ARE ADJACENT IN THE PANEL. PROVIDE COMMON HANDLE-TIE ON BREAKERS FOR MULTI-WIRE BRANCH CIRCUITS, WITH COMMON NEUTRAL, PER NEC REQUIREMENTS.
36. WHEN SERIES RATING IS USED ON ANY CIRCUIT BREAKER ON THIS PROJECT PROVIDE A FIELD MARKING PER NEC 110-22 ON THE EQUIPMENT COVER THAT IS VISIBLE TO MAINTENANCE PERSONNEL INDICATING THAT THE BREAKER HAS BEEN APPLIED WITH A SERIES COMBINATION RATING.
37. ALL RECEPTACLES IN LOCATIONS IDENTIFIED IN NEC 406.12 (I.E. DWELLING UNITS, HOTEL/MOTEL GUEST ROOMS, CHILD CARE, PRESCHOOL, K-12 SCHOOLS, BUSINESS OFFICE COMMON AREAS, IN CLINICS, MEDICAL AND OUTPATIENT FACILITIES, ASSEMBLY AREA COMMON AREAS, DORMITORY UNITS, AND ASSISTED LIVING UNITS) SHALL BE TAMPER RESISTANT.

LIST OF DRAWINGS

Table listing drawing titles: E-0.1 SYMBOLS LIST, GENERAL NOTES & LIST OF DRAWINGS; E-1.2 70'S WING ANNEX SITE PLAN - POWER; E-2.1 BAND AND MAKER SPACE DEMO PLANS - POWER; E-2.3 70'S WING ANNEX DEMO PLAN - POWER; E-3.1 BAND AND MAKER SPACE FLOOR PLANS - POWER; E-3.2 MUSIC CLASSROOM DEMO & FLOOR PLANS - POWER; E-3.3 70'S WING ANNEX FLOOR PLAN - POWER; E-5.1 SINGLE LINE DIAGRAM - POWER & PANEL SCHEDULES; E-7.1 DETAILS



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Table with columns for REVISIONS, including fields for description, date, and initials.

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ARCH PROJECT NO. 1900.03
DRAWN BY: LNTV/JW
DRAWING SCALE: AS NOTED
PTN: 65458-61 FILE NO: 21-39

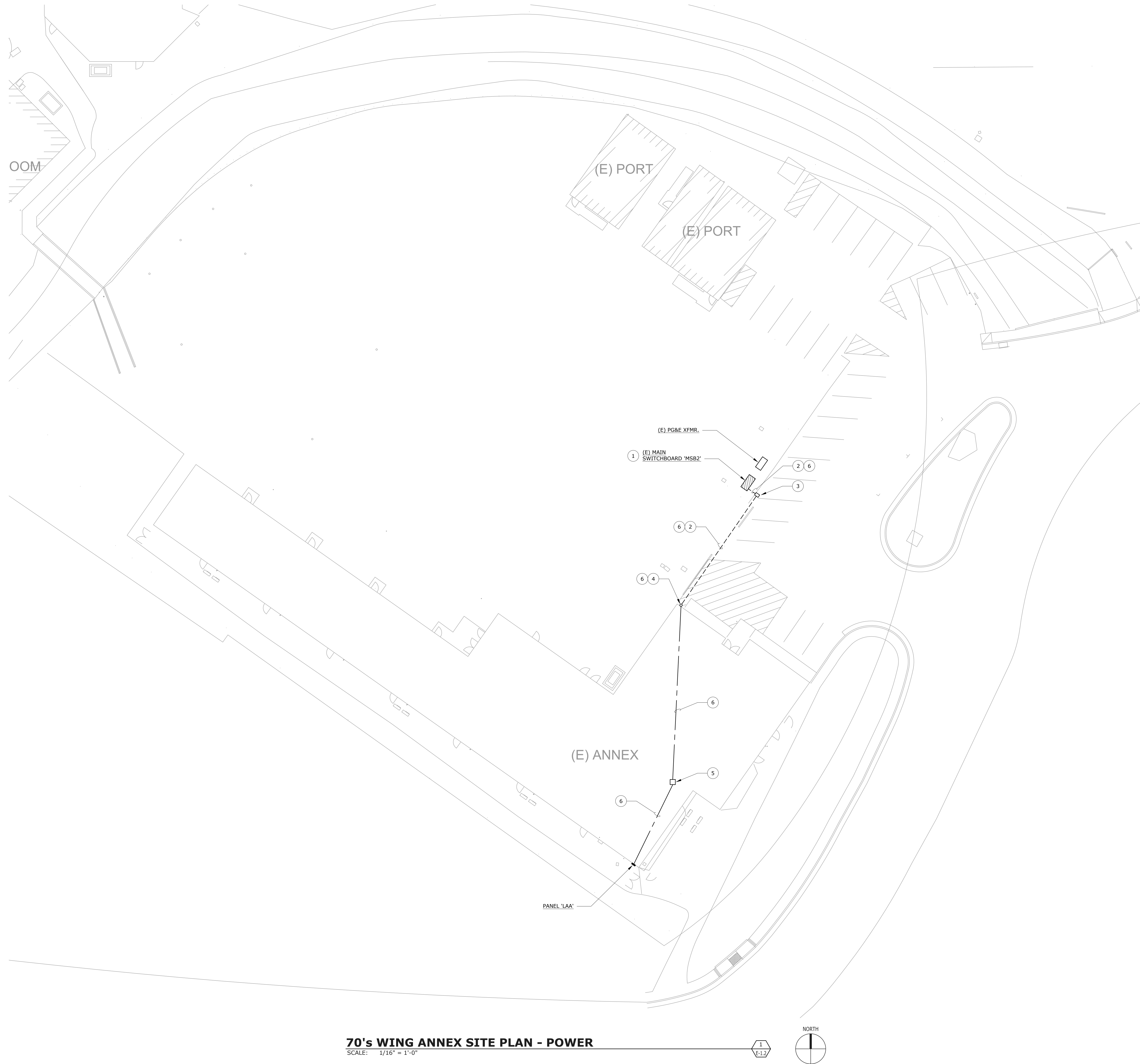
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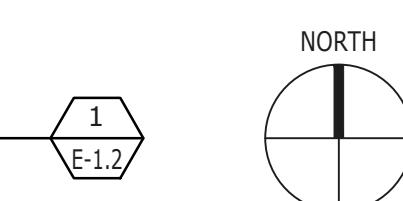
SYMBOLS LIST, GENERAL NOTES & LIST OF DRAWINGS

SHEET NUMBER

E-0.1



70's WING ANNEX SITE PLAN - POWER
SCALE: 1/16" = 1'-0"



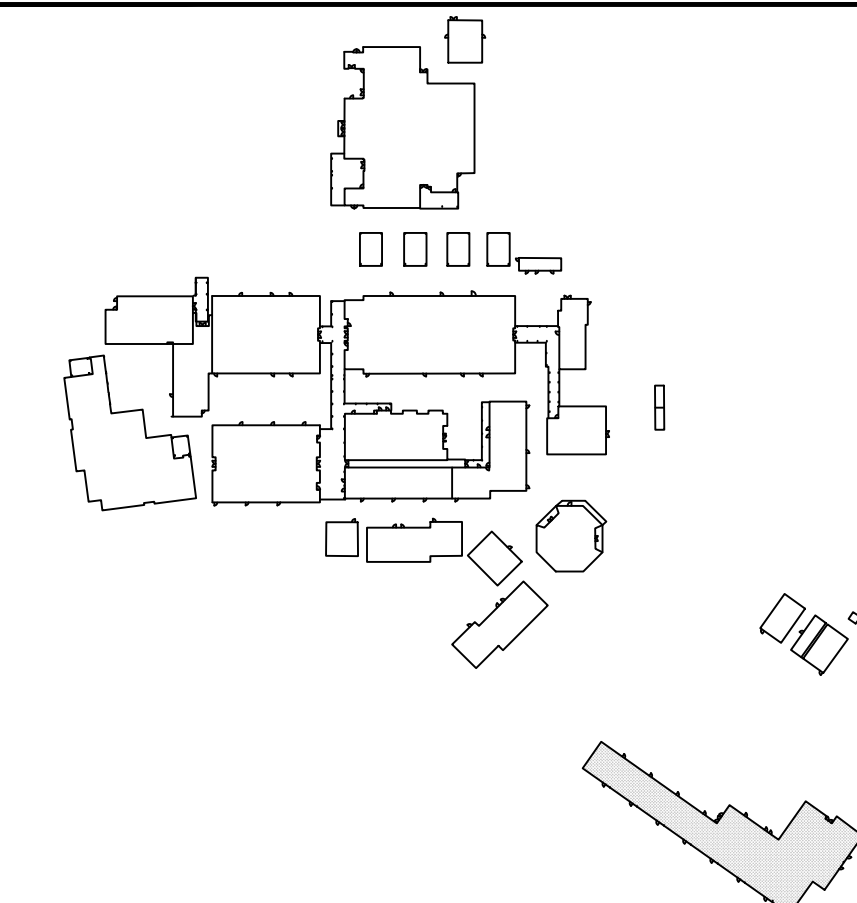
NUMBERED SHEET NOTES

- 1 PROVIDE AND INSTALL (1) 225A/3P BREAKER IN AVAILABLE SPACE IN MAIN SWITCHBOARD FOR NEW HVAC PANEL. BREAKER SHALL MATCH THE MANUFACTURER AND AIC RATING OF THE EXISTING SWITCHBOARD BREAKERS. PROVIDE BREAKER MOUNTING KIT, WITH ALL APPROPRIATE MOUNTING HARDWARE. SEE E-5.1.
- 2 PROVIDE UNDERGROUND SCHEDULE 40 PVC CONDUIT.
- 3 PROVIDE FLUSH IN-GRADE PULLBOX WITH TRAFFIC RATED LID LABELED "POWER". SIZE PULLBOX PER NEC.
- 4 RISE UP EXTERIOR WALL WITH CONDUIT PAINTED TO MATCH ADJACENT SURFACES AND CONTINUE ON ROOF. SEE 5/E-7.1.
- 5 PROVIDE NEMA 3R CANOPY MOUNTED PULLCAN. SIZE PER NEC.
- 6 SEE E-5.1 FOR CONDUIT AND CONDUCTOR QUANTITY AND SIZES.

GENERAL SHEET NOTES

1. CONTRACTOR SHALL FIELD LOCATE, IDENTIFY AND PROTECT IN PLACE ALL EXISTING UTILITIES WITHIN PROJECT SCOPE.

KEYPLAN



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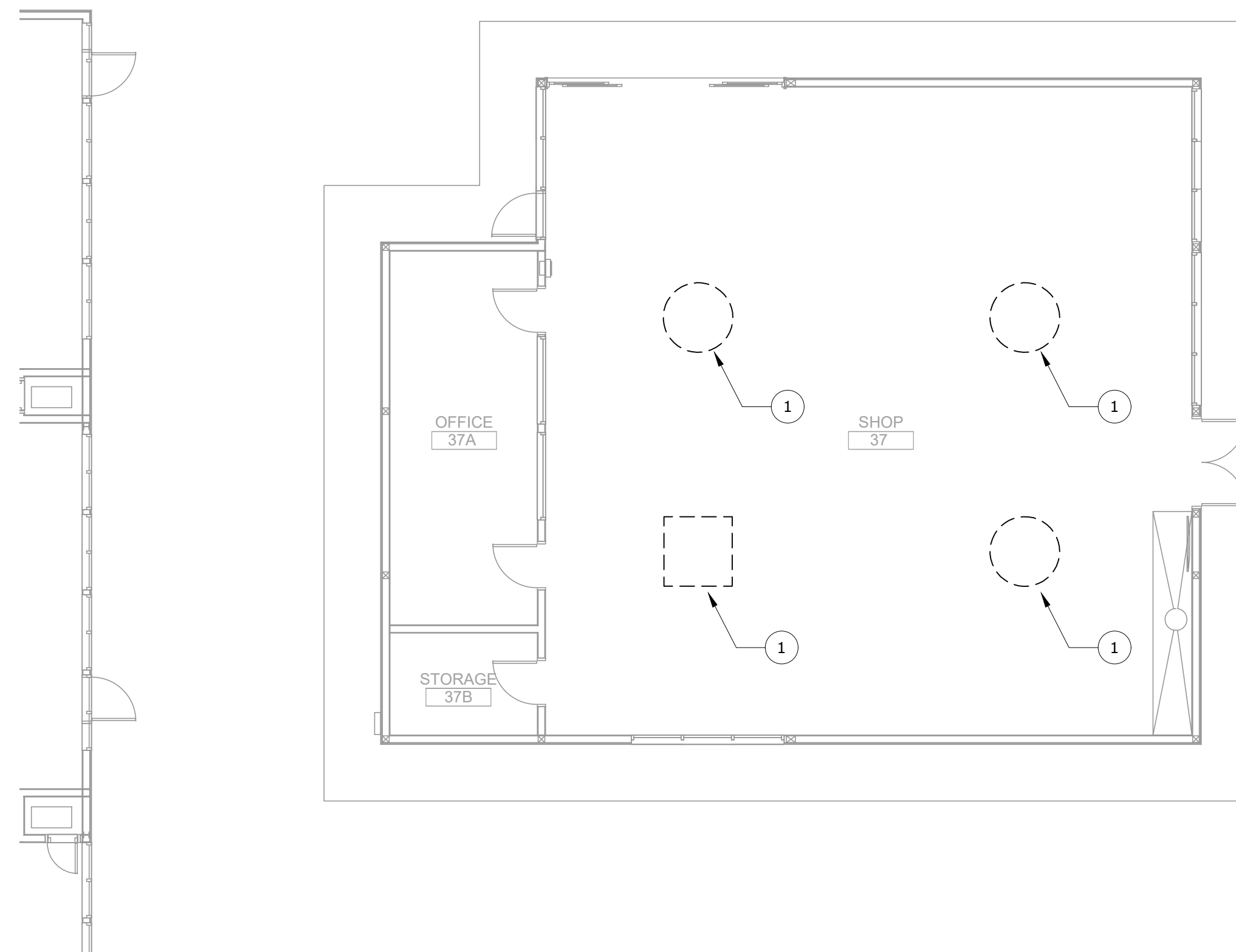
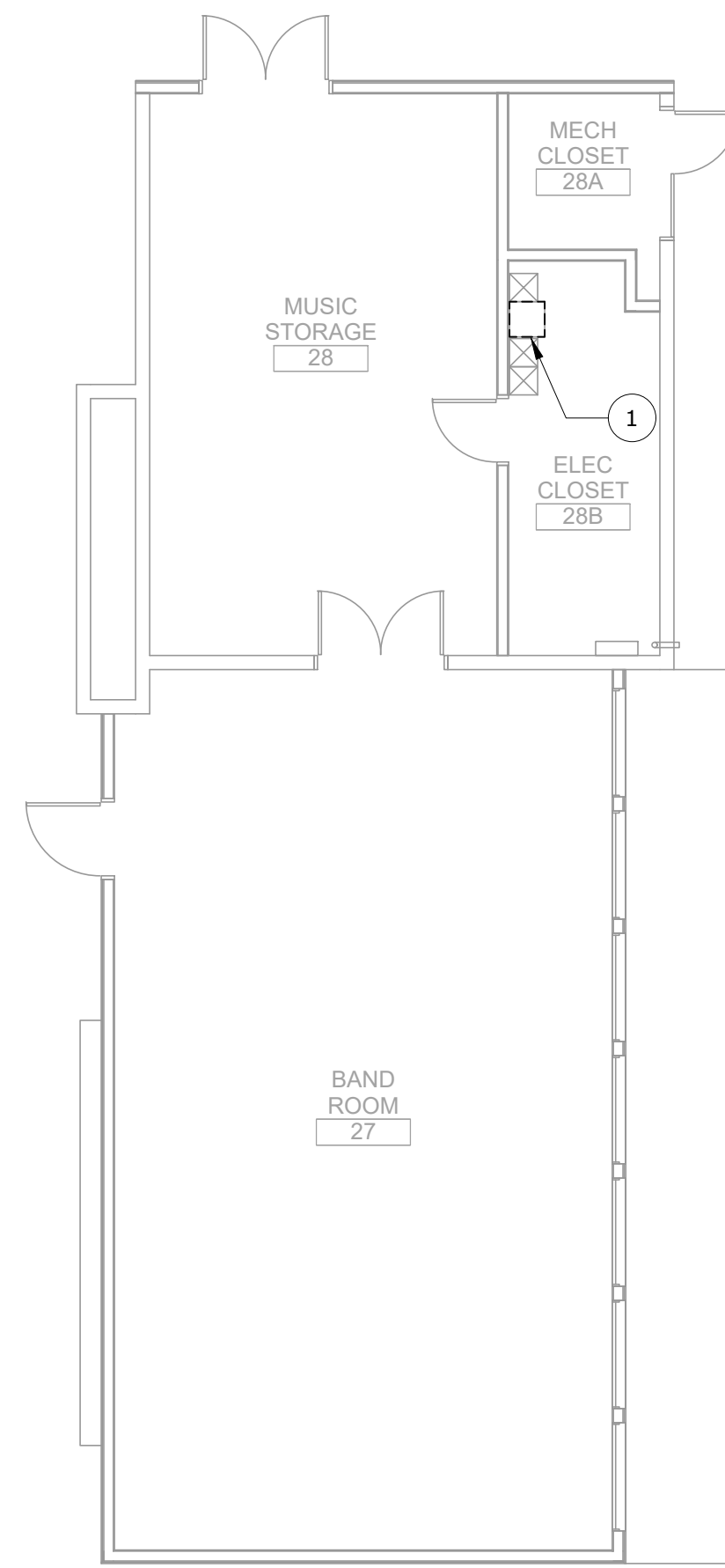
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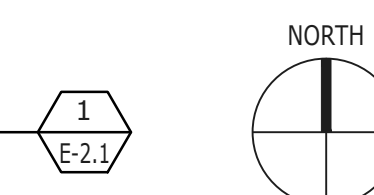
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**70's WING
ANNEX
SITE PLAN -
POWER**

SHEET NUMBER
E-1.2

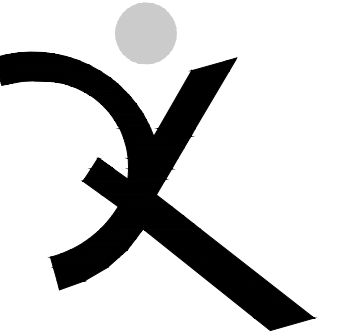


BAND ROOM AND MAKER SPACE DEMO PLAN - POWER
SCALE: 1/8" = 1'-0"



DEMOLITION SHEET NOTES

- ① EXISTING HVAC UNIT AT THIS LOCATION TO BE REMOVED. DISCONNECT EXISTING POWER CIRCUITRY FROM UNIT, REMOVE EXISTING DISCONNECT SWITCH AND REMOVE ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE. ABANDON IN PLACE ANY EXISTING CONDUIT CONCEALED IN WALLS OR FLOOR.



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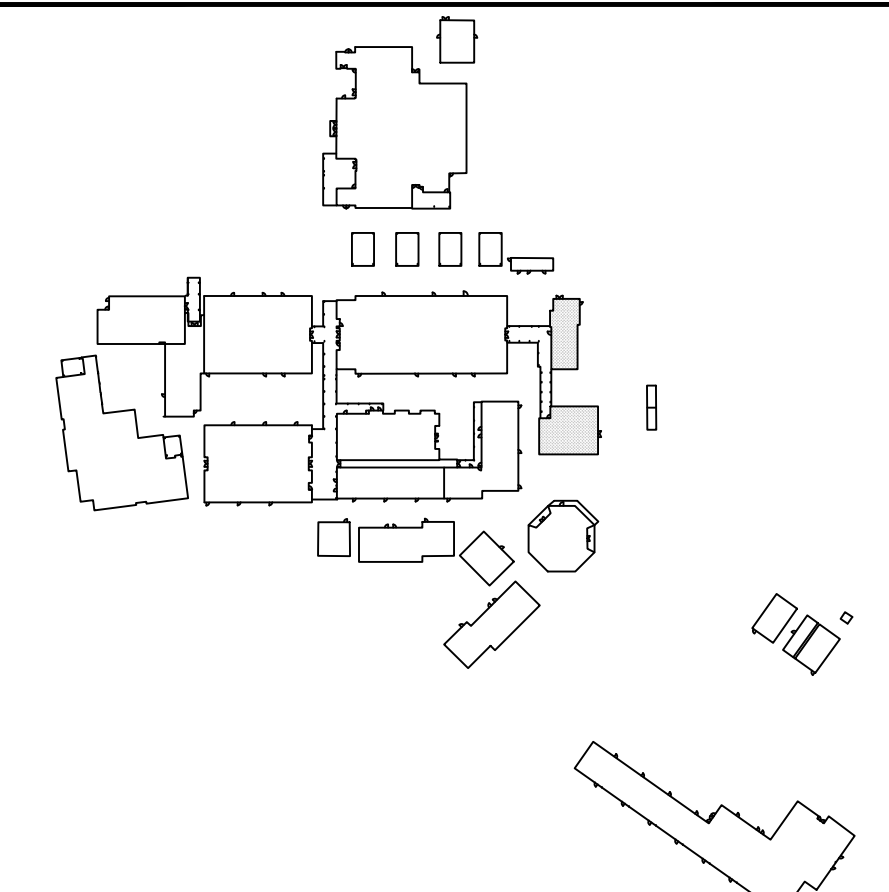
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**BAND ROOM &
MAKER SPACE
DEMO PLAN -
POWER**

SHEET NUMBER

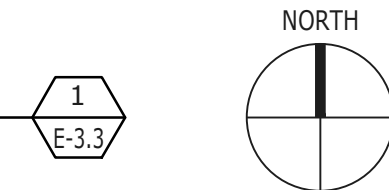
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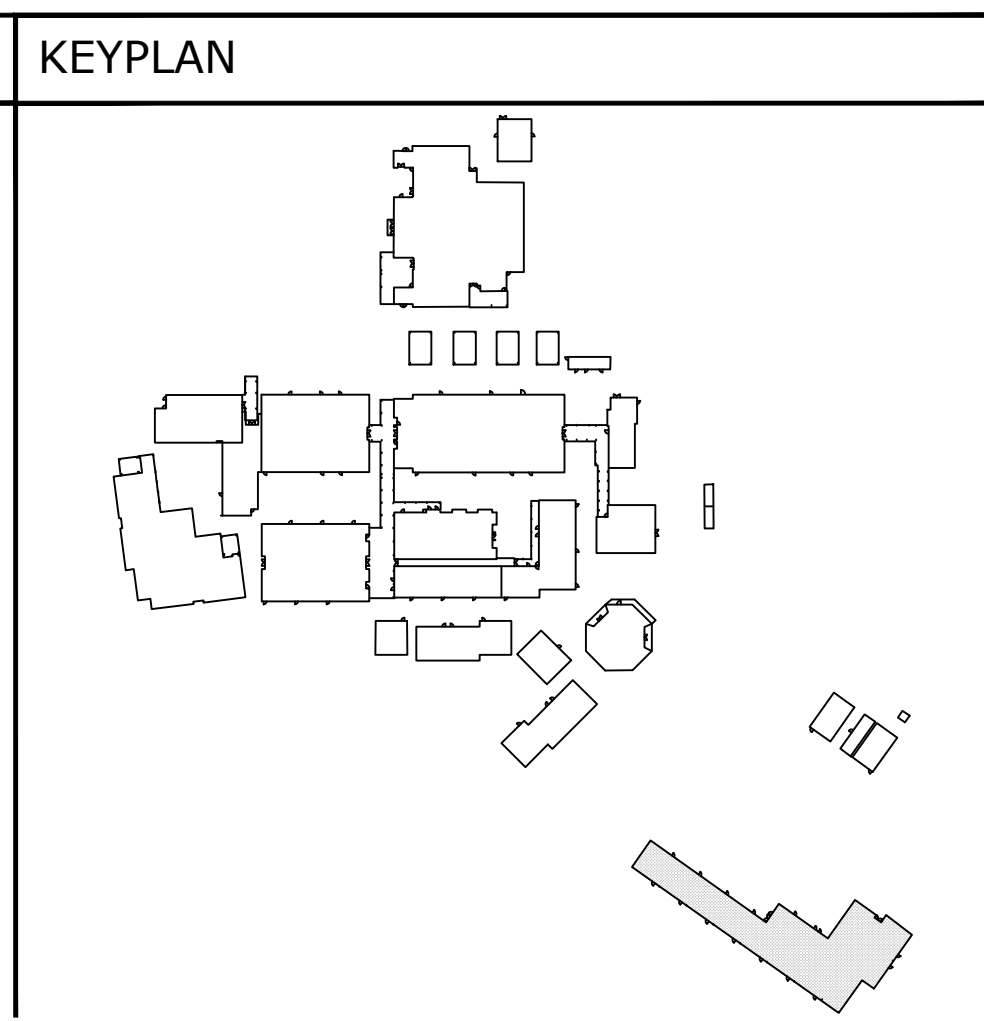


70's WING ANNEX DEMO PLAN - POWER
SCALE: 1/8" = 1'-0"



DEMO SHEET NOTES

1 EXISTING ROOF MOUNTED HVAC UNIT TO BE REMOVED. DISCONNECT EXISTING POWER CIRCUITRY FROM UNIT AND REMOVE EXISTING DISCONNECT SWITCH AND ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE.



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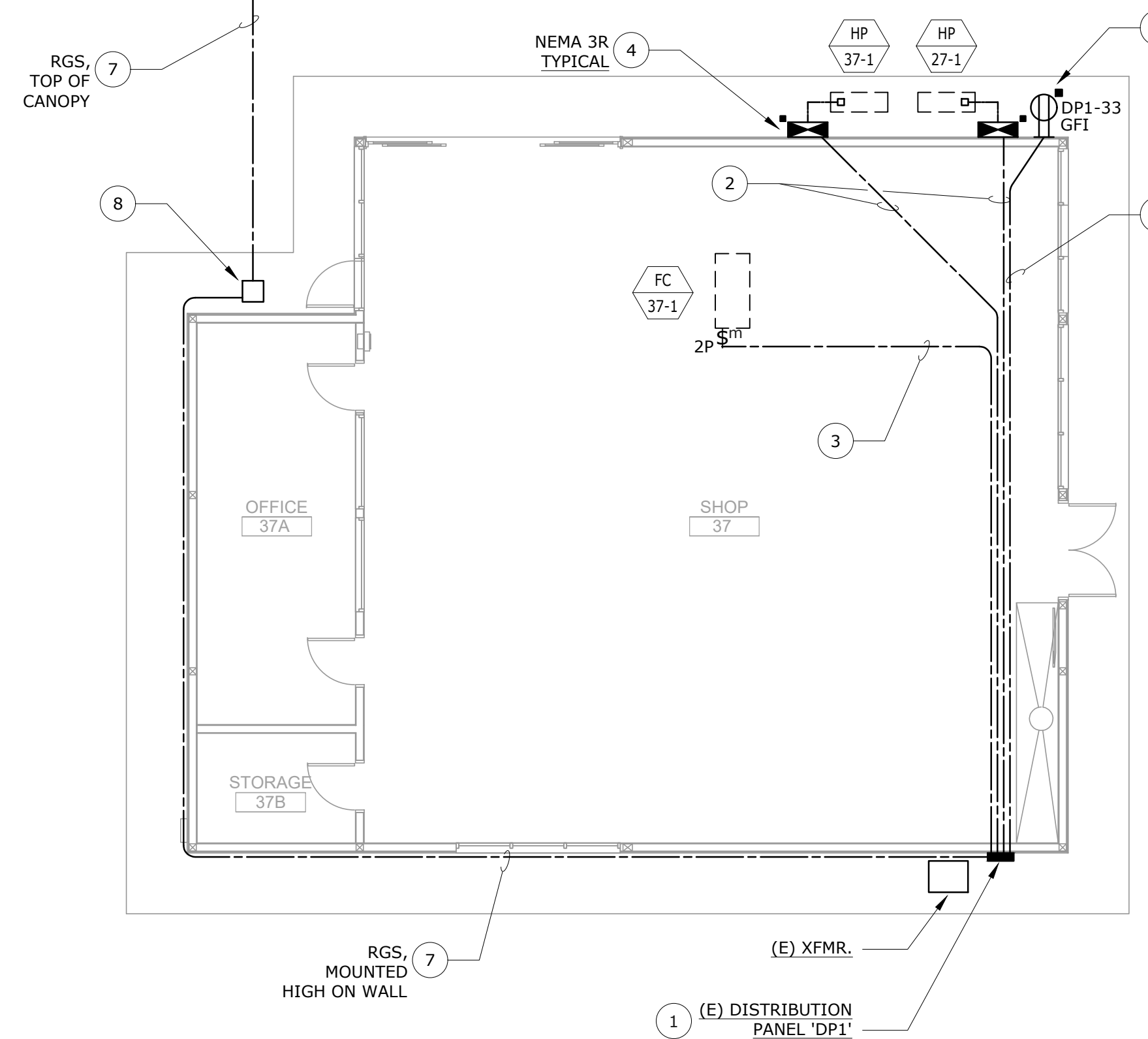
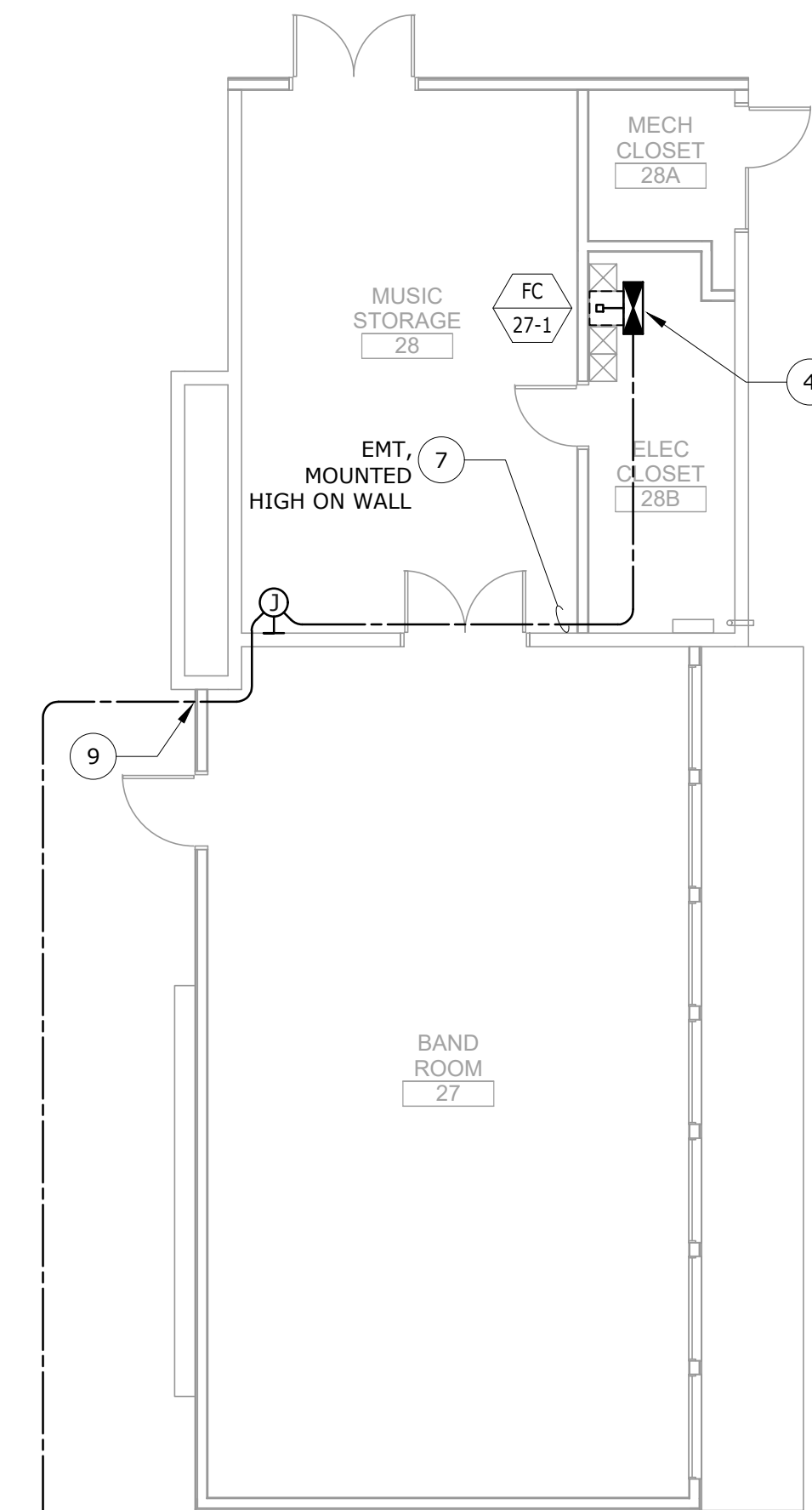
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70's WING ANNEX DEMO PLAN - POWER

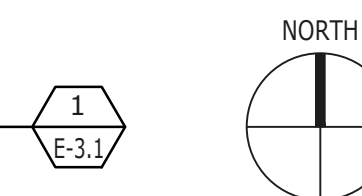
E-2.3



BAND ROOM & MAKER SPACE MECHANICAL EQUIPMENT - ELECTRICAL FEEDER SCHEDULE						
FEEDER TAG	FEEDER	PANEL #	ELECTRICAL RATINGS		NOTES	
			Voltage	Phase	MCA	MOCIP
HP 27-1	(2) #8 + (1) #10G. IN 3/4" C.	(E) DP1 25/27	208	1	29.1	35
HP 37-1	(2) #8 + (1) #10G. IN 3/4" C.	(E) DP1 26/28	208	1	29.1	35
FC 27-1	(2) #6 + (1) #8G. IN 3/4" C.	(E) DP1 29/31	208	1	32	35 1
FC 37-1	(2) #8 + (1) #10G. IN 3/4" C.	(E) DP1 30/32	208	1	32	35

Notes:
1. WIRE SIZES ADJUSTED FOR VOLTAGE DROP.

BAND ROOM AND MAKER SPACE FLOOR PLAN - POWER
SCALE: 1/8" = 1'-0"



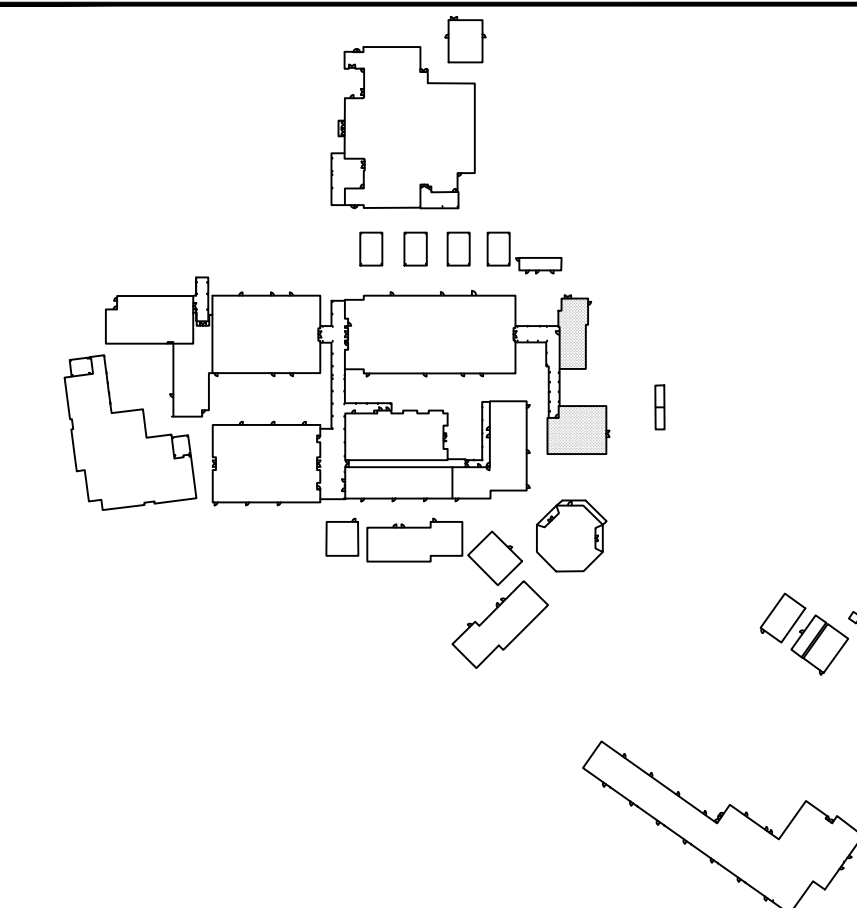
NUMBERED SHEET NOTES

- 1 PROVIDE (4) 35A/2P AND (1) 20A/1P CIRCUIT BREAKERS FOR NEW MECHANICAL UNITS AND NEW SERVICE OUTLET. MATCH AIC RATING AND MANUFACTURER OF EXISTING BREAKERS CURRENTLY IN PANEL. SEE E-5.1.
- 2 RISE UP EXTERIOR WALL OUT OF EXISTING PANEL WITH CONDUIT PAINTED TO MATCH ADJACENT SURFACES AND PENETRATE BUILDING EAVE. SEAL PENETRATION WEATHER TIGHT. SEE 6/E-7.1. CONTINUE ACROSS ROOF AND DOWN OPPOSITE EXTERIOR WALL TO MECHANICAL UNIT DISCONNECT SWITCH SHOWN. SEE 5/E-7.1 AND ELECTRICAL FEEDER SCHEDULE ON THIS SHEET.
- 3 RISE UP EXTERIOR WALL OUT OF EXISTING PANEL WITH CONDUIT PAINTED TO MATCH ADJACENT SURFACES. PENETRATE EXTERIOR WALL NEAR CEILING HEIGHT AND CONTINUE ON INTERIOR CEILING SURFACE TO NEW CEILING MECHANICAL UNIT. SEAL WALL PENETRATION WEATHER TIGHT. CONNECT COMPLETE TO NEW 2-POLE MOTOR RATED SWITCH. SEE ELECTRICAL FEEDER SCHEDULE ON THIS SHEET.
- 4 PROVIDE HEAVY DUTY FUSED DISCONNECT SWITCH WITH FLEX CONDUIT AND WIRE CONNECTION FROM DISCONNECT TO NEW MECHANICAL UNIT. SIZE DISCONNECT FUSES PER MECHANICAL UNIT MANUFACTURER'S NAMEPLATE SPECIFICATION.
- 5 PROVIDE NEW SURFACE MOUNTED WEATHERPROOF GFI RECEPTACLE WITH LATCHING AND LOCKABLE COVER.
- 6 RISE UP EXTERIOR WALL OUT OF EXISTING PANEL WITH CONDUIT PAINTED TO MATCH ADJACENT SURFACES AND PENETRATE BUILDING EAVE. SEAL PENETRATION WEATHER TIGHT. SEE 6/E-7.1. CONTINUE ACROSS ROOF AND DOWN OPPOSITE EXTERIOR WALL TO SERVICE OUTLET SHOWN.
- 7 PROVIDE FEEDER FOR NEW BAND ROOM HVAC UNIT. PAINT TO MATCH ADJACENT SURFACES. CONNECT COMPLETE TO NEW DISCONNECT SWITCH. SEE ELECTRICAL EQUIPMENT FEEDER SCHEDULE ON THIS SHEET FOR CONDUIT AND WIRE SIZES AND QUANTITY.
- 8 PROVIDE NEMA 3R CANOPY MOUNTED PULLCAN. SIZE PER NEC.
- 9 PENETRATE EXTERIOR WALL AND CONTINUE ON INTERIOR WALL SURFACE TO NEW MECHANICAL UNIT. SEAL EXTERIOR WALL PENETRATION WEATHER TIGHT.

GENERAL SHEET NOTES

1. CONTRACTOR SHALL FIELD LOCATE, IDENTIFY AND PROTECT IN PLACE ALL EXISTING UTILITIES WITHIN PROJECT SCOPE.

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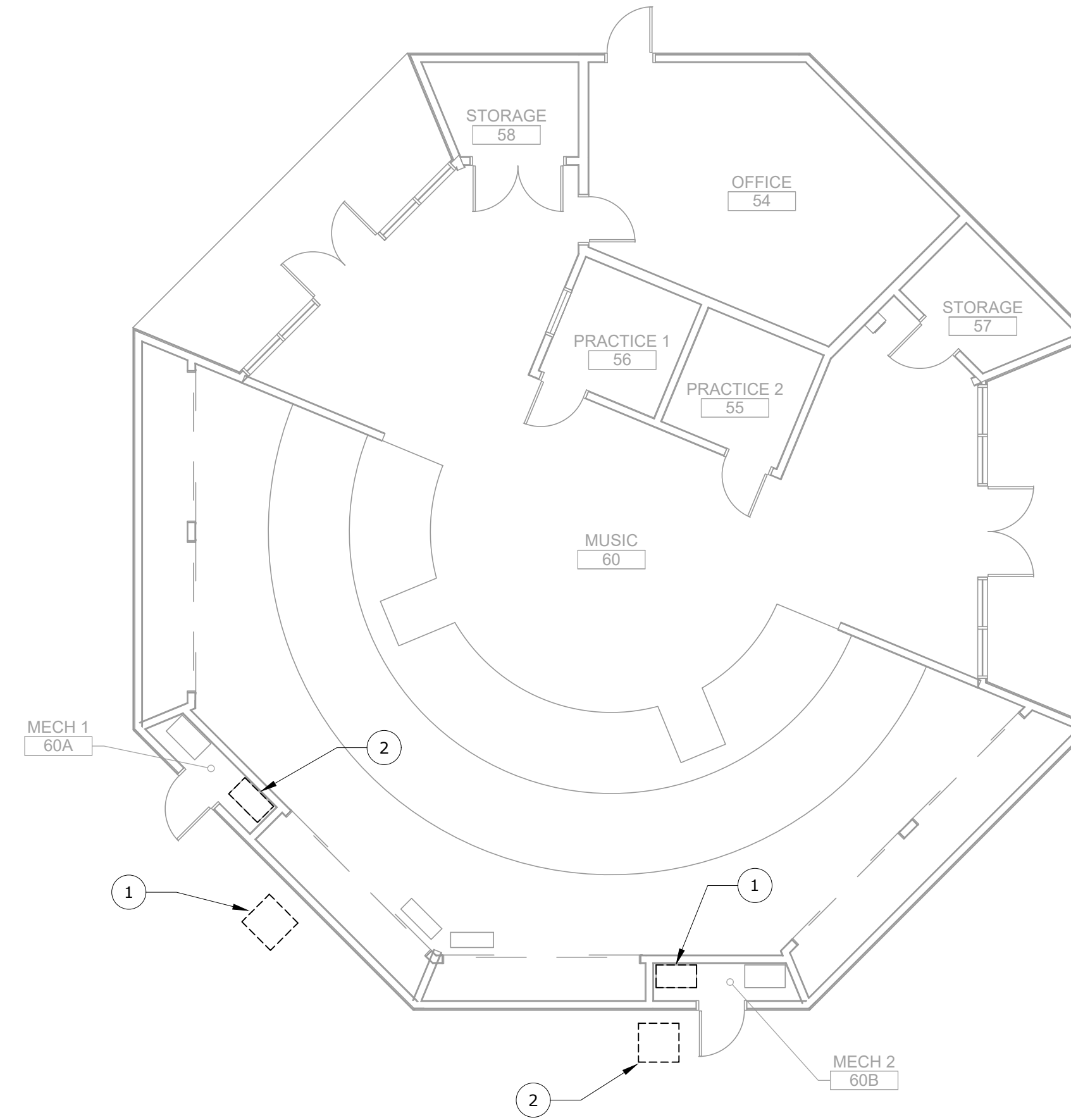
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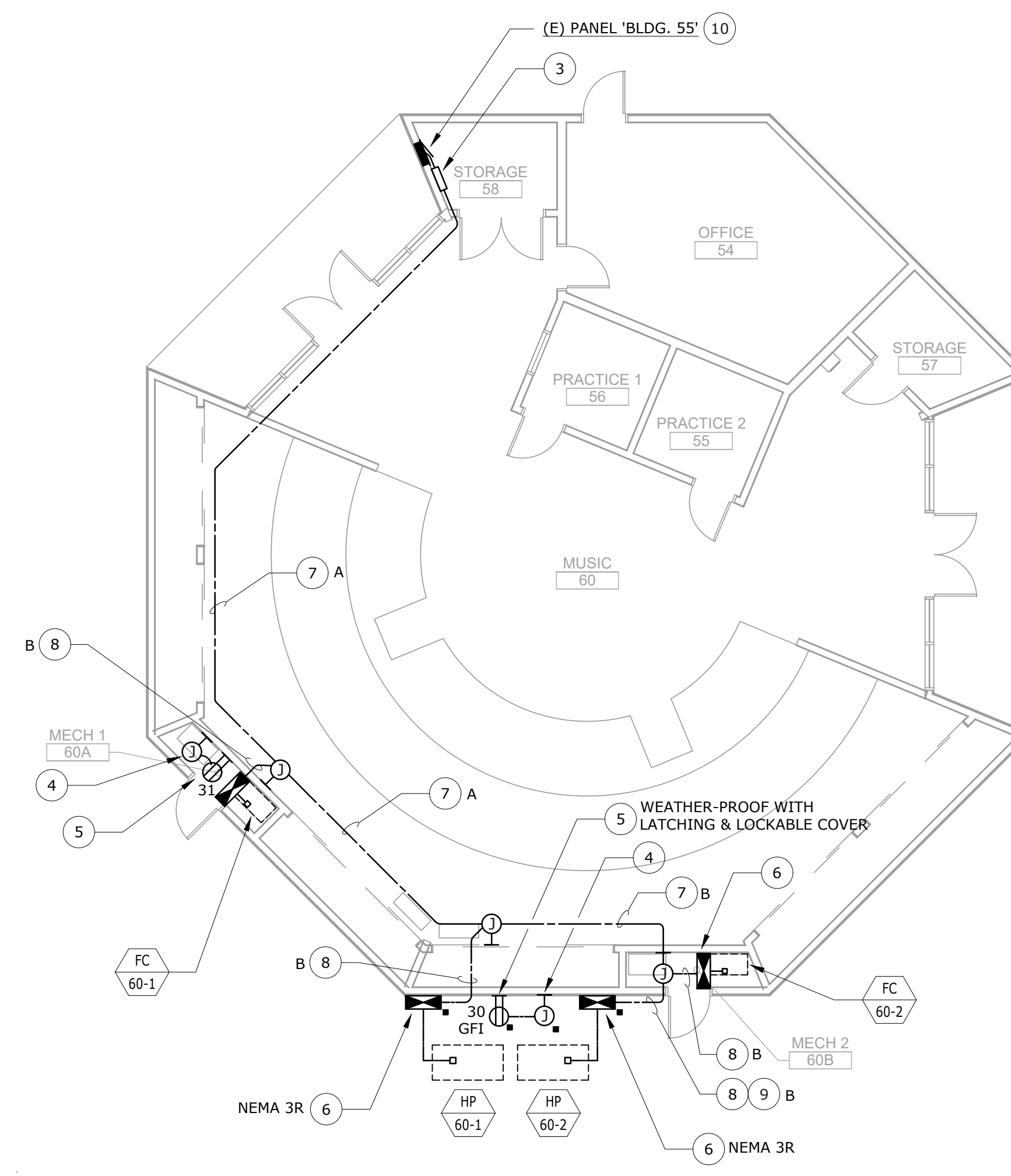
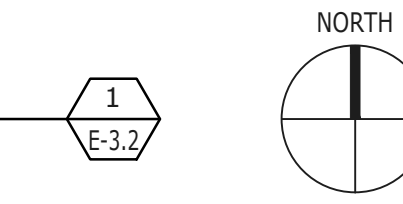
DSA APP NO. 01-120022
ARCH PROJECT NO. 1900.03
DRAWN BY: LNTV/JW
DRAWING SCALE: AS NOTED
PTN: 65458-61 FILE NO: 21-39
DSA
JANUARY 31, 2022

BAND ROOM & MAKER SPACE FLOOR PLAN - POWER

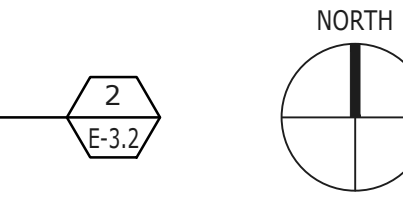
SHEET NUMBER
E-3.1



MUSIC CLASSROOM DEMO PLAN - POWER
SCALE: 1/8" = 1'-0"



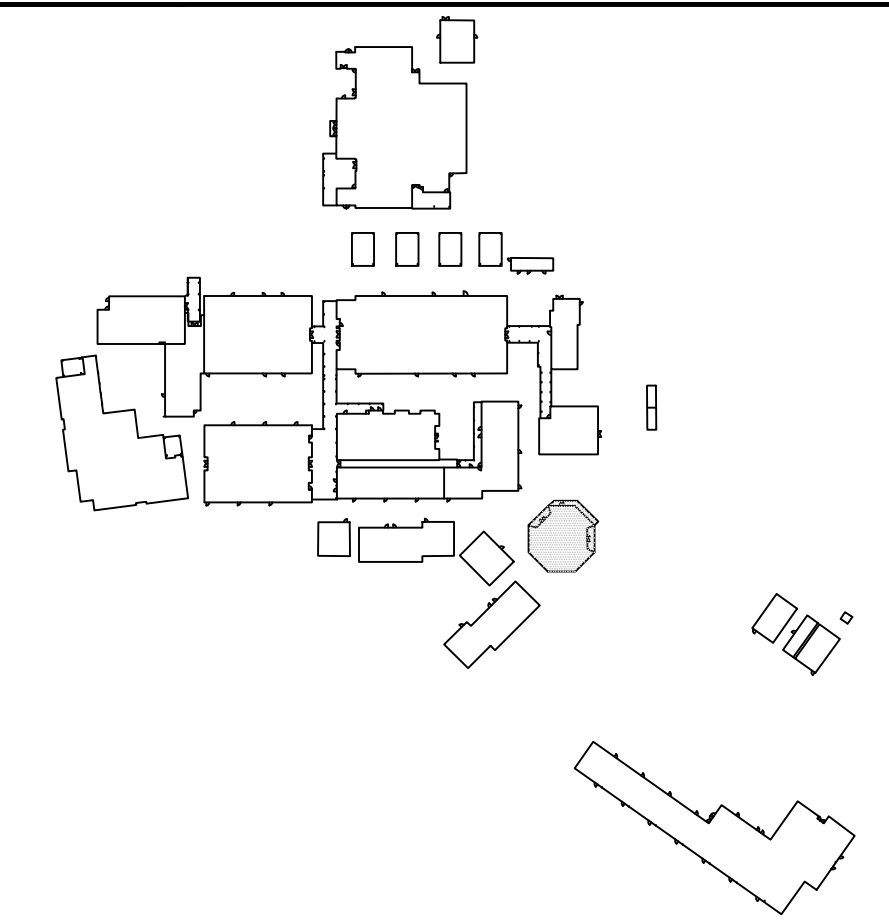
MUSIC CLASSROOM FLOOR PLAN - POWER
SCALE: 1/8" = 1'-0"



DEMOLITION SHEET NOTES

- 1 EXISTING HVAC UNIT AT THIS LOCATION TO BE REMOVED. DISCONNECT EXISTING POWER CIRCUITRY FROM UNIT, REMOVE EXISTING DISCONNECT SWITCH AND REMOVE ASSOCIATED WIRING AND CONDUIT BACK TO SOURCE. ABANDON IN PLACE EXISTING CONDUIT CONCEALED IN WALLS OR FLOOR.
- 2 EXISTING HVAC UNIT AT THIS LOCATION TO BE REMOVED. DISCONNECT EXISTING POWER CIRCUITRY FROM UNIT, REMOVE EXISTING DISCONNECT SWITCH AND REMOVE ASSOCIATED WIRING BACK TO SOURCE. PRESERVE EXISTING CONDUIT FOR REUSE. SEE NOTE 4.
- 3 PROVIDE SURFACE WALL MOUNTED GUTTER FOR NEW HVAC UNIT CONDUTS AND WIRING. CUT AND PATCH WALL TO TRANSITION CONDUIT AND WIRING FROM PANEL TO GUTTER. PAINT WALL PATCH WORK TO MATCH EXISTING WALL.
- 4 INTERCEPT EXISTING CONDUIT REMAINING FROM DEMOLITION PHASE WITH SURFACE MOUNTED WEATHER-PROOF JUNCTION BOX. PROVIDE 3/4" CONDUIT FROM JUNCTION BOX TO GFI SERVICE RECEPTACLE. SEE NOTE 5.
- 5 PROVIDE NEW SERVICE OUTLET ADJACENT TO NEW HVAC UNITS. UTILIZE EXISTING CONDUIT REMAINING FROM DEMOLITION PHASE AND NEW JUNCTION BOX TO ROUTE NEW CIRCUITRY FOR RECEPTACLE. SEE PANEL SCHEDULE ON E-5.1.
- 6 PROVIDE HEAVY DUTY FUSED DISCONNECT SWITCH WITH FLEX CONDUIT AND WIRE CONNECTION FROM DISCONNECT TO NEW HVAC UNIT. SIZE DISCONNECT FUSES PER HVAC UNIT MANUFACTURER'S NAMEPLATE SPECIFICATION.
- 7 PROVIDE WALL MOUNTED CONDUIT FOR NEW HVAC UNITS, PAINTED TO MATCH ADJACENT SURFACES. MOUNT CONDUIT HIGH ON WALL. CONDUIT AND WIRE SIZES AND QUANTITIES AS FOLLOWS:
A = (2) 1" C. WITH (2) #4 + (1) #8G. IN EACH
B = (1) 1" C. WITH (2) #4 + (1) #8G.
- 8 SPLICE AND EXTEND CIRCUITRY CALLED FOR IN NOTE 7 TO NEW HVAC UNIT AS SHOWN.
- 9 SEAL EXTERIOR WALL PENETRATION WEATHER-TIGHT. PAINT EXTERIOR CONDUIT TO MATCH ADJACENT SURFACES.
- 10 REMOVE EXISTING 40A/2P CIRCUIT BREAKERS FORMERLY SERVING REMOVED OUTDOOR CONDENSING UNITS AND RETURN TO THE DISTRICT. REPLACE WITH (2) 70A/2P CIRCUIT BREAKERS FOR NEW MECHANICAL UNITS. MATCH AIC RATING AND MANUFACTURER OF EXISTING BREAKERS CURRENTLY IN PANEL. SEE E-5.1.

KEYPLAN



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PTN: 65458-61 FILE NO: 21-39

DSA
JANUARY 31, 2022

SHEET TITLE
MUSIC CLASSROOM DEMO & FLOOR PLANS - POWER

SHEET NUMBER
E-3.2



70's WING ANNEX FLOOR PLAN - POWER

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

ANNEX MECHANICAL EQUIPMENT - ELECTRICAL FEEDER SCHEDULE							
FEEDER TAG	FEEDER	PANEL	#	ELECTRICAL RATINGS			NOTES
				Voltage	Phase	MCA	MOCP
FC 70-1	(2) #8 + (1) #10G. IN 3/4" C.	LLA	18/20	208	1	32	35
FC 70-2	(2) #12 + (1) #12G. IN 3/4" C.	LLA	22/24	208	1	8	15
HP 70-1	(2) #8 + (1) #10G. IN 3/4" C.	LLA	26/28	208	1	29.1	35
HP 70-2	(2) #12 + (1) #12G. IN 3/4" C.	LLA	25/27	208	1	8	15
CU 70-1	(2) #8 + (1) #8G. - SEE PLAN FOR CONDUIT SIZE	LLA	1/3	208	1	22.7	25
CU 70-2	(2) #8 + (1) #8G. - SEE PLAN FOR CONDUIT SIZE	LLA	5/7	208	1	22.7	25
CU 70-3	(2) #10 + (1) #10G. - SEE PLAN FOR CONDUIT SIZE	LLA	9/11	208	1	22.7	25
CU 70-4	(2) #10 + (1) #10G. - SEE PLAN FOR CONDUIT SIZE	LLA	13/15	208	1	22.7	25
CU 70-5	(2) #10 + (1) #10G. - SEE PLAN FOR CONDUIT SIZE	LLA	17/19	208	1	22.7	25
CU 70-6	(2) #10 + (1) #10G. - SEE PLAN FOR CONDUIT SIZE	LLA	21/23	208	1	22.7	25
CU 70-7	(2) #10 + (1) #10G. - SEE PLAN FOR CONDUIT SIZE	LLA	2/4	208	1	22.7	25
CU 70-8	(2) #10 + (1) #10G. - SEE PLAN FOR CONDUIT SIZE	LLA	6/8	208	1	22.7	25
CU 70-9	(2) #10 + (1) #10G. - SEE PLAN FOR CONDUIT SIZE	LLA	10/12	208	1	22.7	25
CU 70-10	(2) #10 + (1) #10G. - SEE PLAN FOR CONDUIT SIZE	LLA	14/16	208	1	22.7	25
				ELECTRICAL RATINGS			
EF 70-1	(2) #12 + (1) #12G. IN 3/4" C.	LLA	29	Voltage	Phase	WATTS	MOCP
				115	1	52W	-

Notes:
1. WIRES UPSIZED FOR VOLTAGE DROP.

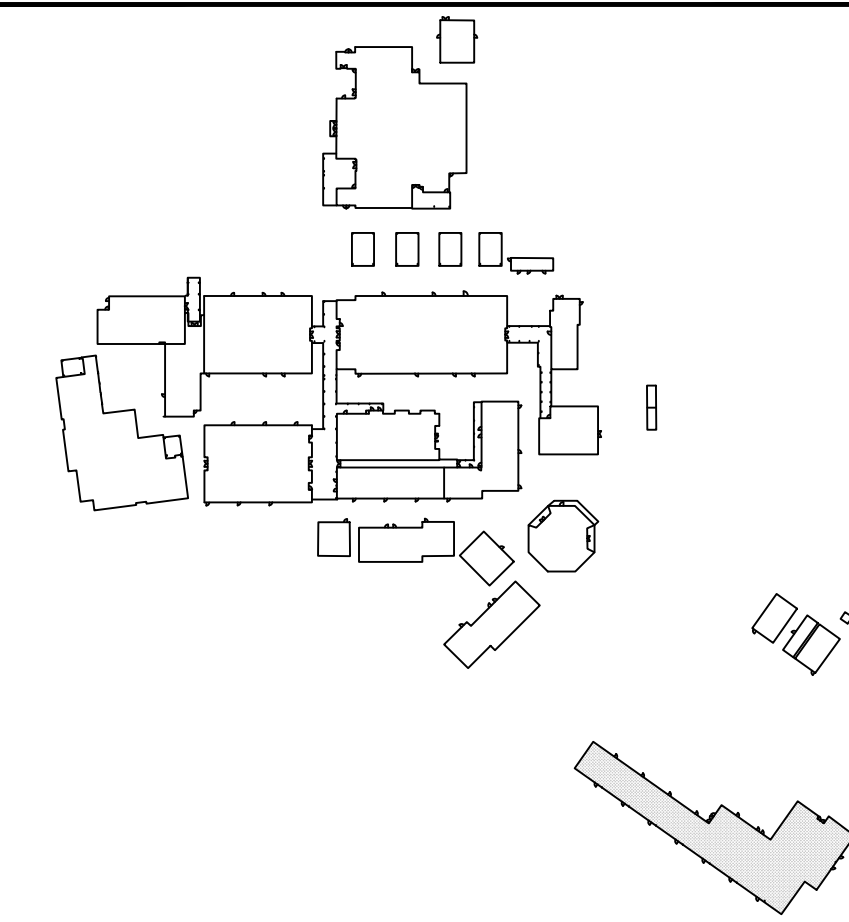
GENERAL SHEET NOTES

1. ALL CIRCUITS SHOWN SHALL HOMERUN TO PANEL 'LAA'.

NUMBERED SHEET NOTES

- 1 PROVIDE RECEPTACLE FOR CONDENSATE PUMP. MOUNT DIRECTLY UNDER EXISTING HVAC UNIT DISCONNECT SWITCH.
- 2 PROVIDE HEAVY-DUTY NEMA 3R FUSED DISCONNECT SWITCH FOR NEW MECHANICAL UNIT. SIZE FUSE PER MANUFACTURER'S RECOMMENDATION. CONNECT CIRCUITRY SHOWN ON THIS SHEET'S ELECTRICAL FEEDER SCHEDULE COMPLETE TO NEW MECHANICAL UNIT, VIA FUSED DISCONNECT.
- 3 SURFACE MOUNT CONDUIT TO EXTERIOR WALL, ABOVE WINDOWS AND DOORS. PAINT CONDUIT TO MATCH ADJACENT SURFACES.
- 4 PROVIDE NEMA-3R SURFACE MOUNTED PULLBOX. SIZE PULLBOX PER NEC. PAINT PULLBOX TO MATCH ADJACENT SURFACES.
- 5 CONNECT COMPLETE TO PANEL LLA. SEE ELECTRICAL EQUIPMENT FEEDER SCHEDULE ON THIS SHEET FOR CONDUIT AND CIRCUITRY INFORMATION.
- 6 ROUTE BRANCH CONDUIT AND WIRE ABOVE CEILING.
- 7 TRANSITION CONDUIT UP EXTERIOR WALL WITH CONDUIT PAINTED TO MATCH ADJACENT SURFACES AND PENETRATE EXTERIOR WALL ABOVE CEILING. SEAL PENETRATION WEATHER-TIGHT. CONTINUE CONDUIT RUN ABOVE CEILING.
- 8 PROVIDE NEW SURFACE MOUNTED WEATHERPROOF GFI RECEPTACLE WITH LATCHING AND LOCKABLE COVER.

KEYPLAN



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JANUARY 31, 2022

**70's WING
ANNEX
FLOOR PLAN -
POWER**

SHEET NUMBER
E-3.3

(E) PANEL DP1

VOLTS: 120 / 208		* NEW CIRCUIT BREAKER, MATCH AIC RATING AND MANUFACTURER OF EXISTING BREAKERS.										MAIN BRKR: EXISTING	
PHASE: 3 PH												FEEDER: EXISTING	
WIRE: 4 W												CONDUIT: EXISTING	
BUSSING: 250A												MOUNTED: SURFACE	
POLES: 42P												AIC RATING: EXISTING	

LOAD DESCRIPTION	TYPE	A	B	C	BRKR	CKT.	CKT.	BRKR	A	B	C	TYPE	LOAD DESCRIPTION	
SPARE					90/2	1	2	90/2					SPARE	
SPARE					3	4							SPARE	
SPARE					5	6	90/2						SPARE	
SPARE					7	8							SPARE	
SPARE					100/2	9	10	90/2					SPARE	
SPARE						11	12						SPARE	
SPARE					100/2	13	14	100/2					SPARE	
SPARE						15	16						SPARE	
SPARE					100/2	17	18	100/2					SPARE	
SPARE						19	20						SPARE	
SPARE					20/1	21	22	50/2		4.16		M	(E) PORTABLE RESTROOM	
SPARE					20/1	23	24			4.16		M	/	
HP 27-1	H	2.42			*35/2	25	26	*35/2	2.42			H	HP 37-1	
/	H		2.42			27	28		2.42			H	/	
FC 27-1	H		2.66		*35/2	29	30	*35/2		2.66		H	FC 37-1	
/	H	2.66				31	32		2.66			H	/	
EXTERIOR SERVICE OUTLET	R		0.18		*20.1	33	34						S P A C E	
S P A C E						35	36						S P A C E	
S P A C E						37	38						S P A C E	
S P A C E						39	40						S P A C E	
S P A C E						41	42						S P A C E	
		5.08	2.60	2.66				5.08			6.58	6.82		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	8.32	100%	8.32
TYPE "L": LIGHTING / CONTINUOUS LOADS	0.00	125%	0.00
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.18	100%	0.18
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	20.33	100%	20.33
TOTALS:	28.83		28.83

PHASE A: 10.17 KVA
 PHASE B: 9.18 KVA
 PHASE C: 9.48 KVA
84.73 MAX AMPS / PHASE

(E) PANEL BLDG 55

VOLTS: 120 / 240 V		* NEW CIRCUIT BREAKER, MATCH AIC RATING AND MANUFACTURER OF EXISTING BREAKERS.										MAIN BRKR: EXISTING	
PHASE: 1 PH												FEEDER: EXISTING	
WIRE: 3 W												CONDUIT: EXISTING	
BUSSING: 400A												MOUNTED: SURFACE	
POLES: 42P												AIC RATING: EXISTING	

LOAD DESCRIPTION	TYPE	A	B	BRKR	CKT.	CKT.	BRKR	A	B	C	TYPE	LOAD DESCRIPTION
(E) LIGHTING	L	1.00		20/1	1	2	20/1	1.00			L	(E) LIGHTING
(E) LIGHTING	L		1.00	20/1	3	4	20/1		1.00		L	(E) LIGHTING
(E) LIGHTING	L	1.00		20/1	5	6	20/1	1.00			L	(E) LIGHTING
(E) LIGHTING	L		1.00	20/1	7	8	20/1		1.00		L	(E) LIGHTING
(E) LIGHTING	L	1.00		20/1	9	10	20/1	1.00			L	(E) LIGHTING
(E) LIGHTING	L		1.00	20/1	11	12	20/1		1.00		L	(E) LIGHTING
(E) LIGHTING	L	1.00		20/1	13	14	20/1	1.00			L	(E) LIGHTING
(E) LIGHTING	L		1.00	20/1	15	16	20/1		1.00		L	(E) LIGHTING
(E) LIGHTING	L	1.00		20/1	17	18	20/1	0.72			R	(E) RECEPTACLES
(E) LIGHTING	L		1.00	20/1	19	20	20/1		0.72		R	(E) RECEPTACLES
(E) RECEPTACLES	R	0.72		20/1	21	22	20/1	0.72			R	(E) RECEPTACLES
(E) LIGHTING	L		1.00	20/1	23	24	20/1		1.00		L	(E) LIGHTING
(E) LIGHTING	L	1.00		20/1	25	26	20/1	0.72			R	(E) RECEPTACLES
(E) TIME CLOCK	M	0.20		20/1	27	28	20/1	0.72			R	(E) RECEPTACLES
(E) RECEPTACLES	R	0.72		20/1	29	30	20/1	0.18			R	EXTERIOR SERVICE OUTLET
EXTERIOR SERVICE OUTLET	R		0.18	20/1	31	32	*70/2		0.08		H	HP 60-2 & FC 60-2
(E) LOAD	M	1.00		20/1	33	34		5.08			H	/
HP 60-1 & FC 60-1	H		5.08	*70/2	35	36	40/2		2.08		M	(E) LOAD
/	H	5.08			37	38			2.08		M	/
(E) LOAD	M		2.08	40/2	39	40	40/2		2.08		M	(E) LOAD
/	M	2.08			41	42			2.08		M	/
		15.60	13.54				15.58			15.68		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	13.68	100%	13.68
TYPE "L": LIGHTING / CONTINUOUS LOADS	21.00	125%	26.25
TYPE "R": RECEPTACLES (FIRST 10KVA)	5.40	100%	5.40
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	20.33	100%	20.33
TOTALS:	60.41		65.66

PHASE A: 31.19 KVA
 PHASE B: 29.23 KVA
259.89 MAX AMPS / PHASE

PANEL LAA

VOLTS: 120 / 208												MAIN BRKR: 225A/3P	
PHASE: 3 PH												FEEDER: SEE SINGLE LINE	
WIRE: 4 W												CONDUIT: SEE SINGLE LINE	
BUSSING: 225A												MOUNTED: SURFACE	
POLES: 42P												AIC RATING: 22k	

LOAD DESCRIPTION	TYPE	A	B	C	BRKR	CKT.	CKT.	BRKR	A	B	C	TYPE	LOAD DESCRIPTION	
CU 70-1	H	1.89			25/2	1	2	25/2	1.89			H	CU 70-7	
/	H		1.89			3	4			1.89		H	/	
CU 70-2	H			1.89	25/2	5	6	25/2			1.89	H	CU 70-8	
/	H	1.89				7	8		1.89			H	/	
CU 70-3	H				25/2	9	10	25/2				H	CU 70-9	
/	H	1.89				11	12			1.89		H	/	
CU 70-4	H	1.89			25/2	13	14	25/2	1.89			H	CU 70-10	
/	H		1.89			15	16			1.89		H	/	
CU 70-5	H			1.89	25/2	17	18	35/2			2.66	H	FC 70-1	
/	H	1.89				19	20			2.66		H	/	
CU 70-6	H			1.89	25/2	21	22	15/2		0.67		H	FC 70-2	
/	H	1.89				23	24			0.67		H	/	
HP 70-2	H	0.67			15/2	25	26	35/2	2.66			H	HP 70-1	
/	H	0.67				27	28		2.66			H	/	
EF 70-1	H		0.05		20/1	29	30	20/1		0.90		H	CONDENSATE PUMPS	
EXTERIOR SERVICE OUTLETS	R	0.90			20/1	31	32	20/1	0.90			H	CONDENSATE PUMPS	
S P A C E						33	34						S P A C E	
S P A C E						35	36						S P A C E	
S P A C E						37	38						S P A C E	
S P A C E						39	40						S P A C E	
S P A C E						41	42						S P A C E	
		9.12	8.22	7.61				11.89			8.99	8.01		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	0.00	100%	0.00
TYPE "L": LIGHTING / CONTINUOUS LOADS	0.00	125%	0.00
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.90	100%	0.90
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	52.94	100%	52.94
TOTALS:	53.84		53.84

PHASE A: 21.01 KVA
 PHASE B: 17.21 KVA
 PHASE C: 15.61 KVA
175.09 MAX AMPS / PHASE

COPPER FEEDER SCHEDULE

FEEDER	CONDUIT	CONDUCTORS
2254	3"	(4) 250 KCML & (1) #3 G. (ADJUSTED FOR VOLTAGE DROP)

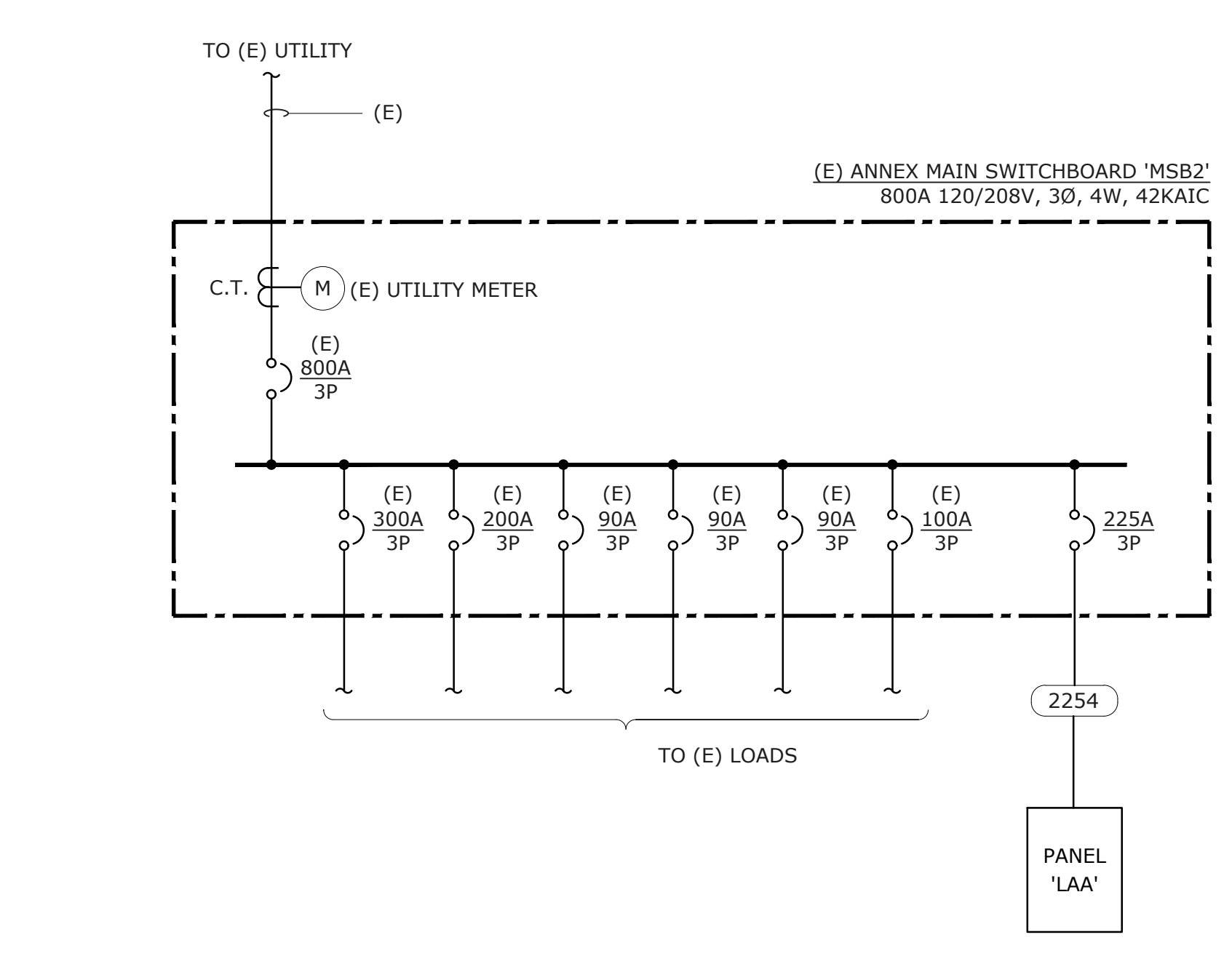
FEEDER TAG KEY

400 4 N

INDICATES DOUBLE NEUTRAL

WIRE QUANTITY

FEEDER AMPACITY



70's WING ANNEX SINGLE LINE DIAGRAM - POWER
 SCALE: NO SCALE

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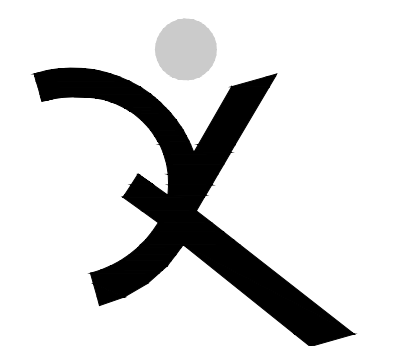
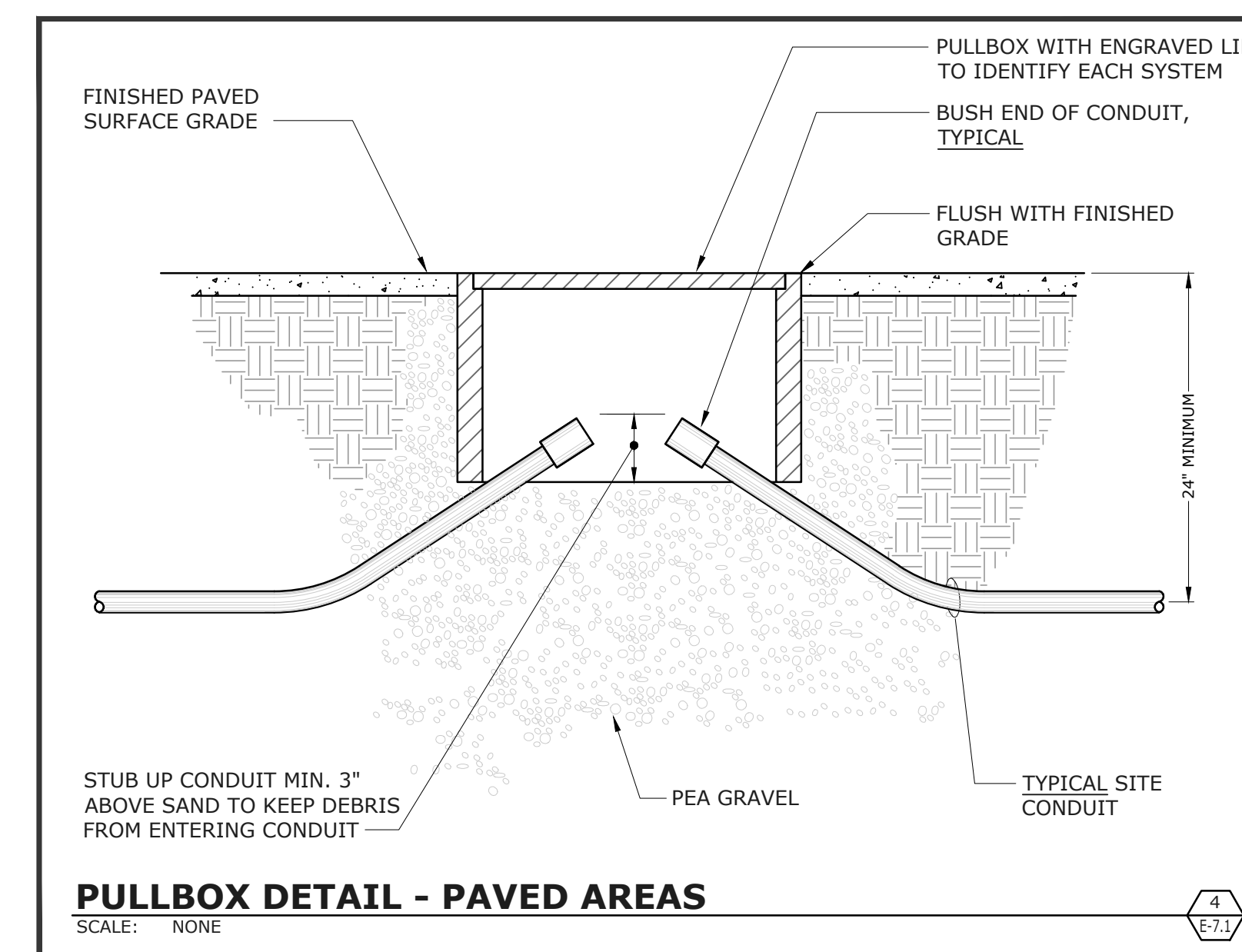
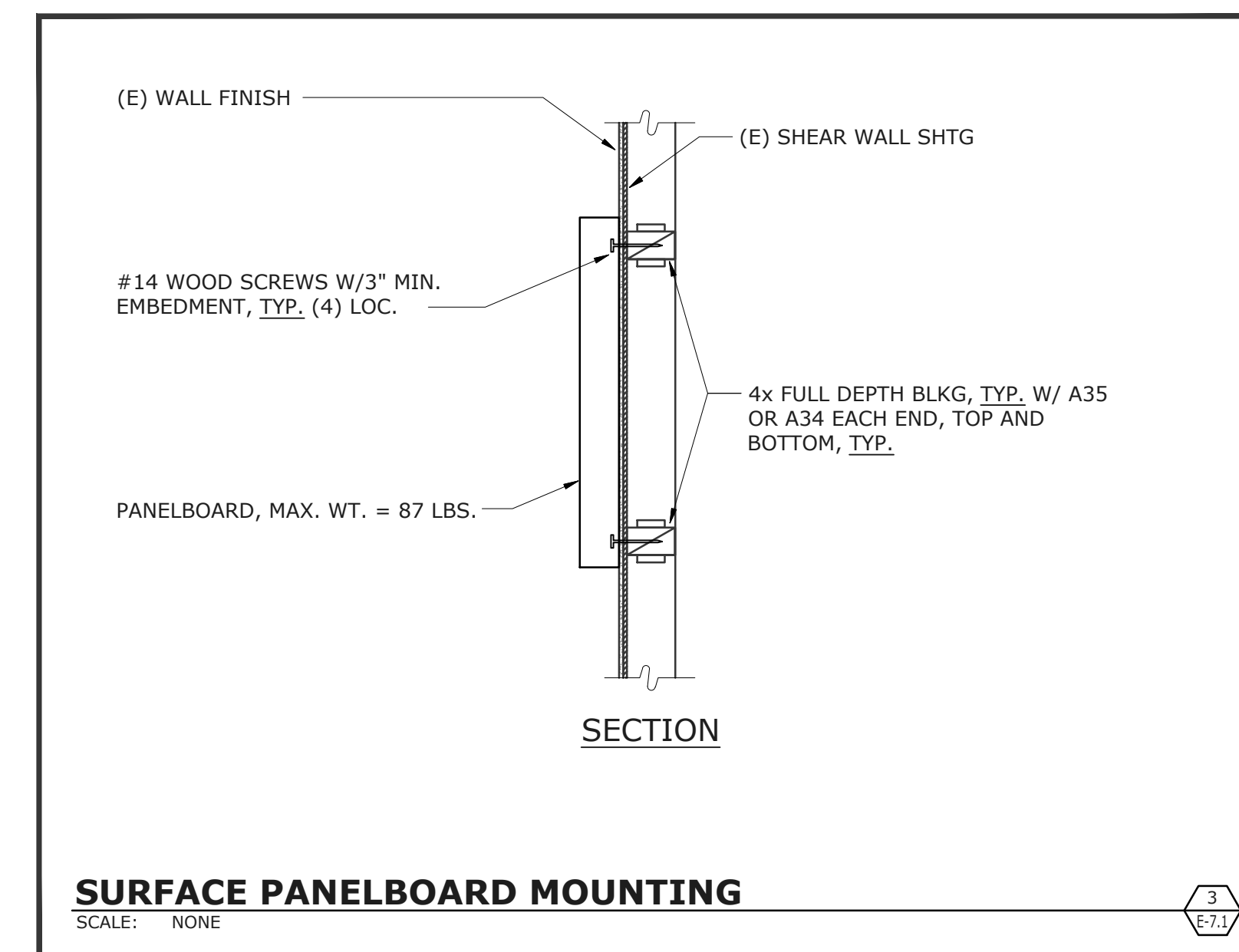
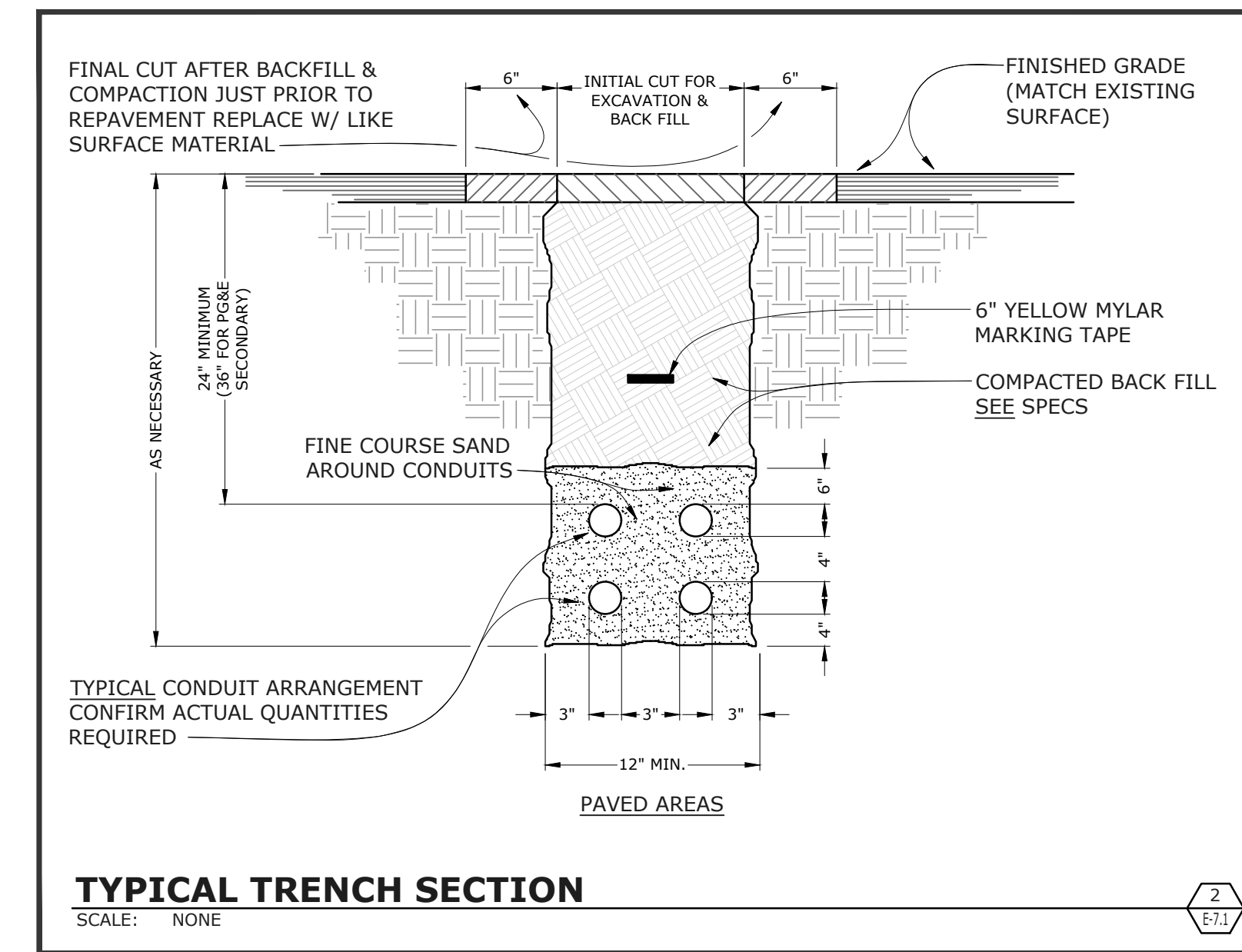
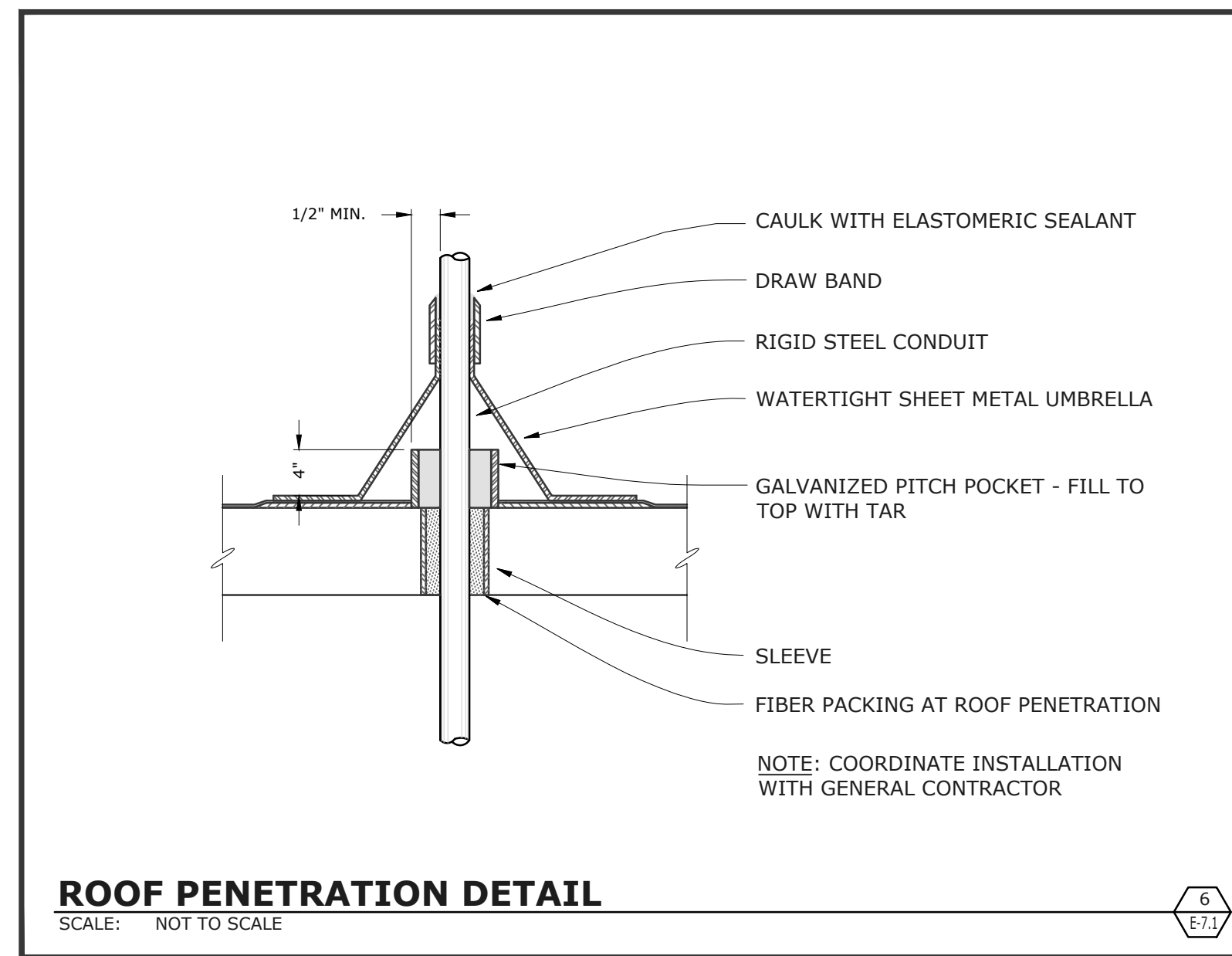
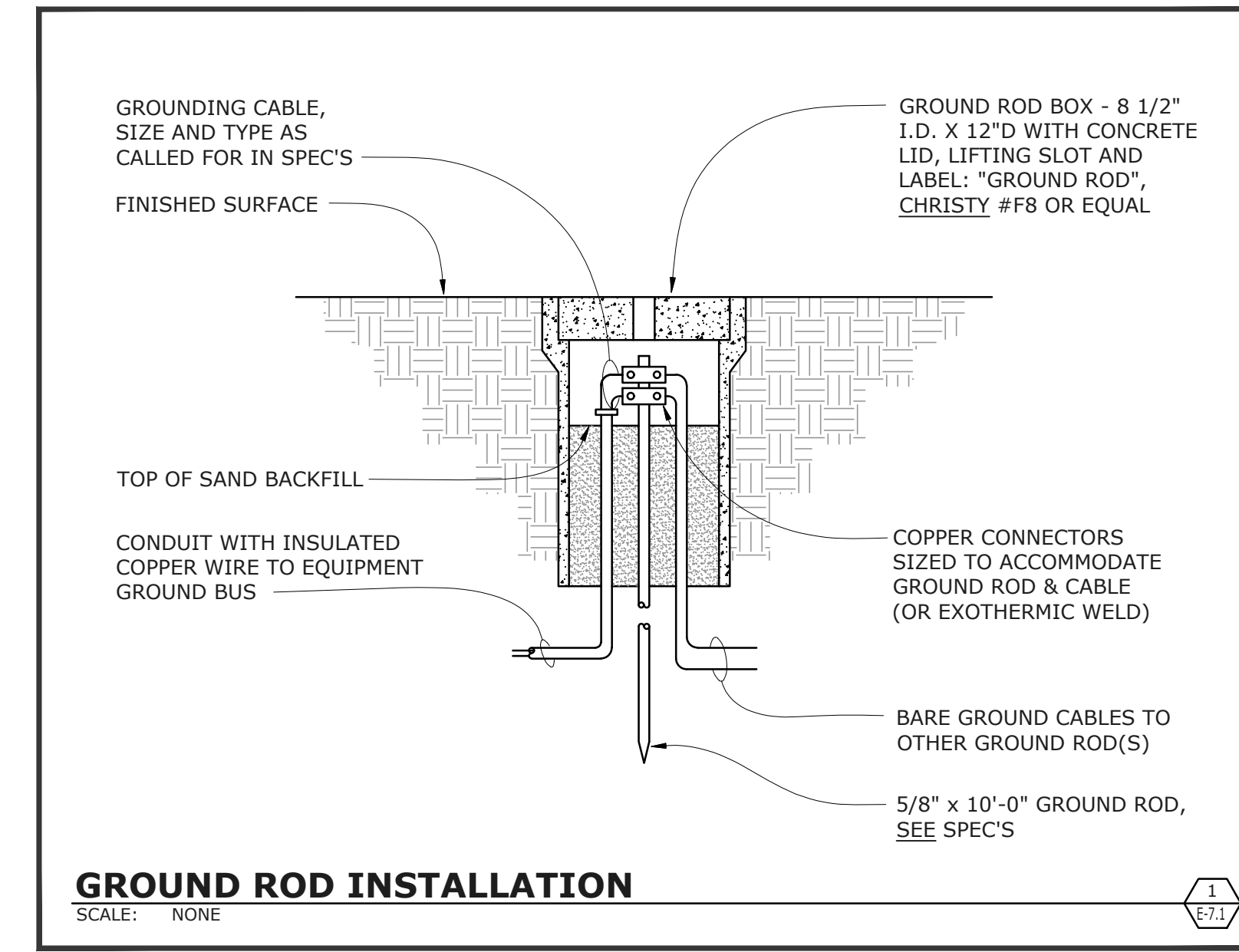
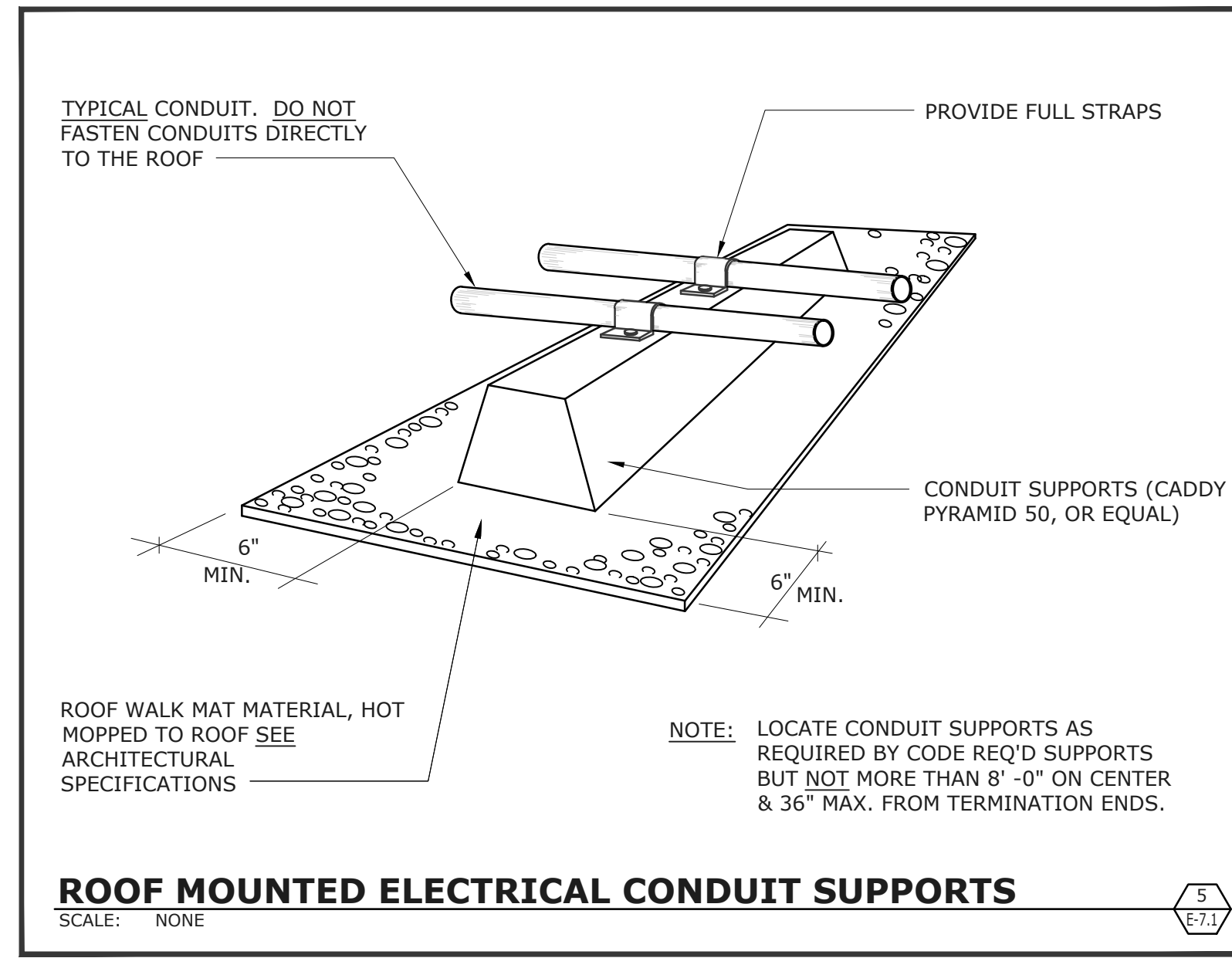
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 JANUARY 31, 2022

SHEET TITLE
**SINGLE LINE
 DIAGRAM -
 POWER &
 PANEL
 SCHEDULES**

SHEET NUMBER
E-5.1



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JANUARY 31, 2022

SHEET TITLE

DETAILS

SHEET NUMBER

E-7.1

CALIFORNIA ENERGY COMMISSION
NRC-CMCH-E
CERTIFICATE OF COMPLIANCE
Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space
Project Address: 280 WOODLAND AVE
Date Prepared: 12/21/2021

A. GENERAL INFORMATION
Table with 4 columns: Item, Description, Value, and Reference. Includes Project Location (SAN RAFAEL), Climate Zone (2), and Occupancy Types (Office, Hotel/Motel, High-Rise Residential).

B. PROJECT SCOPE
Table with 3 columns: Item, Description, and Reference. Includes Air System(s), Heating Air System, Cooling Air System, Mechanical Controls, and Mechanical Controls (existing to remain, altered or new).

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft
Report Generated: 2021-12-21 16:01:52

CALIFORNIA ENERGY COMMISSION
NRC-CMCH-E
CERTIFICATE OF COMPLIANCE
Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space
Project Address: 280 WOODLAND AVE
Date Prepared: 12/21/2021

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)
Table with 9 columns: Item Tag, Equipment Category, Equipment Type, Heating Output, Cooling Output, and Load Calculations. Includes FC 27-1 / HP 27-1 and FC 37-1 / HP 37-1.

G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

Table with 8 columns: System Name, Fan Function, Qty, Maximum Design Supply Airflow, HP Unit, Design HP, Fan Power Pressure Drop, and Constant Volume. Includes SF Supply.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft
Report Generated: 2021-12-21 16:01:52

CALIFORNIA ENERGY COMMISSION
NRC-CMCH-E
CERTIFICATE OF COMPLIANCE
Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space
Project Address: 280 WOODLAND AVE
Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY

Table with 16 columns: System Name, System Design OA CFM Airflow, Mechanical Ventilation Required, Exh. Vent per Design CFM, and DCV or Sensor Controls. Includes FC 37-1 / HP 37-1, Maker Space, Office, and Maker Storage.

1 FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system
2 Air filtration requirements apply to the following three system types per §120.1(c)(1): space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.
3 Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.
4 See Standards Tables 120.1-A and 120.1-B.
5 For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft
Report Generated: 2021-12-21 16:01:52

CALIFORNIA ENERGY COMMISSION
NRC-CMCH-E
CERTIFICATE OF COMPLIANCE
Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space
Project Address: 280 WOODLAND AVE
Date Prepared: 12/21/2021

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, or the table indicated as not compliant for guidance.

Table with 11 columns: Item Tag, Equipment Category, Equipment Type, Heating Output, Cooling Output, and Load Calculations. Includes FC 27-1 / HP 27-1 and FC 37-1 / HP 37-1.

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unedited comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft
Report Generated: 2021-12-21 16:01:52

CALIFORNIA ENERGY COMMISSION
NRC-CMCH-E
CERTIFICATE OF COMPLIANCE
Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space
Project Address: 280 WOODLAND AVE
Date Prepared: 12/21/2021

H. FAN SYSTEMS & AIR ECONOMIZERS

Table with 8 columns: System Name, Fan Function, Qty, Maximum Design Supply Airflow, HP Unit, Design HP, Fan Power Pressure Drop, and Constant Volume. Includes SF Supply.

1 FOOTNOTES: Computer room economizers must meet requirements of §140.9(a) and will be documented on the NRC-CMCH-E document.
2 The unit used for HP must be consistent for all fans within a system.

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)(2) for altered space conditioning systems.

Table with 9 columns: System Name, System Zoning, Thermostats, Shut-Off Controls, Isolation Zone Controls, Demand Response, Supply Air Temp. Reset, and Window Interlocks per. Includes FC 27-1 / HP 27-1 and FC 37-1 / HP 37-1.

1 FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.
Notes: Controls with "" require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(f).
EXCEPTION 1 to §140.4(f)

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft
Report Generated: 2021-12-21 16:01:52

CALIFORNIA ENERGY COMMISSION
NRC-CMCH-E
CERTIFICATE OF COMPLIANCE
Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space
Project Address: 280 WOODLAND AVE
Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY

Table with 16 columns: System Name, System Design OA CFM Airflow, Mechanical Ventilation Required, Exh. Vent per Design CFM, and DCV or Sensor Controls. Includes FC 37-1 / HP 37-1.

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK AND PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in §120.3 and prescriptive requirements found in §140.4(f) for duct leakage testing.

Table with 17 columns: Item Tag, System Name, System Design OA CFM Airflow, Mechanical Ventilation Required, Exh. Vent per Design CFM, and DCV or Sensor Controls. Includes FC 27-1 / HP 27-1.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft
Report Generated: 2021-12-21 16:01:52

CALIFORNIA ENERGY COMMISSION
NRC-CMCH-E
CERTIFICATE OF COMPLIANCE
Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space
Project Address: 280 WOODLAND AVE
Date Prepared: 12/21/2021

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(c) or §141.0(b)(2) for alterations.

Table with 11 columns: Item Tag, Equipment Category, Equipment Type, Heating Output, Cooling Output, and Load Calculations. Includes FC 27-1 / HP 27-1 and FC 37-1 / HP 37-1.

1 FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a). Healthcare facilities are exempted.
2 It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
3 If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
4 Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft
Report Generated: 2021-12-21 16:01:52

CALIFORNIA ENERGY COMMISSION
NRC-CMCH-E
CERTIFICATE OF COMPLIANCE
Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space
Project Address: 280 WOODLAND AVE
Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in §120.1 and §120.2(a)(3) for all nonresidential, high-rise residential and hotel/motel occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflow may be shown on the plans or the calculations can be presented in a spreadsheet.

Table with 16 columns: System Name, System Design OA CFM Airflow, Mechanical Ventilation Required, Exh. Vent per Design CFM, and DCV or Sensor Controls. Includes FC 27-1 / HP 27-1.

1 FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.
Notes: Controls with "" require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(f).
EXCEPTION 1 to §140.4(f)

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)(2) for altered space conditioning systems.

Table with 9 columns: System Name, System Zoning, Thermostats, Shut-Off Controls, Isolation Zone Controls, Demand Response, Supply Air Temp. Reset, and Window Interlocks per. Includes FC 27-1 / HP 27-1 and FC 37-1 / HP 37-1.

1 FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.
Notes: Controls with "" require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(f).
EXCEPTION 1 to §140.4(f)

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft
Report Generated: 2021-12-21 16:01:52

CALIFORNIA ENERGY COMMISSION
NRC-CMCH-E
CERTIFICATE OF COMPLIANCE
Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space
Project Address: 280 WOODLAND AVE
Date Prepared: 12/21/2021

L. DISTRIBUTION (DUCTWORK AND PIPING)

Table with 17 columns: Item Tag, System Name, System Design OA CFM Airflow, Mechanical Ventilation Required, Exh. Vent per Design CFM, and DCV or Sensor Controls. Includes FC 37-1 / HP 37-1.

1 FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.
Notes: Controls with "" require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(f).
EXCEPTION 1 to §140.4(f)

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NR/C/

Table with 4 columns: Yes/No, Form/Title, Field Inspector, Pass/Fail. Includes NRC-CMCH-01-E - Must be submitted for all buildings.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft
Report Generated: 2021-12-21 16:01:52



PRELIMINARY
NOT FOR
CONSTRUCTION

DAVIDSON
MIDDLE
SCHOOL

HVAC
IMPROVEMENTS -
ANNEX, MAKER
SPACE, BAND &
MUSIC ROOMS

280 WOODLAND AVE
SAN RAFAEL, CA 94901

SAN RAFAEL CITY
SCHOOLS

DSA APP No. 01-120022

ARCH PROJECT NO. 1900.03
DRAWN BY: BSC
DRAWING SCALE: N.T.S.
PTN: 65458-61 FILE NO: 21-39

DSA SUBMITTAL
JANUARY 31, 2022

SHEET TITLE

TITLE 24

SHEET NUMBER

T-1

IP:2333-011ActiveProj\Files\1900.03 - Davidson MS HVAC Upgrades-Ammex.Rm37_SRCS\Drawings\04.CDI.1900.03.DAVIDSON ANNEX & OTHERS HVAC.pht.1/31/2022 5:36 PM

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space Report Page: (Page 10 of 12)
 Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
 Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Yes	No	Form/Title	Systems To Be Field Verified	Field Inspector	
			Pass	Fail	
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes". If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-04-A - Air Distribution Duct Leakage		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-05-A - Air Economizer Controls		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO ₂) concentration setpoints.		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-07-A Supply Fan Variable Flow Controls		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-08-A Valve Leakage Test		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-09-A Supply Water Temperature Reset Controls		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-10-A Hydronic System Variable Flow Controls		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-11-A Automatic Demand Shed Controls		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance		<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in the scope permit applicant should move this form to "Yes".		<input type="checkbox"/>	<input type="checkbox"/>

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
 Registration Date/Time: Report Version: 2019.1.003
 Registration Provider: Energysoft
 Schema Version: rev 20200601
 Report Generated: 2021-12-21 16:01:52

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space Report Page: (Page 11 of 12)
 Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Yes	No	Form/Title	Field Inspector	
			Pass	Fail
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not automatically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil External melt, Ice Harvester, Brine, Ice-Slurry, Eutectic Salt, Chloride Hydrate Slurry (CHS), Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to "Yes".	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-MCH-16-A Supply Air Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-MCH-18-A Energy Management Control Systems	<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-19-A Occupancy Sensor Controls	<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-20 Multi-Family Ventilation	<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-MCH-21 Multi-Family Envelope Leakage	<input type="checkbox"/>	<input type="checkbox"/>

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION
 Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be completed by a HERS Rater and provided to the building inspector during construction. The final documents must be created by a HERS Provider's registry, but drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Yes	No	Form/Title	Field Inspector	
			Pass	Fail
<input type="radio"/>	<input checked="" type="radio"/>	NRCV-MCH-04-H Duct Leakage Test NOTE: Must be completed by a HERS Rater	<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCV-MCH-24 Enclosure Air Leakage Worksheet NOTE: Must be completed by a HERS Rater	<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCV-MCH-27 High-rise Residential NOTE: Must be completed by a HERS Rater	<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater	<input type="checkbox"/>	<input type="checkbox"/>

Q. MANDATORY MEASURES DOCUMENTATION LOCATION
 This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

O1	O2
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes Plan sheet or construction document location M-Sheets

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
 Registration Date/Time: Report Version: 2019.1.003
 Registration Provider: Energysoft
 Schema Version: rev 20200601
 Report Generated: 2021-12-21 16:01:52

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space Report Page: (Page 12 of 12)
 Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
 I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Matt Hargadon
 Signature Date: 12/21/2021
 Signature: *Matt Hargadon*

Company: Guttman & Blaevoet Consulting Engineers
 Address: 2353 Powell St
 City/State/Zip: San Francisco CA 94133
 Phone: 4156554000

RESPONSIBLE PERSON'S DECLARATION STATEMENT
 I certify the following under penalty of perjury, under the laws of the State of California:
 1. The information provided on this Certificate of Compliance is true and correct.
 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
 5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Chris Del Core
 Signature: *Chris Del Core*
 Date Signed: 2021-12-21
 Company: Costa Engineers Inc.
 Address: 3274 Villa Lane
 City/State/Zip: Napa CA 94558
 Phone: (707) 252-9177

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
 Registration Date/Time: Report Version: 2019.1.003
 Registration Provider: Energysoft
 Schema Version: rev 20200601
 Report Generated: 2021-12-21 16:01:52

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: DAVIDSON MIDDLE SCHOOL: Music Classroom Report Page: (Page 1 of 10)
 Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

A. GENERAL INFORMATION

O1 Project Location (city)	SAN RAFAEL	O4 Total Conditioned Floor Area	2968.259286
O2 Climate Zone	2	O5 Total Unconditioned Floor Area	0
O3 Occupancy Types Within Project:		O6 # of Stories (Habitable Above Grade)	1
<input checked="" type="checkbox"/> Office (O)	<input type="checkbox"/> Retail (M)	<input checked="" type="checkbox"/> Non-refrigerated Warehouse (S)	
<input type="checkbox"/> Hotel/ Motel Guest Rooms (R-1)	<input type="checkbox"/> School (E)	<input type="checkbox"/> Healthcare Facility (I)	
<input type="checkbox"/> High-Rise Residential (R-2/R-3)	<input type="checkbox"/> Relocatable Class Bldg (E)	<input checked="" type="checkbox"/> Other (write in)	See Table J

B. PROJECT SCOPE
 This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)(2) for alterations.

O1	O2	O3
Air System(s)	Wet System Components	Dry System Components
<input checked="" type="checkbox"/> Heating Air System	<input type="checkbox"/> Water Economizer	<input type="checkbox"/> Air Economizer
<input checked="" type="checkbox"/> Cooling Air System	<input type="checkbox"/> Pumps	<input type="checkbox"/> Electric Resistance Heat
Mechanical Controls	<input type="checkbox"/> System Piping	<input checked="" type="checkbox"/> Fan Systems
<input checked="" type="checkbox"/> Mechanical Controls (existing to remain, altered or new)	<input type="checkbox"/> Cooling Towers	<input checked="" type="checkbox"/> Ductwork (existing to remain, altered or new)
	<input type="checkbox"/> Chillers	<input checked="" type="checkbox"/> Ventilation
	<input type="checkbox"/> Boilers	<input type="checkbox"/> Zonal Systems/ Terminal Boxes

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
 Registration Date/Time: Report Version: 2019.1.003
 Registration Provider: Energysoft
 Schema Version: rev 20200601
 Report Generated: 2021-12-21 15:42:38

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

C. COMPLIANCE RESULTS
 Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, or the table indicated as not compliant for guidance.

O1	O2	O3	O4	O5	O6	O7	O8	O9
System Summary	Pumps	Fans/Economizers	System Controls	Ventilation	Terminal Box Controls	Distribution	Cooling Towers	Compliance Results
\$110.1, \$110.2, \$140.4	\$140.4(k)	\$140.4(c), \$140.4(e)	\$110.2, \$120.2, \$140.4(f)	\$120.1	\$140.4(h)	\$120.3, \$140.4(i)	\$110.2(e)2	
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	(See Table M)	
Yes	AND	AND	Yes	AND	Yes	AND	Yes	AND
Mandatory Measures Compliance (See Table Q for Details)								COMPLIES

D. EXCEPTIONAL CONDITIONS
 This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS
 This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
 Registration Date/Time: Report Version: 2019.1.003
 Registration Provider: Energysoft
 Schema Version: rev 20200601
 Report Generated: 2021-12-21 15:42:38

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: DAVIDSON MIDDLE SCHOOL: Music Classroom Report Page: (Page 3 of 10)
 Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)
 This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b), and §140.4(i) or §141.0(b)(2) for alterations.

O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11
Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)		Equipment Sizing per Mechanical Schedule (kBtu/h)								
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Smallest Size Available ¹ §140.4(a)	Heating Output ^{2,3}		Cooling Output ^{2,3}		Load Calculations ^{3,4}		
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
FC 60-1&2 / HP 60-1&2	Unitary Heat Pumps	Air-cooled, split (1phase)	NA: Load Controls	91.6	66	0	81.55	41.3	93.18	109.06

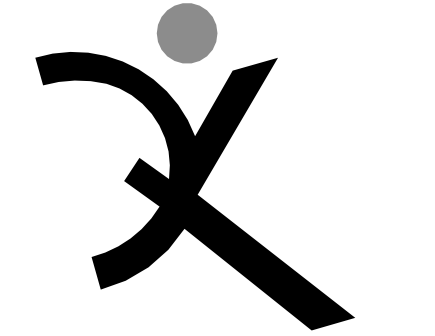
¹FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(b), §140.4(i) or §141.0(b)(2) for alterations.
²It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
³If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
⁴Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

O1	O2	O3	O4	O5	O6	O7	O8	O9
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
FC 60-1&2 / HP 60-1&2	<65,000		HSPF	8.2	9	SEER	14.0	18

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
 Registration Date/Time: Report Version: 2019.1.003
 Registration Provider: Energysoft
 Schema Version: rev 20200601
 Report Generated: 2021-12-21 15:42:38

\\P2333-011ActiveProjectFiles\1900.03 - Davidson MS HVAC Upgrades-Amex.Rm37_SRCS\Drawings\04-CD\1900.03.DAVIDSON ANNEX & OTHERS HVAC.pln:1/13/2022:5:36 PM



QUATTROCCHI KWOK ARCHITECTS
 Main: 636 Fifth Street, Santa Rosa, CA 95404
 East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607
 (707) 576-0829



SIGNED: JANUARY 31, 2022

PRELIMINARY
 NOT FOR
 CONSTRUCTION

DAVIDSON
 MIDDLE
 SCHOOL

HVAC
 IMPROVEMENTS -
 ANNEX, MAKER
 SPACE, BAND &
 MUSIC ROOMS

280 WOODLAND AVE
 SAN RAFAEL, CA 94901

SAN RAFAEL CITY
 SCHOOLS

DSA APP NO: 01-120022
 ARCH PROJECT NO: 1900.03
 DRAWN BY: BSC
 DRAWING SCALE: N.T.S.
 PTN: 65458-61 FILE NO: 21-39

DSA SUBMITTAL
 JANUARY 31, 2022

SHEET TITLE

TITLE 24

SHEET NUMBER

T-2

STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL: Music Classroom Report Page: (Page 4 of 10)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

G. PUMPS
This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS
This table is used to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name:	FC 60-1&2 / HP 60-1&2	Economizer ¹ :	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume	
01	02	03	04	05	06	07	08	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device	Design Airflow Through Device (CFM)
SF	Supply	2	2400	BHP	0.54			
Total System Design Supply Airflow (CFM):			2400	Total System Design (BHP):	1.08	Maximum System Fan Power (BHP):		1.13

¹ FOOTNOTES: Computer room economizers must meet requirements of §140.9(a), and will be documented on the NRC-PRC document.
² The unit used for HP must be consistent for all fans within a system.

I. SYSTEM CONTROLS
This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)(2) for altered space conditioning systems.

System Name	System Zoning	Conditioned Floor Area Being Served (ft ²)	Thermostats §110.2(b) & (c), §120.2(a) or §141.0(b)(2)	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(a)	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(n)
FC 60-1&2 / HP 60-1&2	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided

¹ FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

Registration Number: Registration Date/Time: Registration Provider: Energysoft
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STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL: Music Classroom Report Page: (Page 4 of 10)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

L. DISTRIBUTION (DUCTWORK AND PIPING)
The answers to the questions below apply to the following duct systems: FC 60-1&2 / HP 60-1&2 Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft ² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system: <input type="checkbox"/> Outdoors <input type="checkbox"/> In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)(1) or if the roof has fixed vents or openings to the outside/unconditioned spaces <input type="checkbox"/> In an unconditioned crawl space <input type="checkbox"/> In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

M. COOLING TOWERS
This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRC/

Yes	No	Form/Title	Field Inspector
			Pass Fail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-MCH-01-E - Must be submitted for all buildings	<input type="checkbox"/> <input type="checkbox"/>

Registration Number: Registration Date/Time: Registration Provider: Energysoft
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STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL: Music Classroom Report Page: (Page 10 of 10)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Matt Hargadon
Company: Guttman & Blaevoet Consulting Engineers
Address: 2351 Powell St
City/State/Zip: San Francisco CA 94133
Phone: 4156554000

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufacturer details for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Chris Del Core
Company: Costa Engineers Inc.
Address: 3274 Villa Lane
City/State/Zip: Napo CA 94958
Date Signed: 2021-12-21
License: M31600
Phone: (707) 252-9177

Registration Number: Registration Date/Time: Registration Provider: Energysoft
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STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL: Music Classroom Report Page: (Page 5 of 10)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

I. SYSTEM CONTROLS
*Notes: Controls with a * require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d); EXCEPTION 1 to §140.4(d)

J. VENTILATION AND INDOOR AIR QUALITY
This table is used to demonstrate compliance with mandatory ventilation requirements in §120.1 and §120.2(c)(3) for all nonresidential, high-rise residential and hotel/motel occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflow may be shown on the plans or the calculations can be presented in a spreadsheet.

System Name	FC 60-1&2 / HP 60-1&2	System Design OA CFM Airflow ¹	977	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)(2) ² Provided per §120.1(c) (NR and Hotel/Motel)
01	<input type="checkbox"/>	Check this box if the project included Nonresidential or Hotel/Motel spaces				
02	<input type="checkbox"/>	Check this box if the project included new or altered high-rise residential dwelling units.				
03	<input type="checkbox"/>	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per §120.1(c)(2)				

Nonresidential and Hotel/ Motel Ventilation Systems

System Name	FC 60-1&2 / HP 60-1&2	System Design OA CFM Airflow ¹	977	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)(2) ² Provided per §120.1(c) (NR and Hotel/Motel)
04	05	06	07			
Space Name or Item Tag	Mechanical Ventilation Required per §120.1(c)(3) ³	Exh. Vent per §120.1(c)(4)	DCV or Sensor Controls per §120.1(d)(3), §120.1(d)(5), and §120.1(e)(3) ⁴			
Office >250 sqft	Office space	355.558201	53.3	0	0	DCV NA: Not required per §120.1(d)(3) Occ Sensor NA: Not required space type
Office <250 sqft	Office space	155.386524	23.3	0	0	DCV NA: Not required per §120.1(d)(3) Occ Sensor NA: Not required space type

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 15:42:38

STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL: Music Classroom Report Page: (Page 9 of 10)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRC/

Yes	No	Form/Title	Systems To Be Field Verified	Field Inspector
				Pass Fail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.		<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes". If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-04-A - Air Distribution Duct Leakage		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-05-A - Air Economizer Controls		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)(3)) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO ₂) concentration setpoints.		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-07-A Supply Fan Variable Flow Controls		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-08-A Valve Leakage Test		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-09-A Supply Water Temperature Reset Controls		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-10-A Hydronic System Variable Flow Controls		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-11-A Automatic Demand Shed Controls		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance		<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in the scope permit applicant should move this form to "Yes".		<input type="checkbox"/> <input type="checkbox"/>

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 15:42:38

STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL: Music Classroom Report Page: (Page 6 of 10)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY

Music Classroom	Lecture/ postsecondary classroom	2312.656262	878.8	0	0	DCV	NA: Not required per §120.1(d)(3)
Storage	Occupiable storage rooms for dry materials	144.658299	21.7	0	0	DCV <td>NA: Not required per §120.1(d)(3)</td>	NA: Not required per §120.1(d)(3)
17	Total System Required Min OA CFM		977	18		Ventilation for this System Completes?	Yes

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system.
² Air filtration requirements apply to the following three system types per §120.1(c)(4): space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply-side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.
³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.
⁴ See Standards Tables 120.1-A and 120.1-B.
⁵ For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.
⁶ §120.1(e)(3) requires systems serving rooms that are required by §120.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices, 250ft² or smaller, multipurpose rooms less than 1,000ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §120.1(c).

K. TERMINAL BOX CONTROLS
This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK AND PIPING)
This table is used to show compliance with mandatory pipe insulation requirements found in §120.3 and prescriptive requirements found in §140.4(f) for duct leakage testing.

Registration Number: Registration Date/Time: Registration Provider: Energysoft
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STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL: Music Classroom Report Page: (Page 9 of 10)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not automatically move to "Yes". If Chilled Water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil External Melt, Ice Harvester, Brine, Ice Slurry, Eutectic Salt, Clathrate Hydrate Slurry (CHS), Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to "Yes".	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-16-A Supply Air Temperature Reset Controls	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-18-A Energy Management Control Systems	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-19-A Occupancy Sensor Controls	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-20 Multi-Family Ventilation	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-21 Multi-Family Envelope Leakage	<input type="checkbox"/> <input type="checkbox"/>

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION
Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be completed by a HERS Rater and provided to the building inspector during construction. The final documents must be created by a HERS Provider's registry, but drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRC/

Yes	No	Form/Title	Field Inspector
			Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-04-H Duct Leakage Test NOTE: Must be completed by a HERS Rater	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-24 Enclosure Air Leakage Worksheet NOTE: Must be completed by a HERS Rater	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-27 High-rise Residential NOTE: Must be completed by a HERS Rater	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater	<input type="checkbox"/> <input type="checkbox"/>

Q. MANDATORY MEASURES DOCUMENTATION LOCATION
This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01	02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes Plan sheet or construction document location M Sheets

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 15:42:38



SIGNED: JANUARY 31, 2022

PRELIMINARY NOT FOR CONSTRUCTION

DAVIDSON MIDDLE SCHOOL

HVAC IMPROVEMENTS - ANNEX, MAKER SPACE, BAND & MUSIC ROOMS

280 WOODLAND AVE SAN RAFAEL, CA 94901

SAN RAFAEL CITY SCHOOLS

DSA APP NO: 01-120022
ARCH PROJECT NO: 1900.03
DRAWN BY: BSC
DRAWING SCALE: N.T.S.
PTN: 65458-61 FILE NO: 21-39
DSA SUBMITTAL
JANUARY 31, 2022
SHEET TITLE

TITLE 24

T-3

IP:2333-011ActiveProjectFiles\1900.03 - Davidson MS HVAC Upgrade-Amex.Rm37_SRC\Drawings\04.CDI.1900.03.DAVIDSON ANNEX & OTHERS HVAC.pln.1/31/2022.5:36 PM

STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)(2) for alterations.
Project Name: DAVIDSON MIDDLE SCHOOL Annex Report Page: (Page 1 of 28)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

A. GENERAL INFORMATION

01 Project Location (city)	SAN RAFAEL	04 Total Conditioned Floor Area	12416.476791
02 Climate Zone	2	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1
<input checked="" type="checkbox"/> Office (B)	<input type="checkbox"/> Retail (M)	<input checked="" type="checkbox"/> Non-refrigerated Warehouse (S)	
<input type="checkbox"/> Hotel/Motel Guest Rooms (R-1)	<input type="checkbox"/> School (E)	<input type="checkbox"/> Healthcare Facility (I)	
<input type="checkbox"/> High-Rise Residential (R-2/R-3)	<input type="checkbox"/> Relocatable Class Bldg (E)	<input checked="" type="checkbox"/> Other (write in)	See Table J

B. PROJECT SCOPE

This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)(2) for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
<input checked="" type="checkbox"/> Heating Air System	<input type="checkbox"/> Water Economizer	<input type="checkbox"/> Air Economizer
<input checked="" type="checkbox"/> Cooling Air System	<input type="checkbox"/> Pumps	<input type="checkbox"/> Electric Resistance Heat
<input type="checkbox"/> Mechanical Controls	<input type="checkbox"/> System Piping	<input checked="" type="checkbox"/> Fan Systems
<input checked="" type="checkbox"/> Mechanical Controls (existing to remain, altered or new)	<input type="checkbox"/> Cooling Towers	<input checked="" type="checkbox"/> Ductwork (existing to remain, altered or new)
<input type="checkbox"/> Chillers	<input type="checkbox"/> Boilers	<input checked="" type="checkbox"/> Ventilation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Zonal Systems/ Terminal Boxes

Registration Number: Registration Date/Time: Registration Provider: Energysoft
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STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL Annex Report Page: (Page 4 of 28)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Sizing (Includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
CU/CC 70-9	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	33.08	30	31.56	38.71
CU/CC 70-10	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	33.08	30	32.63	39.16

FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a). Healthcare facilities are exempt.
It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).

Dry System Equipment Efficiency (Other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
FC 70-1 / HP 70-1	<65,000		HSPF	8.2	9	SEER	14.0	18
FC 70-2 / HP 70-2	<65,000		HSPF	8.2	12.5	SEER	14.0	15.3
CU/CC 70-1	<65,000					SEER	14.0	17.5
CU/CC 70-2	<65,000					SEER	14.0	17.5
CU/CC 70-3	<65,000					SEER	14.0	17.5
CU/CC 70-4	<65,000					SEER	14.0	17.5
CU/CC 70-5	<65,000					SEER	14.0	17.5
CU/CC 70-6	<65,000					SEER	14.0	17.5

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 15:58:19

STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL Annex Report Page: (Page 7 of 28)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	CU/CC 70-3	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1010	BHP	0.75		
Total System Design Supply Airflow (CFM):			1010	Total System Design (BHP):	0.75	Maximum System Fan Power (BHP):	0.95
System Name:	CU/CC 70-4	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1010	BHP	0.75		
Total System Design Supply Airflow (CFM):			1010	Total System Design (BHP):	0.75	Maximum System Fan Power (BHP):	0.95
System Name:	CU/CC 70-5	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1010	BHP	0.75		
Total System Design Supply Airflow (CFM):			1010	Total System Design (BHP):	0.75	Maximum System Fan Power (BHP):	0.95

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 15:58:19

STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL Annex Report Page: (Page 2 of 28)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

C. COMPLIANCE RESULTS

This table is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)(2) for alterations.

01	02	03	04	05	06	07	08	09
System Summary	Fans/Economizers	System Controls	Ventilation	Terminal Box Controls	Distribution	Cooling Towers		Compliance Results
§110.1, §110.2, §140.4	§140.4(c), §140.4(e)	§110.2, §120.2, §140.4(f)	§120.1	§140.4(g)	§120.3, §140.4(i)	§110.2(e)(2)		
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	(See Table M)	
Yes	AND	AND	Yes	AND	Yes	AND	Yes	AND
Mandatory Measures Compliance (See Table Q for Details)								COMPLIES

D. EXCEPTIONAL CONDITIONS
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL Annex Report Page: (Page 5 of 28)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Efficiency (Other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
CU/CC 70-7	<65,000					SEER	14.0	17.5
CU/CC 70-8	<65,000					SEER	14.0	17.5
CU/CC 70-9	<65,000					SEER	14.0	17.5
CU/CC 70-10	<65,000					SEER	14.0	17.5

G. PUMPS
This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name:	FC 70-1 / HP 70-1	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1350	BHP	0.59		
Total System Design Supply Airflow (CFM):			1350	Total System Design (BHP):	0.59	Maximum System Fan Power (BHP):	1.27

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 15:58:19

STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL Annex Report Page: (Page 8 of 28)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	CU/CC 70-6	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1010	BHP	0.75		
Total System Design Supply Airflow (CFM):			1010	Total System Design (BHP):	0.75	Maximum System Fan Power (BHP):	0.95
System Name:	CU/CC 70-7	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1010	BHP	0.75		
Total System Design Supply Airflow (CFM):			1010	Total System Design (BHP):	0.75	Maximum System Fan Power (BHP):	0.95
System Name:	CU/CC 70-8	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1010	BHP	0.75		
Total System Design Supply Airflow (CFM):			1010	Total System Design (BHP):	0.75	Maximum System Fan Power (BHP):	0.95

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 15:58:19

STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL Annex Report Page: (Page 3 of 28)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(c) or §141.0(b)(2) for alterations.

Dry System Equipment Sizing (Includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Smallest Size Available ¹ §140.4(a)	Heating Output ^{2,3}	Rated	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
FC 70-1 / HP 70-1	Unitary Heat Pumps	Air-cooled, split (1phase)	Yes	45.8	66	0	44.46	41.3	19.61	24.8
FC 70-2 / HP 70-2	Unitary Heat Pumps	Air-cooled, split (1phase)	Yes	5.34	7.7	0	8.38	8.1	5.42	8.15
CU/CC 70-1	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	33.29	30	37.52	45.16
CU/CC 70-2	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	32.78	30	32.71	41.09
CU/CC 70-3	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	33.37	30	45.08	49.52
CU/CC 70-4	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	33.22	30	38.15	43.72
CU/CC 70-5	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	Yes	0	0	0	32.41	30	22.09	25.34
CU/CC 70-6	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	32.76	30	30.11	38.34
CU/CC 70-7	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	32.76	30	30.11	38.34
CU/CC 70-8	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	Yes	0	0	0	32.64	30	22.26	27.35

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 15:58:19

STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL Annex Report Page: (Page 6 of 28)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	FC 70-2 / HP 70-2	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	381	BHP	0.03		
Total System Design Supply Airflow (CFM):			381	Total System Design (BHP):	0.03	Maximum System Fan Power (BHP):	0.36
System Name:	CU/CC 70-1	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1010	BHP	0.75		
Total System Design Supply Airflow (CFM):			1010	Total System Design (BHP):	0.75	Maximum System Fan Power (BHP):	0.95
System Name:	CU/CC 70-2	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1010	BHP	0.75		
Total System Design Supply Airflow (CFM):			1010	Total System Design (BHP):	0.75	Maximum System Fan Power (BHP):	0.95

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 15:58:19

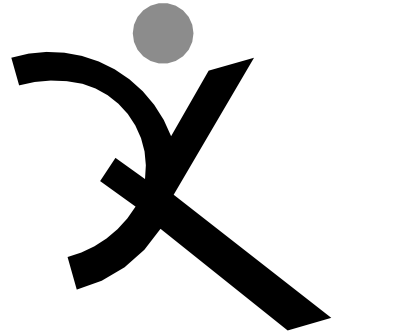
STATE OF CALIFORNIA
Mechanical Systems
NRC/MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRC/MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL Annex Report Page: (Page 9 of 28)
Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

H. FAN SYSTEMS & AIR ECONOMIZERS

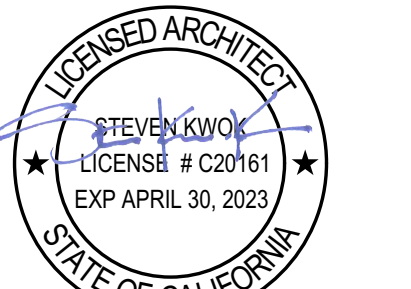
System Name:	CU/CC 70-9	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1010	BHP	0.75		
Total System Design Supply Airflow (CFM):			1010	Total System Design (BHP):	0.75	Maximum System Fan Power (BHP):	0.95
System Name:	CU/CC 70-10	Economizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Device Design Airflow through Device (CFM)
SF	Supply	1	1010	BHP	0.75		
Total System Design Supply Airflow (CFM):			1010	Total System Design (BHP):	0.75	Maximum System Fan Power (BHP):	0.95

FOOTNOTES: Computer room economizers must meet requirements of §140.9(a) and will be documented on the NRCC-PRC-E document.
The unit used for HP must be consistent for all fans within a system.

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 15:58:19



QUATTROCCHI KWOK ARCHITECTS
Main: 636 Fifth Street, Santa Rosa, CA 95404
East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607
(707) 576-0829



SIGNED: JANUARY 31, 2022

PRELIMINARY
NOT FOR
CONSTRUCTION

DAVIDSON
MIDDLE
SCHOOL

HVAC
IMPROVEMENTS -
ANNEX, MAKER
SPACE, BAND &
MUSIC ROOMS

280 WOODLAND AVE
SAN RAFAEL, CA 94901

SAN RAFAEL CITY
SCHOOLS

STATE OF CALIFORNIA Mechanical Systems NRC-CMCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E-4 Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 10 of 28) Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

I. SYSTEM CONTROLS Table with 9 columns: System Name, System Zoning, Conditioned Floor Area, Thermostats, Shut-Off Controls, Isolation Zone Controls, Demand Response, Supply Air Temp. Reset, Window Interlocks per. Rows include FC 70-1, CU/CC 70-1, CU/CC 70-2, CU/CC 70-3, CU/CC 70-4, CU/CC 70-5, CU/CC 70-6, CU/CC 70-7, CU/CC 70-8, CU/CC 70-9, CU/CC 70-10.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Date/Time: Report Generated: 2021-12-21 15:58:19 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRC-CMCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E-4 Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 13 of 28) Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY Table with 17 rows for Restroom, Classroom, Elec. Mech., CU/CC 70-3. Includes columns for Space Name, Occupancy Type, Mechanical Ventilation, Exh. Vent, and DCV/Occ Sensor status.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Date/Time: Report Generated: 2021-12-21 15:58:19 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRC-CMCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E-4 Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 16 of 28) Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY Table with 17 rows for Classroom, CU/CC 70-7, CU/CC 70-8. Includes columns for Space Name, Occupancy Type, Mechanical Ventilation, Exh. Vent, and DCV/Occ Sensor status.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Date/Time: Report Generated: 2021-12-21 15:58:19 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRC-CMCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E-4 Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 11 of 28) Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

I. SYSTEM CONTROLS Table with 9 columns: System Name, System Zoning, Conditioned Floor Area, Thermostats, Shut-Off Controls, Isolation Zone Controls, Demand Response, Supply Air Temp. Reset, Window Interlocks per. Rows include FC 70-1, CU/CC 70-1, CU/CC 70-2, CU/CC 70-3, CU/CC 70-4, CU/CC 70-5, CU/CC 70-6, CU/CC 70-7, CU/CC 70-8, CU/CC 70-9, CU/CC 70-10.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Date/Time: Report Generated: 2021-12-21 15:58:19 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRC-CMCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E-4 Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 14 of 28) Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY Table with 17 rows for Classroom, Corridor, CU/CC 70-4. Includes columns for Space Name, Occupancy Type, Mechanical Ventilation, Exh. Vent, and DCV/Occ Sensor status.

J. VENTILATION AND INDOOR AIR QUALITY Table with 17 rows for Classroom, Corridor, CU/CC 70-6. Includes columns for Space Name, Occupancy Type, Mechanical Ventilation, Exh. Vent, and DCV/Occ Sensor status.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Date/Time: Report Generated: 2021-12-21 15:58:19 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRC-CMCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E-4 Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 17 of 28) Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY Table with 17 rows for Classroom, CU/CC 70-9, CU/CC 70-10. Includes columns for Space Name, Occupancy Type, Mechanical Ventilation, Exh. Vent, and DCV/Occ Sensor status.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Date/Time: Report Generated: 2021-12-21 15:58:19 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRC-CMCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E-4 Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 12 of 28) Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY Table with 17 rows for CU/CC 70-2, CU/CC 70-1, CU/CC 70-5. Includes columns for System Name, System Design OA CFM, System Design Transfer Air CFM, and Air Filtration/DCV/Occ Sensor status.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Date/Time: Report Generated: 2021-12-21 15:58:19 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRC-CMCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E-4 Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 15 of 28) Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY Table with 17 rows for CU/CC 70-5, Library, Conf Room, Storage, CU/CC 70-6. Includes columns for System Name, System Design OA CFM, System Design Transfer Air CFM, and Air Filtration/DCV/Occ Sensor status.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Date/Time: Report Generated: 2021-12-21 15:58:19 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRC-CMCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E-4 Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 18 of 28) Project Address: 280 WOODLAND AVE Date Prepared: 12/21/2021

J. VENTILATION AND INDOOR AIR QUALITY Table with 17 rows for Classroom. Includes columns for Space Name, Occupancy Type, Mechanical Ventilation, Exh. Vent, and DCV/Occ Sensor status.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Date/Time: Report Generated: 2021-12-21 15:58:19 Registration Provider: Energysoft



PRELIMINARY NOT FOR CONSTRUCTION

DAVIDSON MIDDLE SCHOOL

HVAC IMPROVEMENTS - ANNEX, MAKER SPACE, BAND & MUSIC ROOMS

280 WOODLAND AVE SAN RAFAEL, CA 94901

SAN RAFAEL CITY SCHOOLS

DSA APP NO: 01-120022 ARCH PROJECT NO: 1900.03 DRAWN BY: BSC DRAWING SCALE: N.T.S. PTN: 65458-61 FILE NO: 21-39

DSA SUBMITTAL JANUARY 31, 2022 SHEET TITLE

TITLE 24

T-5

IP:2333-011ActiveProjectFiles\1900.03 - Davidson MS HVAC Upgrade\Annex.Rm37_SRCS\Drawings\04.CDI.1900.03.DAVIDSON ANNEX & OTHERS HVAC.pht.1/13/2022.5:36 PM

L. DISTRIBUTION (DUCTWORK AND PIPING)

Table with 4 columns: Question number, Yes/No, Description, and Answer. Questions 11-17 cover duct system testing, leakage, and sealing requirements.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Schema Version: rev 20200601

L. DISTRIBUTION (DUCTWORK AND PIPING)

Table with 4 columns: Question number, Yes/No, Description, and Answer. Questions 11-17 cover duct system testing, leakage, and sealing requirements.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Schema Version: rev 20200601

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table with 4 columns: Yes/No, Description, Form/Title, and Field Inspector (Pass/Fail). Includes NRCA-MCH-01-E and NRCA-MCH-02-A.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Schema Version: rev 20200601

L. DISTRIBUTION (DUCTWORK AND PIPING)

Table with 4 columns: Question number, Yes/No, Description, and Answer. Questions 11-17 cover duct system testing, leakage, and sealing requirements.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Schema Version: rev 20200601

L. DISTRIBUTION (DUCTWORK AND PIPING)

Table with 4 columns: Question number, Yes/No, Description, and Answer. Questions 11-17 cover duct system testing, leakage, and sealing requirements.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Schema Version: rev 20200601

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.

Table with 4 columns: Yes/No, Description, Systems To Be Field Verified, and Field Inspector (Pass/Fail). Lists various NRCA-MCH items for acceptance.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Schema Version: rev 20200601

L. DISTRIBUTION (DUCTWORK AND PIPING)

Table with 4 columns: Question number, Yes/No, Description, and Answer. Questions 11-17 cover duct system testing, leakage, and sealing requirements.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Schema Version: rev 20200601

L. DISTRIBUTION (DUCTWORK AND PIPING)

Table with 4 columns: Question number, Yes/No, Description, and Answer. Questions 11-17 cover duct system testing, leakage, and sealing requirements.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Schema Version: rev 20200601

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.

Table with 4 columns: Yes/No, Description, Systems To Be Field Verified, and Field Inspector (Pass/Fail). Lists various NRCA-MCH items for acceptance.

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.

Table with 4 columns: Yes/No, Description, Systems To Be Field Verified, and Field Inspector (Pass/Fail). Lists various NRCA-MCH items for verification.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

Table with 2 columns: O1 and O2, and 2 rows: Compliance with Mandatory Measures documented through MCH, and Mandatory Measures Note Block.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Schema Version: rev 20200601



SIGNED: JANUARY 31, 2022

PRELIMINARY NOT FOR CONSTRUCTION

DAVIDSON MIDDLE SCHOOL

HVAC IMPROVEMENTS - ANNEX, MAKER SPACE, BAND & MUSIC ROOMS

280 WOODLAND AVE SAN RAFAEL, CA 94901

SAN RAFAEL CITY SCHOOLS

DSA APP NO: 01-120022

ARCH PROJECT NO: 1900.03
DRAWN BY: BSC
DRAWING SCALE: N.T.S.
PTN: 65458-61 FILE NO: 21-39

DSA SUBMITTAL

JANUARY 31, 2022

TITLE 24

SHEET NUMBER

T-6

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NRECC-MCH-E		NRECC-MCH-E	
CERTIFICATE OF COMPLIANCE		Report Page:	
Project Name:	DAVIDSON MIDDLE SCHOOL: Annex	(Page 28 of 28)	
Project Address:	280 WOODLAND AVE	Date Prepared: 12/21/2021	

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
 I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Matt Hagedorn	Documentation Author Signature: <i>Matt Hagedorn</i>
Company: Guttman & Blaevoet Consulting Engineers	Signature Date: 12/21/2021
Address: 2353 Powell St	CEA/HERS Certification Identification (if applicable):
City/State/Zip: San Francisco CA 94133	Phone: 4156554000

RESPONSIBLE PERSON'S DECLARATION STATEMENT

- I certify the following under penalty of perjury, under the laws of the State of California:
- The information provided on this Certificate of Compliance is true and correct.
 - I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
 - The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
 - The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
 - I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspectors. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Chris Del Core	Responsible Designer Signature: <i>Chris Del Core</i>
Company: Costa Engineers Inc.	Date Signed: 2021-12-21
Address: 3274 Villa Lane	License: M31600
City/State/Zip: Napa CA 94558	Phone: (707) 252-9177

Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2021-12-21 15:58:19

IP:2333-011ActiveProjectFiles\1900.03 - Davidson MS HVAC Upgrades-Annex.Rm37_SRC\Drawings\04.CDI.1900.03.DAVIDSON ANNEX & OTHERS HVAC.phn.1/3/2022.5:36 PM



QUATTROCCHI KWOK ARCHITECTS
 Main:
 636 Fifth Street, Santa Rosa, CA 95404
 East Bay:
 55 Harrison Street, Suite 525,
 Oakland, CA 94607
 (707) 576-0829



LICENSE # C20161
 EXP APRIL 30, 2023
 STATE OF CALIFORNIA

SIGNED: JANUARY 31, 2022

**PRELIMINARY
 NOT FOR
 CONSTRUCTION**

**DAVIDSON
 MIDDLE
 SCHOOL**

**HVAC
 IMPROVEMENTS -
 ANNEX, MAKER
 SPACE, BAND &
 MUSIC ROOMS**

280 WOODLAND AVE
 SAN RAFAEL, CA 94901

SAN RAFAEL CITY
 SCHOOLS

DSA APP NO.:	01-120022
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DSA SUBMITTAL	
JANUARY 31, 2022	

SHEET TITLE

TITLE 24

SHEET NUMBER

T-7