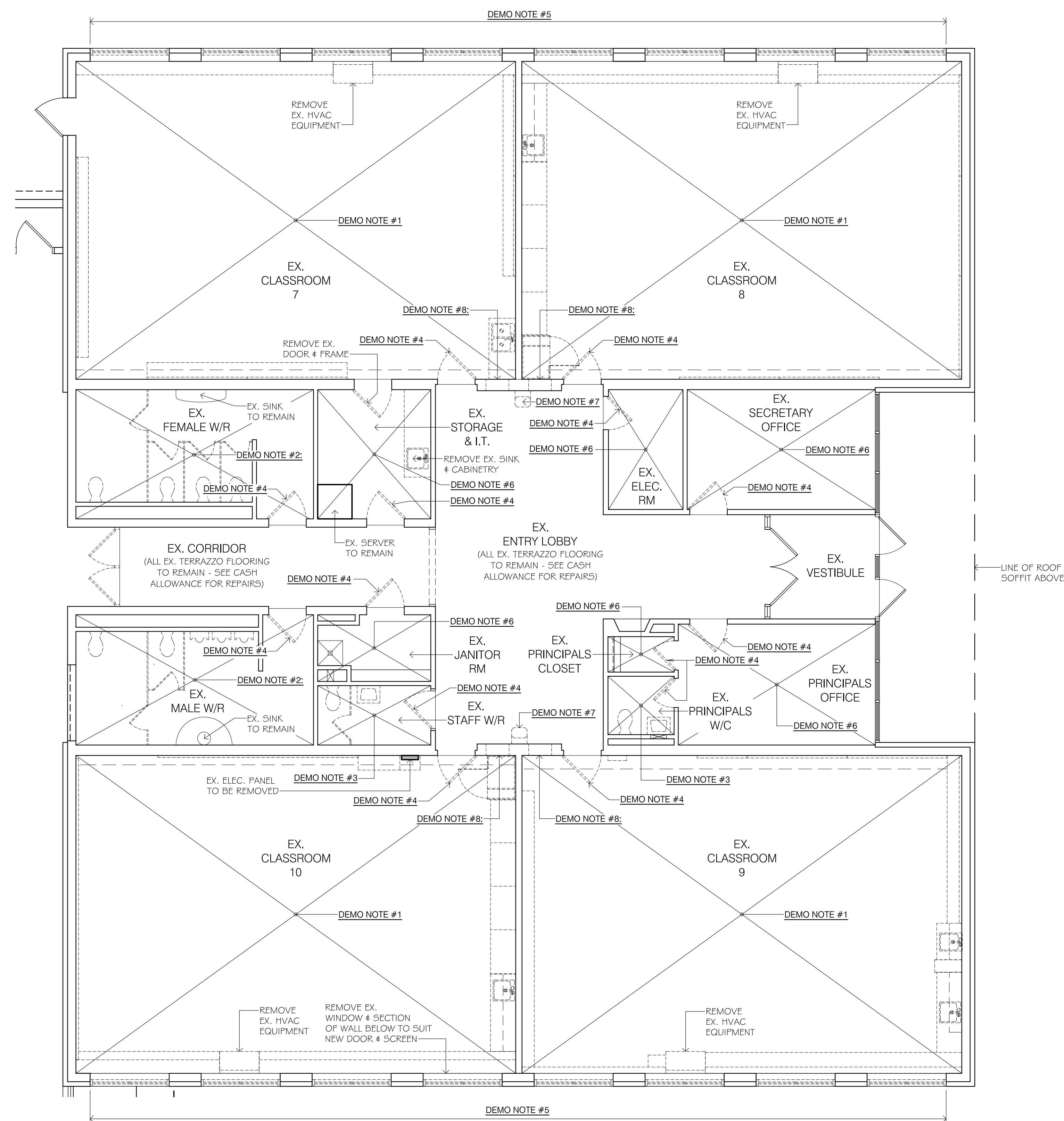




NOTE:
CONFIRM ALL SIZES AND
DIMENSIONS ON SITE

TYPICAL DEMO NOTES

DEMO NOTE #1: - CLASSROOMS
REMOVE ALL EX. MILLWORK, COUNTERS, WHITE BOARD, CHALK BOARD, TACK BOARDS,
PLUMBING FIXTURES, CONDUITS, VINYL TILE FLOORING, & VINYL WALL BASE FROM CLASSROOM

DEMO NOTE #2: - GROUP WASHROOMS
REMOVE ALL EX. TOILETS, URINALS, PRIVACY PARTITIONS & VINYL WALL BASE
(EX. CERAMIC TILE TO BE RETAINED)

DEMO NOTE #3: - PRIVATE WASHROOMS
REMOVE ALL EX. VINYL FLOORING, VINYL BASE, TOILETS, SINKS, & PRIVACY PARTITIONS

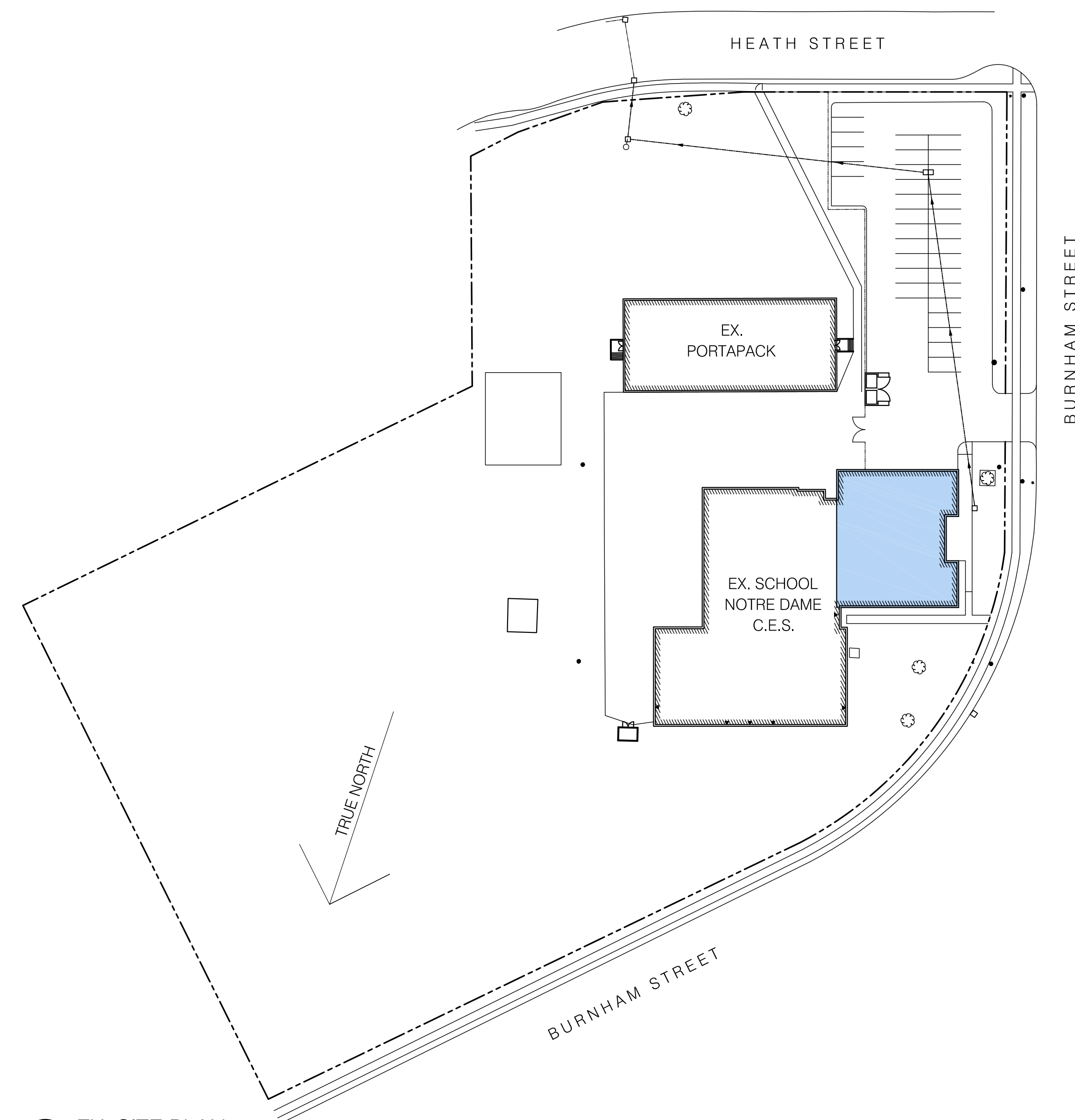
DEMO NOTE #4: - INT. DOORS
REMOVE EX. DOOR & RETAIN EX. FRAME

DEMO NOTE #5: - WINDOWS
REMOVE EX. ALL EX. CLASSROOM WINDOWS FOR REPLACEMENT

DEMO NOTE #6: - FLOORING
REMOVE EX. VINYL TILE OR EX. CARPET TILE FLOORING & VINYL BASE

DEMO NOTE #7: - DRINK FOUNTAIN
REMOVE EX. DRINK FOUNTAIN - DRAINAGE TO REMAIN FOR NEW MECH. UNIT CONDENSATION

DEMO NOTE #8:
CUT NEW OPENING AT WALL BASE TO SUIT MECHANICAL (22"x18")
w/ NEW STL LINTEL 2 - 4 1/2" x 4 1/2" x 1/4" ANGLES BACK TO BACK. PROVIDE SAME ABOVE IN JOIST SPACE.

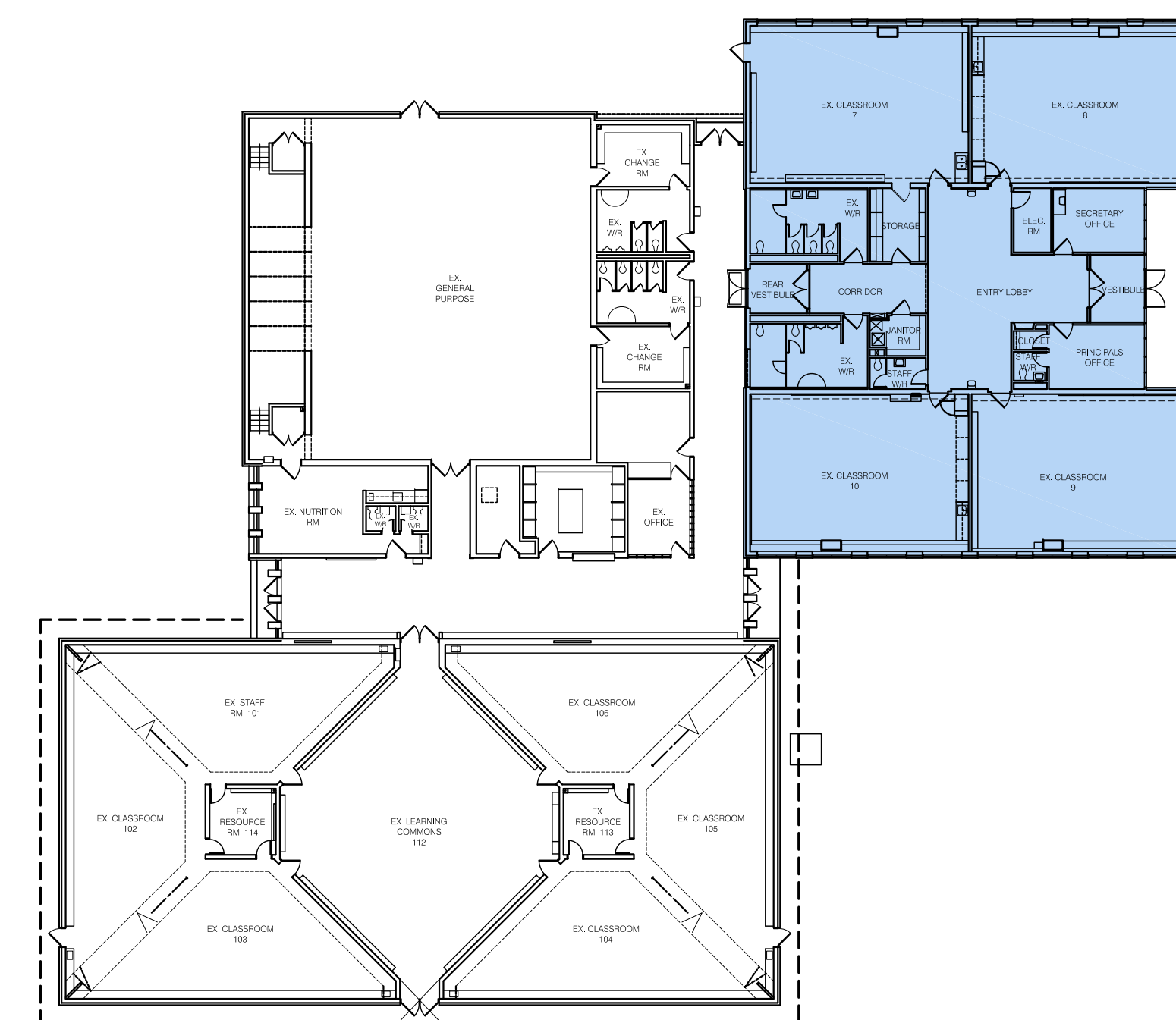


1
A1

EX. SITE PLAN

SCALE: N.T.S.

 AREA OF WORK
- SEE 3/A1 FOR DEMO WORK
- SEE 1/A2 FOR NEW WORK

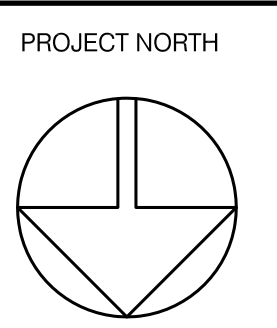


2
A1

EX. MAIN FLOOR PLAN

SCALE: N.T.S.

 AREA OF WORK
- SEE 3/A1 FOR DEMO WORK
- SEE 1/A2 FOR NEW WORK



WALL LEGEND

SYMBOL	DESCRIPTION
	EXISTING TO BE REMOVED
	EXISTING WALLS TO BE RETAINED
	NEW CONSTRUCTION

FOR TENDER & PERMIT	JULY 04, 2025
---------------------	---------------

JULY 04, 2025

ISSUED:	DATE:
---------	-------

DATE:

THIS DRAWING IS COMPLIMENTARY & MUST BE READ IN
CONJUNCTION WITH ALL THE OTHER DRAWINGS AND/
OR SPECIFICATIONS. REPORT ANY INCONSISTENCIES
TO THE ARCHITECT.

PROJECT:
RENOVATIONS TO
NOTRE DAME C.E.S.
COBOURG

760 Burnham St, Cobourg, ON K9A 2X6

DRAWING TITLE:

SITE PLAN

EX. FLOOR PLAN

DEMO FLOOR PLAN

SCALE: AS NOTED

DRAWING NUMBER:

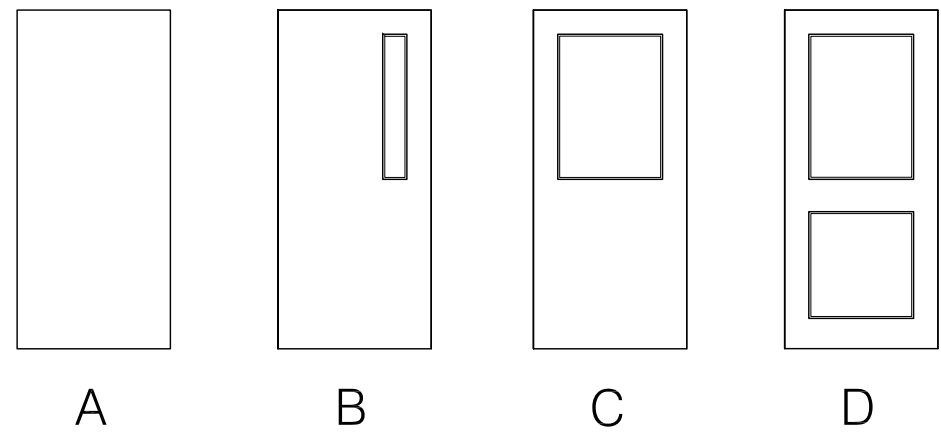
DRAWN BY: JH

CHECKED BY: GW

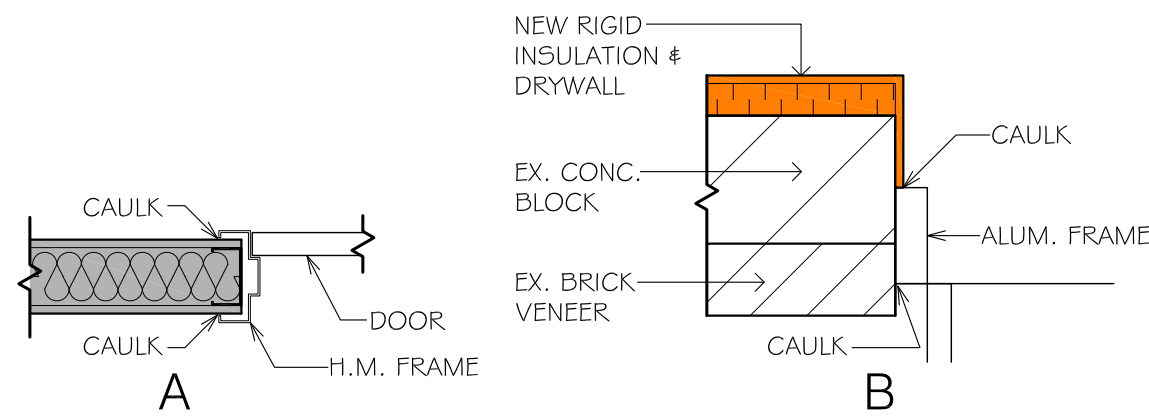
A1 OF G
23004

NEW DOOR SCHEDULE (ALL ITEMS ARE NEW U.O.N.)								
Door No.	DOOR			FRAME			COMMENTS	
	SIZE	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	
1	MATCH EXISTING	C	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
2	MATCH EXISTING	C	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
3	MATCH EXISTING	A	WOOD	PLAM	EXISTING	H.M.	PAINT	
4	MATCH EXISTING	A	WOOD	PLAM	EXISTING	H.M.	PAINT	
5	MATCH EXISTING	B	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
6	MATCH EXISTING	B	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
7	2'-2'-5" x 7'-0"	A	H.M.	PAINT	A	H.M.	PAINT	PAIR ¾" RATED
8	MATCH EXISTING	A	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
9	MATCH EXISTING	A	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
10	MATCH EXISTING	A	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
11	MATCH EXISTING	C	WOOD	PLAM	EXISTING	H.M.	PAINT	PAIR ¾" RATED
12	MATCH EXISTING	A	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
13	MATCH EXISTING	A	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
14	MATCH EXISTING	B	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
15	2'-2'-5" x 7'-0"	A	H.M.	PAINT	A	H.M.	PAINT	PAIR ¾" RATED
16	MATCH EXISTING	B	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
17	MATCH EXISTING	A	WOOD	PLAM	EXISTING	H.M.	PAINT	¾" RATED
18	3'-2" x 7'-0"	D	ALUM.	--	B	ALUM.	--	BY ALUM. DIVISION

NOTE: CONFIRM ALL DIMENSIONS ON SITE PRIOR TO ORDERING OF DOORS/FRAMES.



DOOR TYPES



FRAME TYPES

TYPICAL NEW WORK NOTES

NOTE #1:- CLASSROOMS

PROVIDE ALL NEW MILLWORK, COUNTERS, WHITE BOARDS (WB), TACK BOARDS (TB), PLUMBING FIXTURES, CONDUITS, VINYL TILE FLOORING, & VINYL WALL BASE FOR CLASSROOM

NOTE #2:- GROUP WASHROOMS

PROVIDE ALL NEW TOILETS, URINALS, PRIVACY PARTITIONS & VINYL WALL BASE (EX. CERAMIC TILE TO BE RETAINED)

NOTE #3:- PRIVATE WASHROOMS

PROVIDE ALL NEW TOILETS, SINKS, & PRIVACY PARTITIONS, VINYL FLOORING & VINYL BASE,

NOTE #4:- WINDOWS

PROVIDE NEW WINDOWS IN ALL CLASSROOMS - SEE INTERIOR ELEVATIONS

NOTE #5:- FLOORING

PROVIDE NEW VINYL TILE FLOORING & VINYL BASE

NOTE #6:-

REMOVE EX. MECHANICAL GRILLES & BLOCK UP OPENINGS w/ CONC. BLOCK & BRICK TO MATCH EXISTING

1 A2 AREA OF WORK - NEW FLOOR PLANS
SCALE: 1/4" = 1'-0"

NEW TEACHERS CLOSET
-SEE A4 FOR DETAILS

NEW TEACHERS CLOSET
-SEE A4 FOR DETAILS

NEW 2" RIGID
INSULATION & NEW
DRYWALL A5
INDICATED.
(SHOWN IN ORANGE)

NEW TEACHERS CLOSET
-SEE A4 FOR DETAILS

EX. TERR. HOLE. & CLEAN
OUT EX. MATT / SINKAGE.
RE-INSTALL AFTER

NEW TEACHERS CLOSET
-SEE A4 FOR DETAILS

NEW 2" RIGID
INSULATION & NEW
DRYWALL A5
INDICATED.
(SHOWN IN ORANGE)

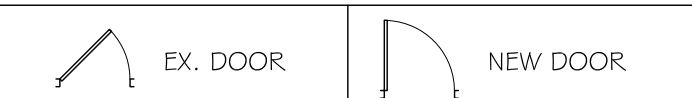
NEW 1'-6" DEEP x
1'-7 1/2" PLUMBING
CHASE

NEW 8" DEEP
PLUMBING CHASE

WALL LEGEND

SYMBOL	DESCRIPTION
[Dashed line]	EXISTING TO BE REMOVED
[Solid line]	EXISTING WALLS TO BE RETAINED
[Orange line]	NEW CONSTRUCTION (U.O.N.) • 5" TYPE X RATED DRYWALL • 3 1/2" METAL STUDS • MINERAL WOOL • 5/8" TYPE X RATED DRYWALL
[Green line]	NEW 1/2" DRYWALL LAMINATED TO EX. CONC. BLOCK

SEE A3 FOR WALL LEGEND ABOVE CEILING



WB = WHITE BOARD
TB = TACK BOARD

FOR TENDER & PERMIT JULY 04, 2025

ISSUED: DATE:

THIS DRAWING IS COMPLEMENTARY & MUST BE READ IN CONJUNCTION WITH ALL THE OTHER DRAWINGS AND/OR SPECIFICATIONS. REPORT ANY INCONSISTENCIES TO THE ARCHITECT.

PROJECT:
**RENOVATIONS TO
NOTRE DAME C.E.S.
COBOURG**

760 Burnham St., Cobourg, ON K9A 2X6

DRAWING TITLE:
**NEW FLOOR PLAN
DOOR / FRAME SCHEDULE**

SCALE: A5 NOTED DRAWING NUMBER:

DRAWN BY: JH

CHECKED BY: GW

A2
OF 6
23004

WALL LEGEND ABOVE CEILING

SYMBOL	DESCRIPTION
	DETAIL A - FIRE SEPARATION w/ RATED FOAM • ½" TYPE X RATED DRYWALL • 3 ½" METAL STUD IF 6" BLOCK BELOW OR • 6" METAL STUD IF 10" BLOCK BELOW • ½" TYPE X RATED DRYWALL
	DETAIL B - ACOUSTIC SEPARATION w/ NON RATED FOAM • ½" TYPE X RATED DRYWALL • 3 ½" METAL STUD IF 6" BLOCK BELOW OR • 6" METAL STUD IF 10" BLOCK BELOW • ½" TYPE X RATED DRYWALL
	DETAIL C - FIRE SEPARATION w/ RATED FOAM
	DETAIL D - ACOUSTIC SEPARATION w/ NON RATED FOAM

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	1'x4' RECESSED LIGHT
	SURFACE MOUNTED STRIP LIGHTING
	POT LIGHT
	2x2 SUPPLY AIR GRILLE
	1x1 SUPPLY AIR GRILLE
	2x2 RETURN AIR GRILLE
	1x1 RETURN AIR GRILLE

CEILING HEIGHT LEGEND (U.N.O.):	
CLASSROOMS	= 9'-0"
CORRIDORS	= 8'-6"
WASHROOMS	= 8'-6"
OFFICES	= 8'-6"

FOR TENDER & PERMIT JULY 04, 2025

ISSUED: DATE:

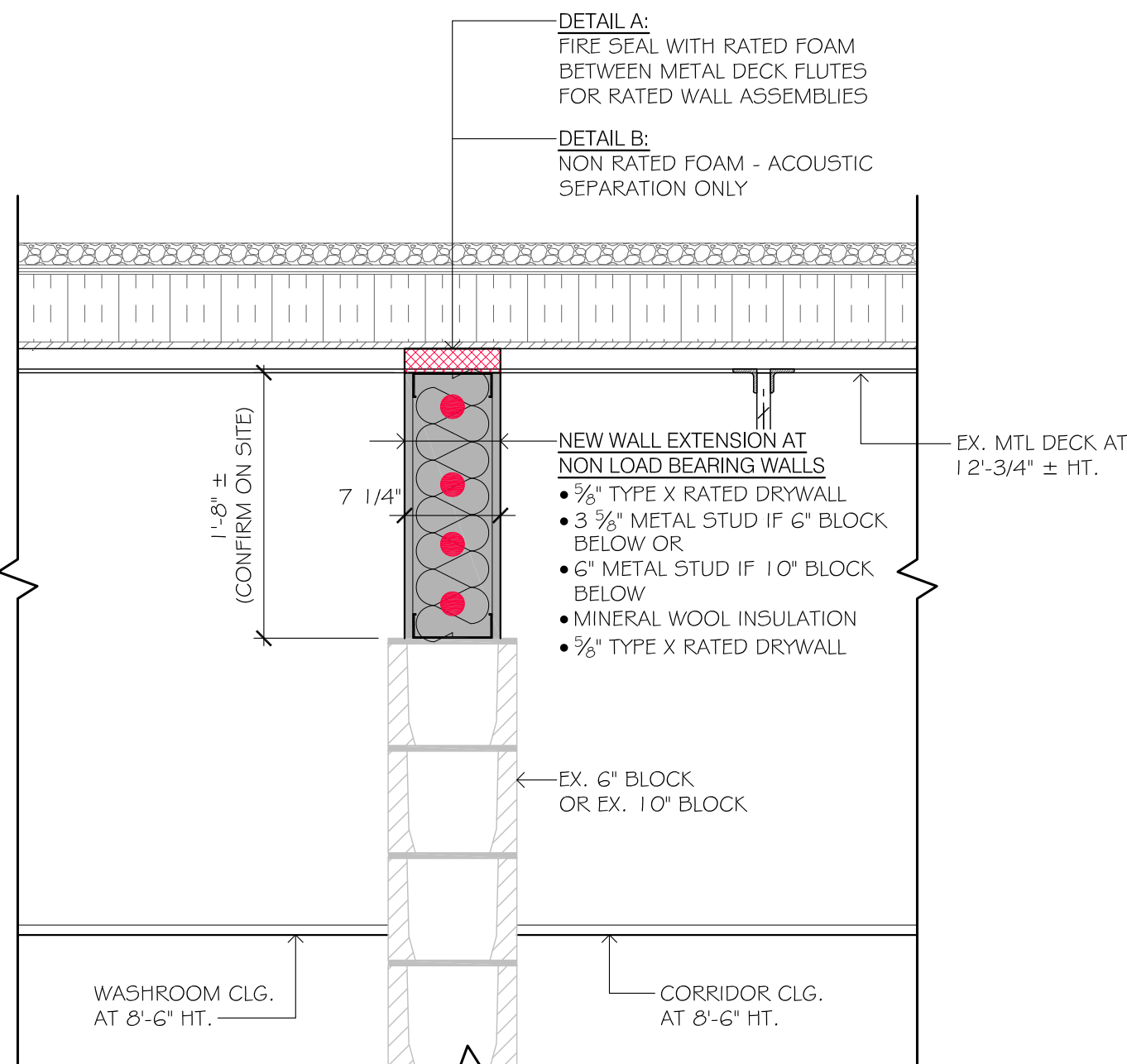
THIS DRAWING IS COMPLIMENTARY & MUST BE READ IN CONJUNCTION WITH ALL THE OTHER DRAWINGS AND/ OR SPECIFICATIONS. REPORT ANY INCONSISTENCIES TO THE ARCHITECT.

PROJECT:
**RENOVATIONS TO
NOTRE DAME C.E.S.
COBOURG**

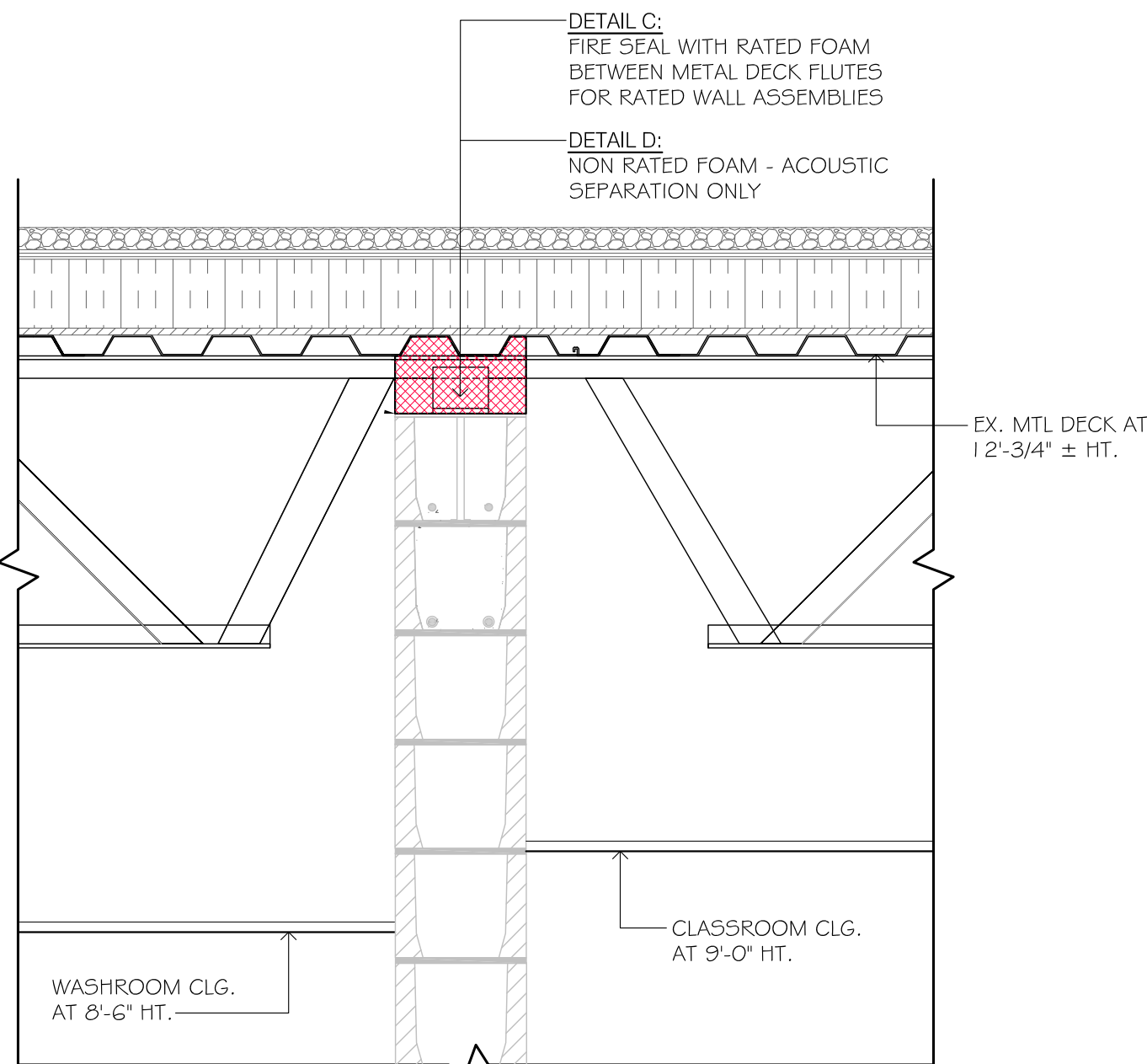
760 Burnham St., Cobourg, ON K9A 2X6

DRAWING TITLE:
**NEW CEILING PLAN
FIRE SEPARATION DETAIL
SOUND SEPARATION DETAIL
BULKHEAD DETAIL**

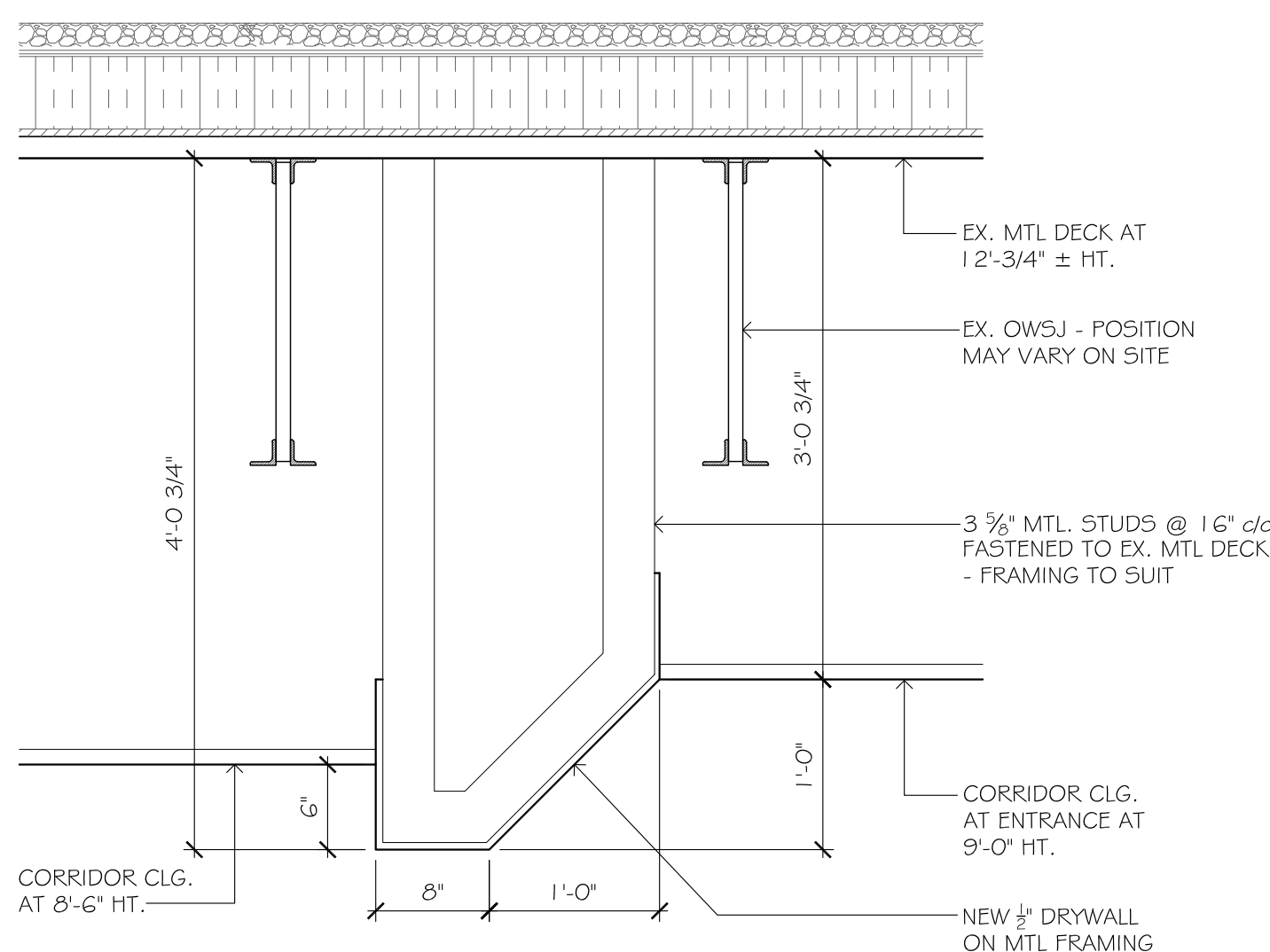
SCALE: A5 NOTED DRAWING NUMBER:
DRAWN BY: JH
CHECKED BY: GW
A3 OF 6
23004



2 DETAIL A & DETAIL B (SEE CLG. HT. LEGEND)
SCALE: 1" = 1'-0"



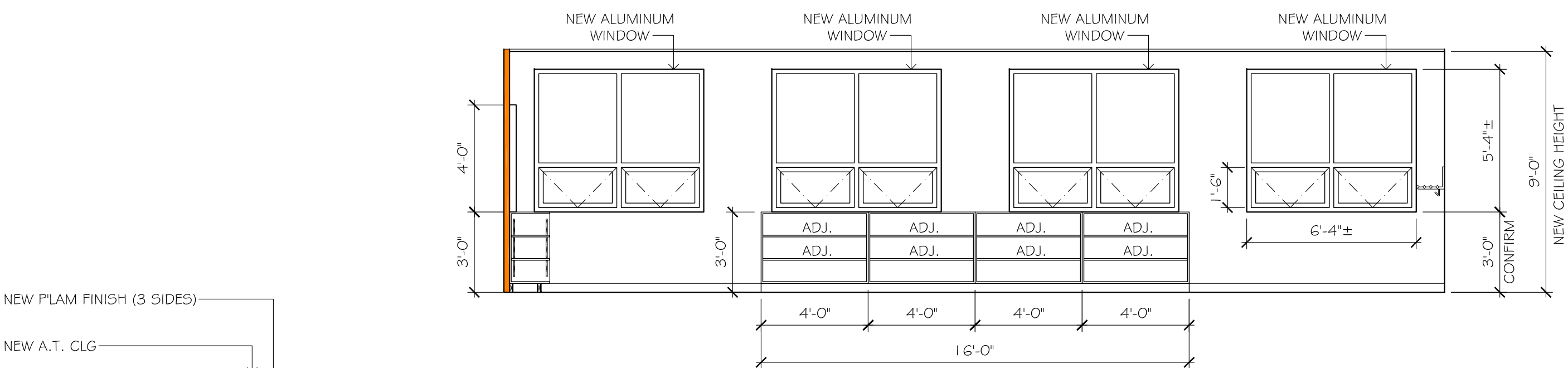
3 DETAIL C & DETAIL D (SEE CLG. HT. LEGEND)
SCALE: 1" = 1'-0"



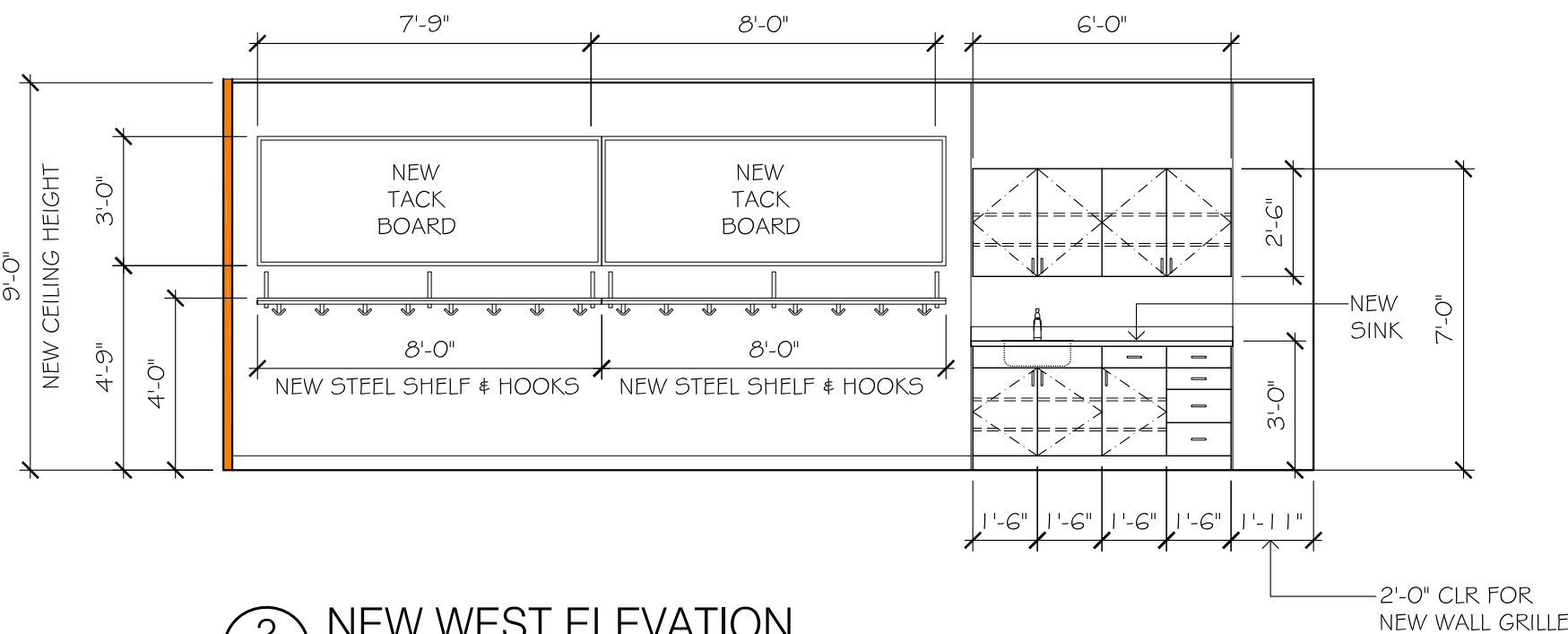
4 BULKHEAD DETAIL (SEE CLG. HT. LEGEND)
SCALE: 1" = 1'-0"



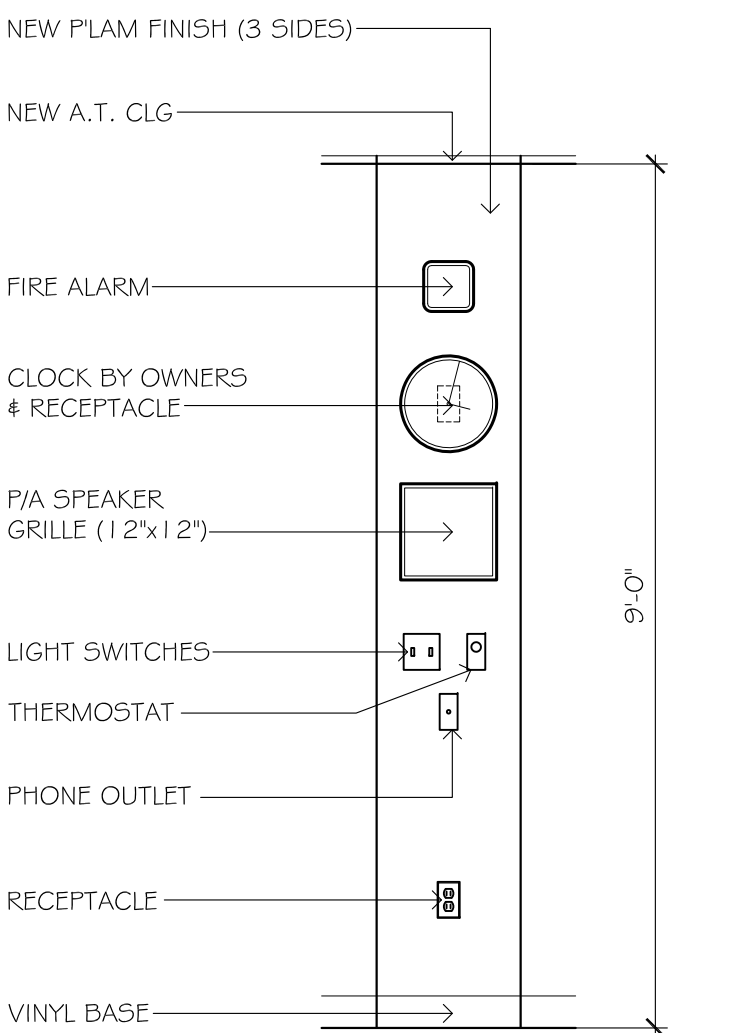
NEW CLASSROOM 7



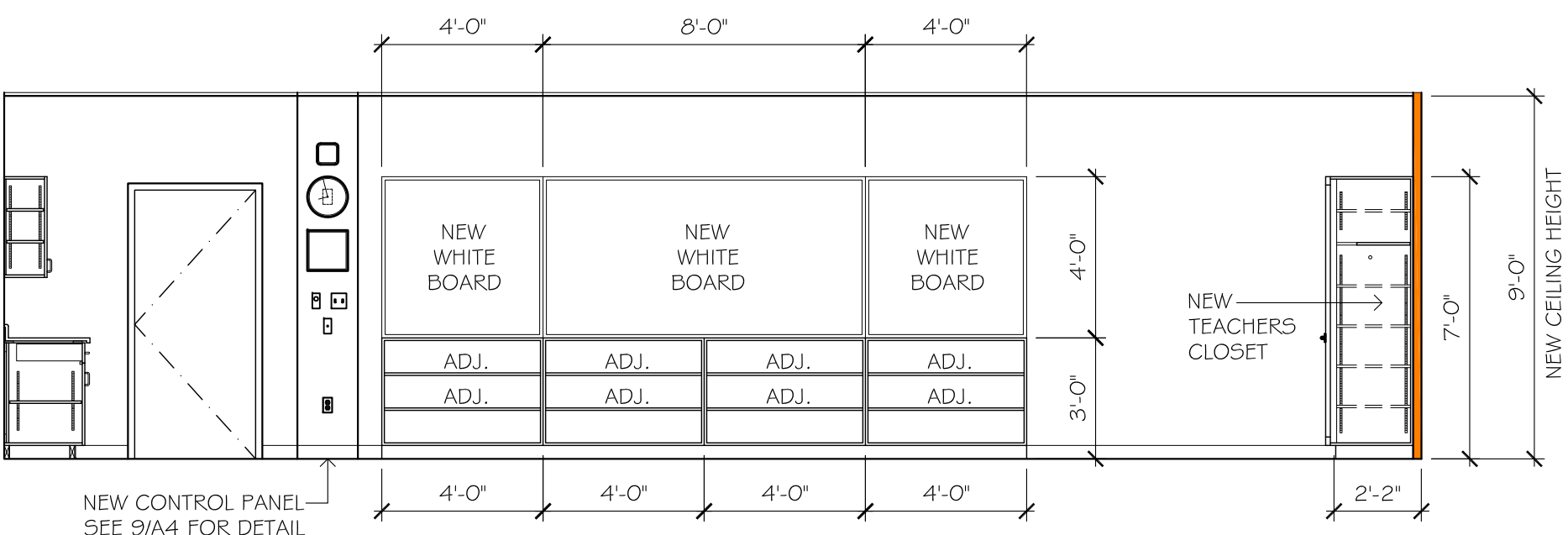
1 NEW SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



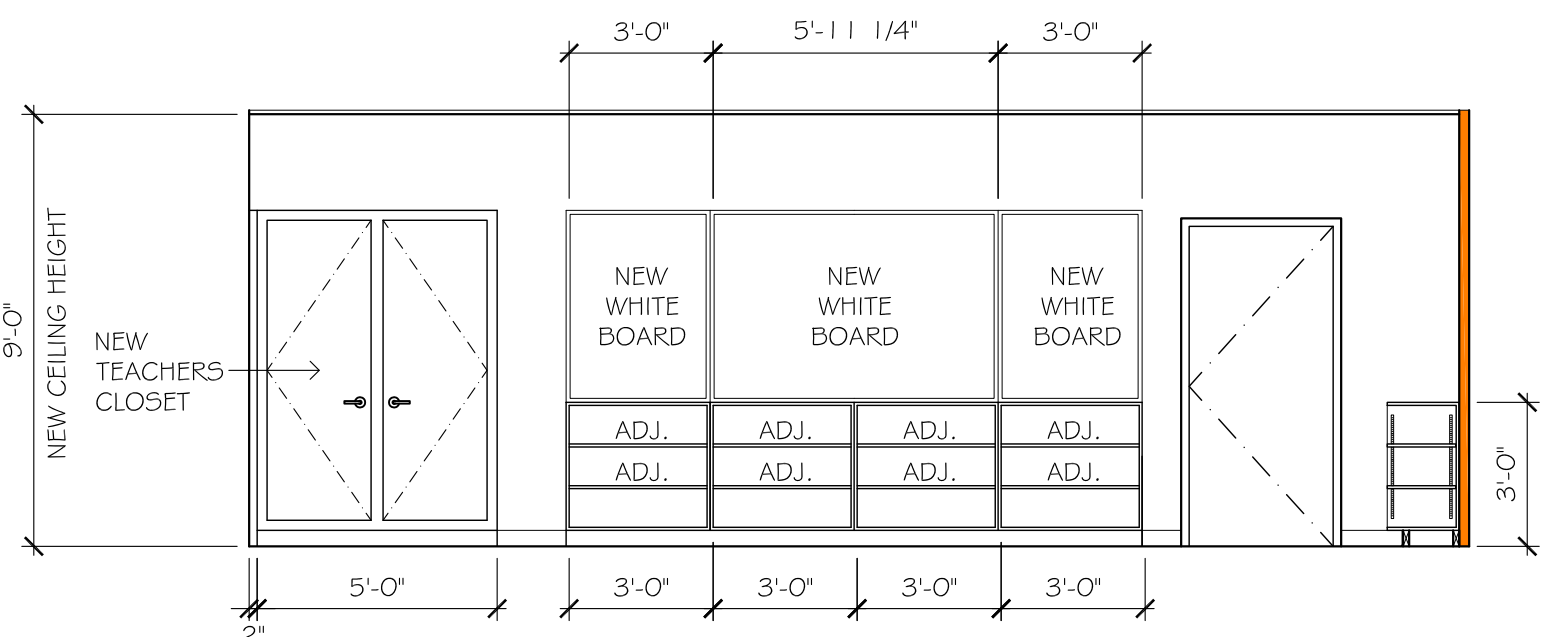
2 NEW WEST ELEVATION
SCALE: 1/4" = 1'-0"



9 TYP. NEW CONTROL PANEL
SCALE: 1/2" = 1'-0"



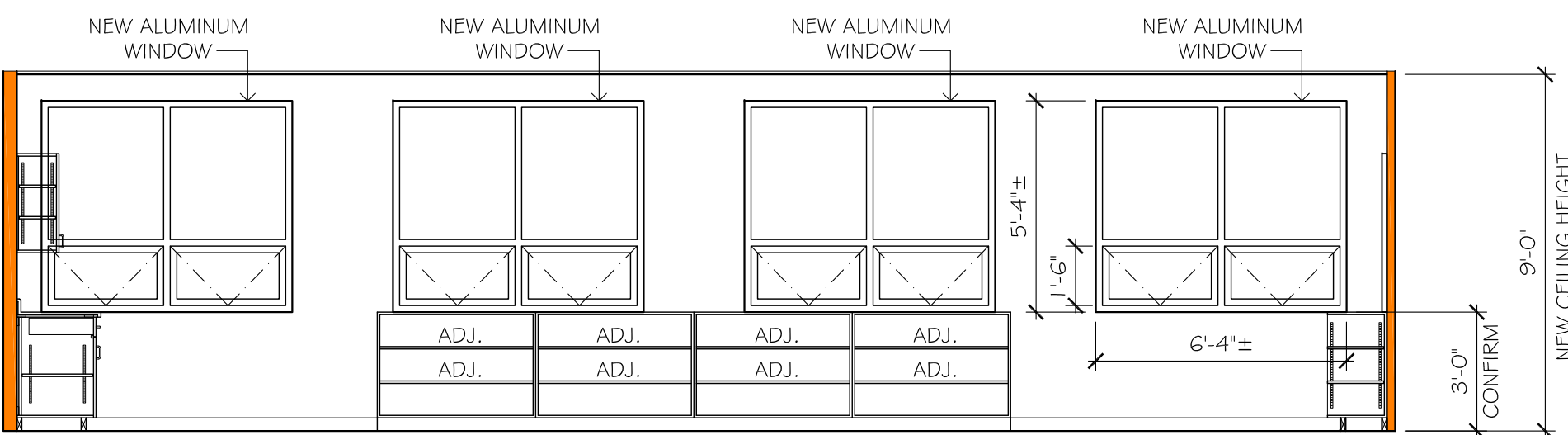
3 NEW NORTH ELEVATION
SCALE: 1/4" = 1'-0"



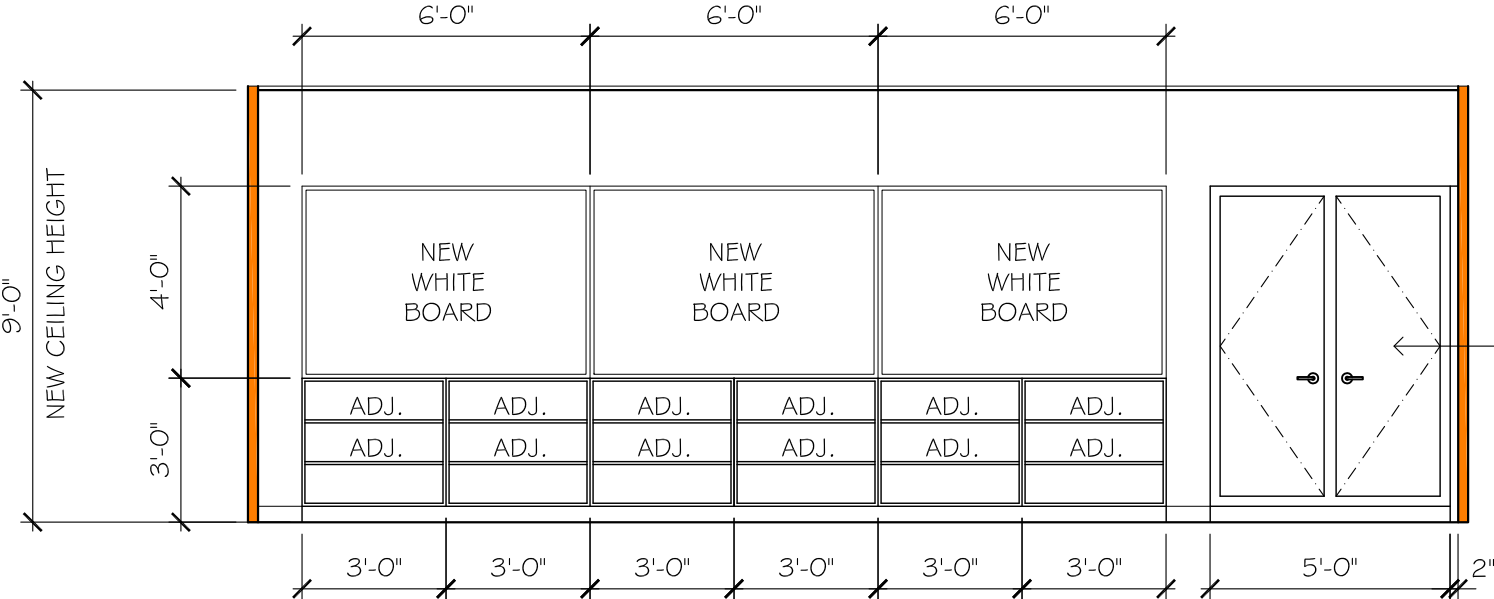
4 NEW EAST ELEVATION
SCALE: 1/4" = 1'-0"

- TYPICAL CABINETRY NOTES:
- CONTRACTOR TO CONFIRM ALL DIMENSIONS & CLEARANCES PRIOR TO CONSTRUCTION. COORDINATE INFORMATION WITH MILLWORK TRADE SHOULD ADJUSTMENTS BE REQUIRED.
 - CABINET/COUNTER FINISH/COLOR & EDGE PROFILE TO BE CONFIRMED BY OWNER.
 - ALL SHELVES TO BE 3/4" & FULLY ADJUSTABLE U.O.N. W/METAL FILASTERS COUNTERSUNK IN SIDES OF CABINETS (FACE FLUSH) & ADJUSTABLE METAL SHELF BRACKETS.
 - ALL EXPOSED OPEN SHELVES IN CABINETS TO BE FINISHED GRADE.
 - DOOR/DRAWER PULLS TO BE STAINLESS STEEL. DRAWER HARDWARE TO BE FULL EXTENSION SOFT CLOSE & DOOR HARDWARE TO BE SOFT CLOSE.
 - ALL EXPOSED FINISH ENDS, PANELS, FILLERS TO HAVE MATCHING FINISH. TOE KICK TO HAVE MATCHING FINISH OR AS PER SPECIFICATIONS.
 - ALL DOOR & DRAWER FRONTS TO BE 3/4". DRAWER BOTTOMS & BACKS TO BE 1/2".
 - COUNTERS TO BE POST FORMED WITH 4" BACK SPLASH & LAMINATE FINISH. PROVIDE ALL COUNTER SIDE SPLASHES & COUNTER BUILD UP AS REQUIRED.
 - SCRIBE COUNTERTOPS & CLEAR CAULK AT BACKSPLASH, SIDE SPLASHES TO ADJACENT WALLS & SINKS/FAUCETS.
 - SCRIBE FILLERS TO SUIT ADJACENT WALLS.
 - CONSTRUCT & INSTALL NEW CABINETS TO INCORPORATE ALL BUILDING SITE CONDITIONS.

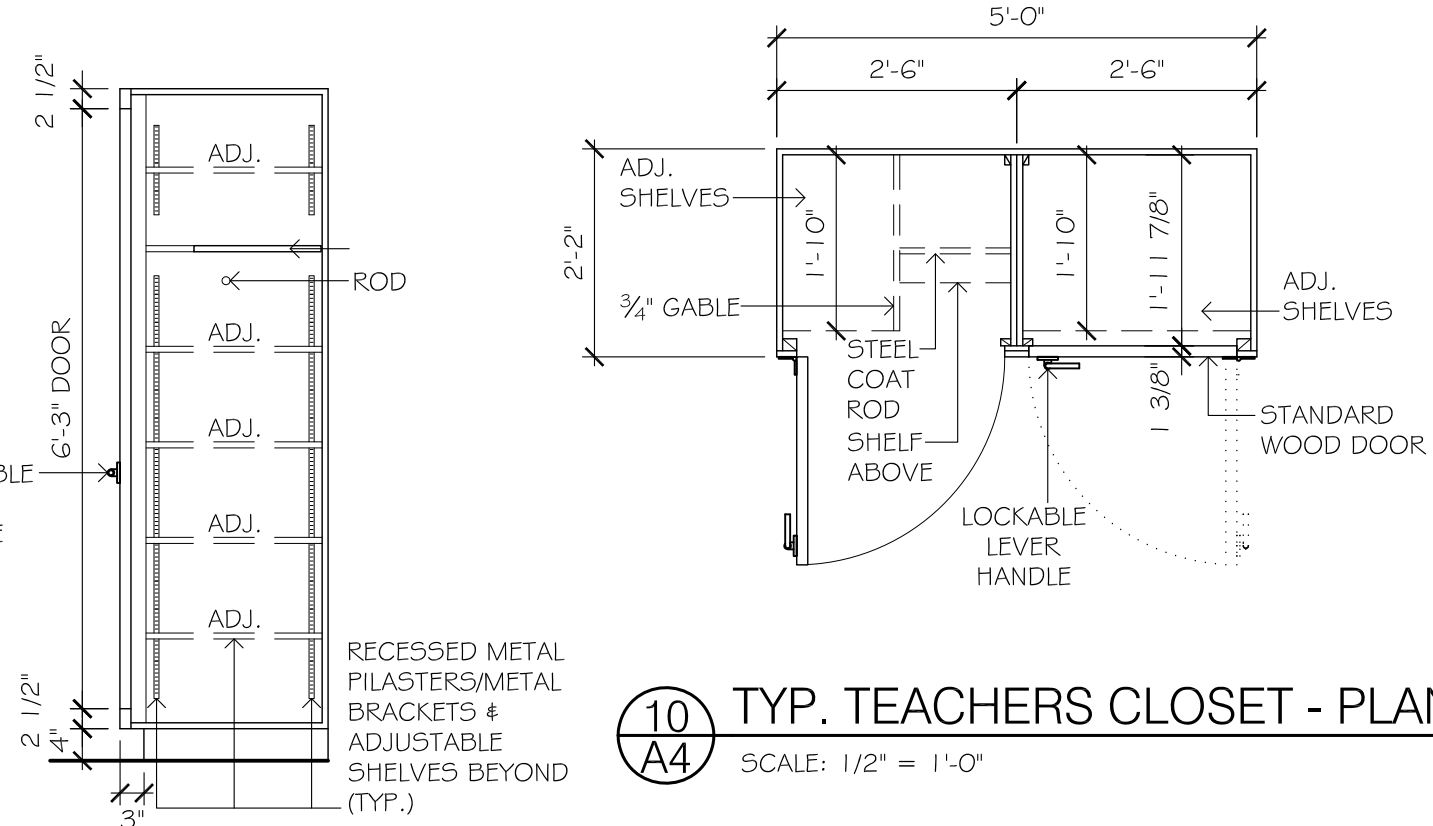
NEW CLASSROOM 8



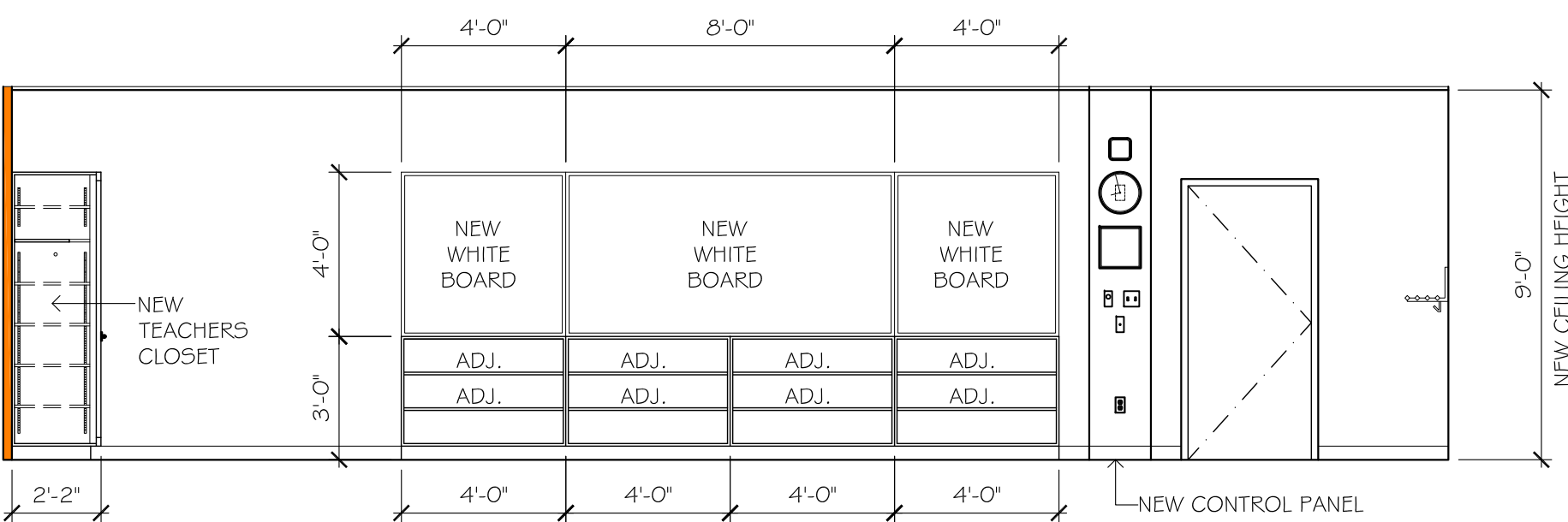
5 NEW SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



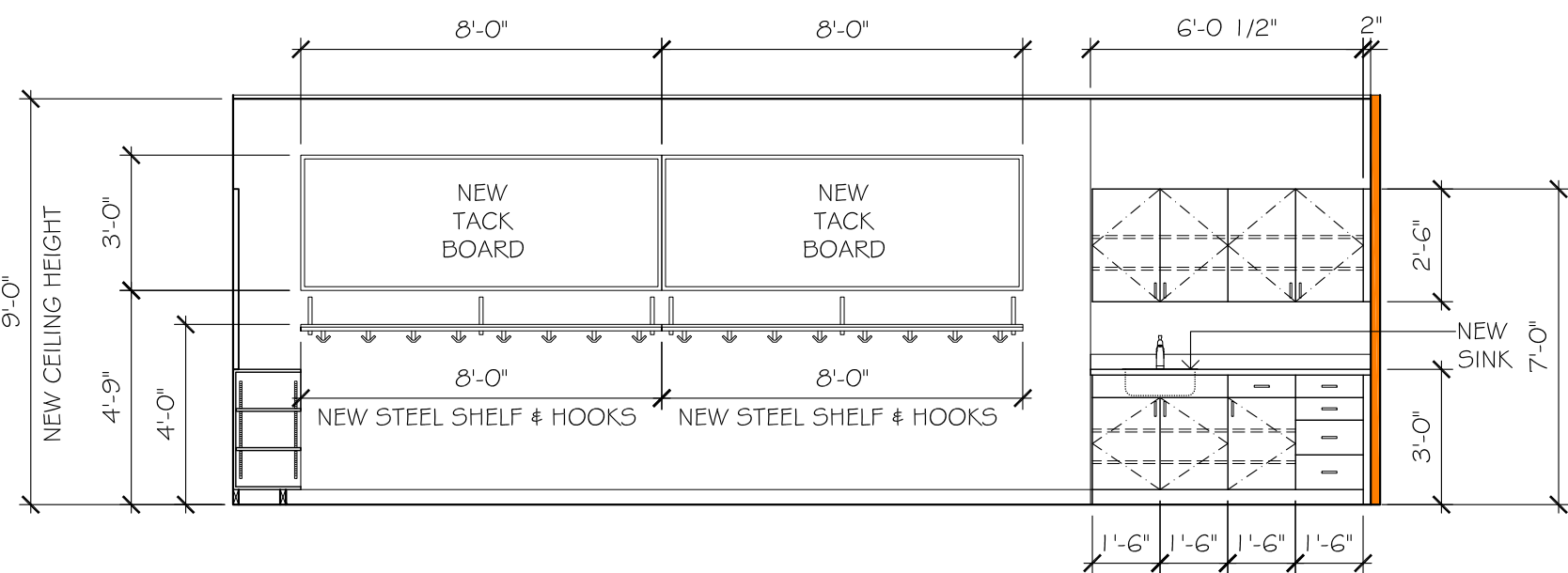
6 NEW WEST ELEVATION
SCALE: 1/4" = 1'-0"



10 TYP. TEACHERS CLOSET - PLAN
SCALE: 1/2" = 1'-0"

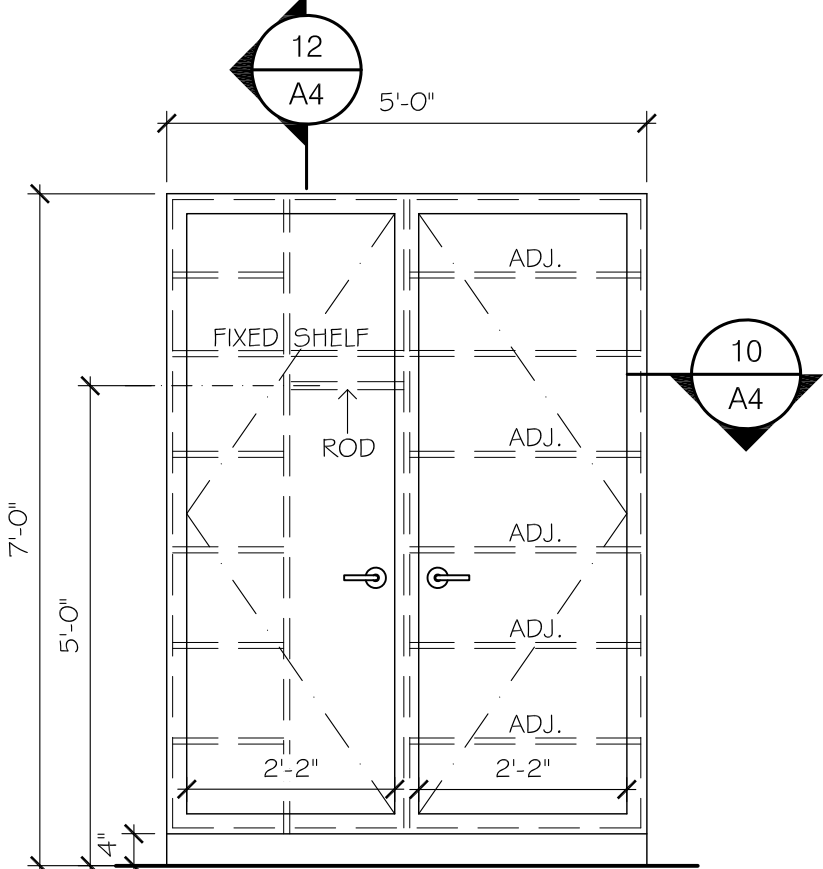


7 NEW NORTH ELEVATION
SCALE: 1/4" = 1'-0"



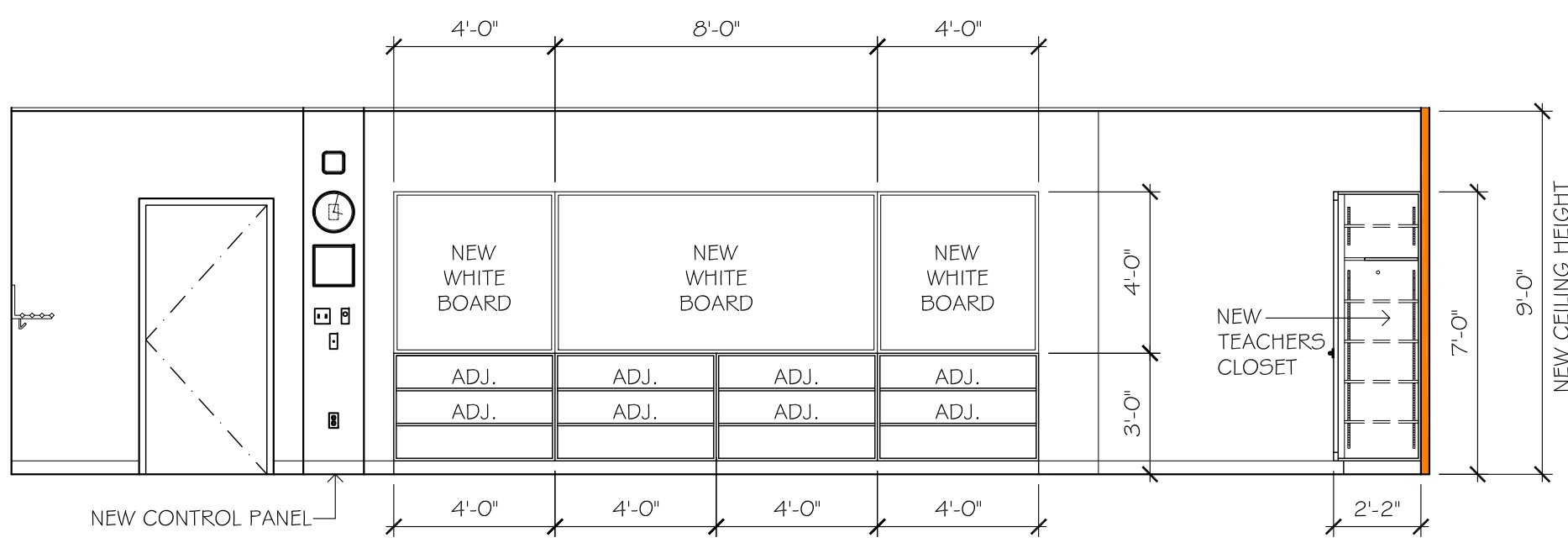
8 NEW EAST ELEVATION
SCALE: 1/4" = 1'-0"

12 TYP. TEACHERS CLOSET - SECTION
SCALE: 1/2" = 1'-0"

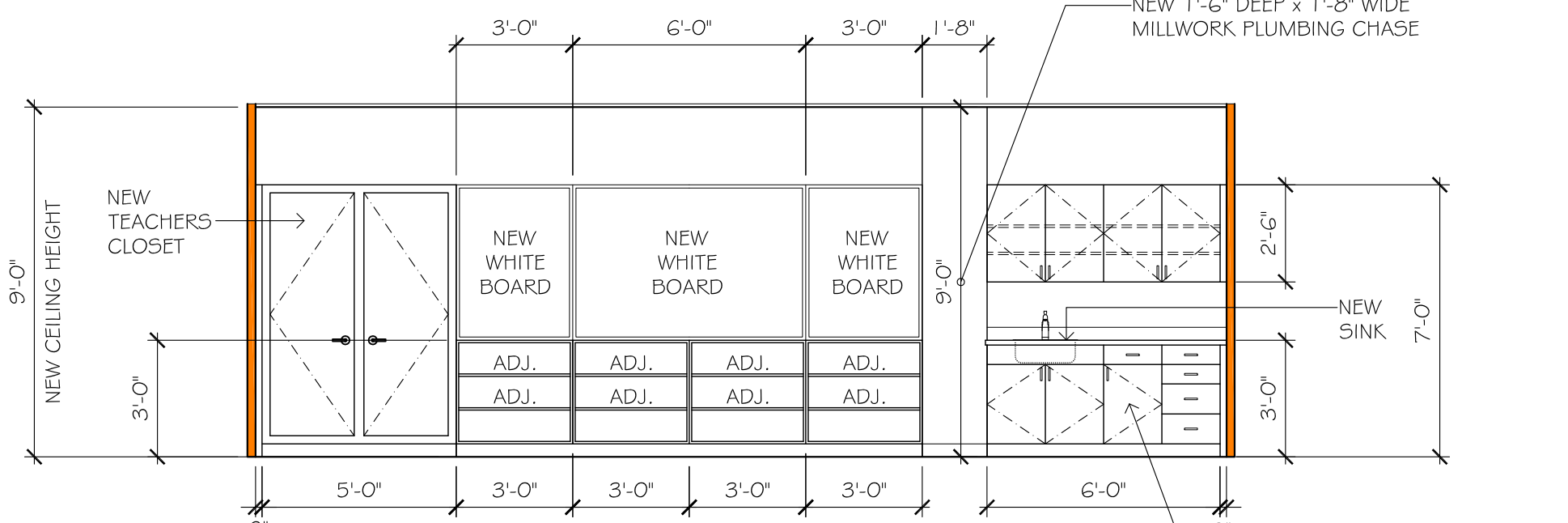


11 TYP. TEACHERS CLOSET - ELEVATION
SCALE: 1/2" = 1'-0"

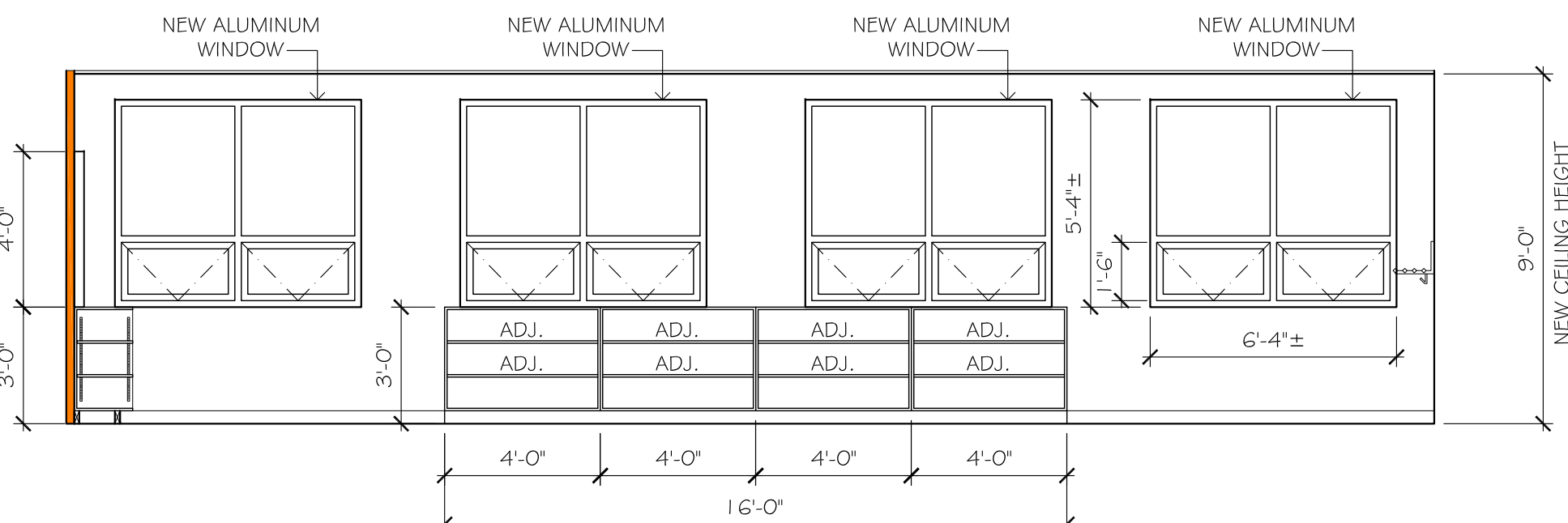
NEW CLASSROOM 9



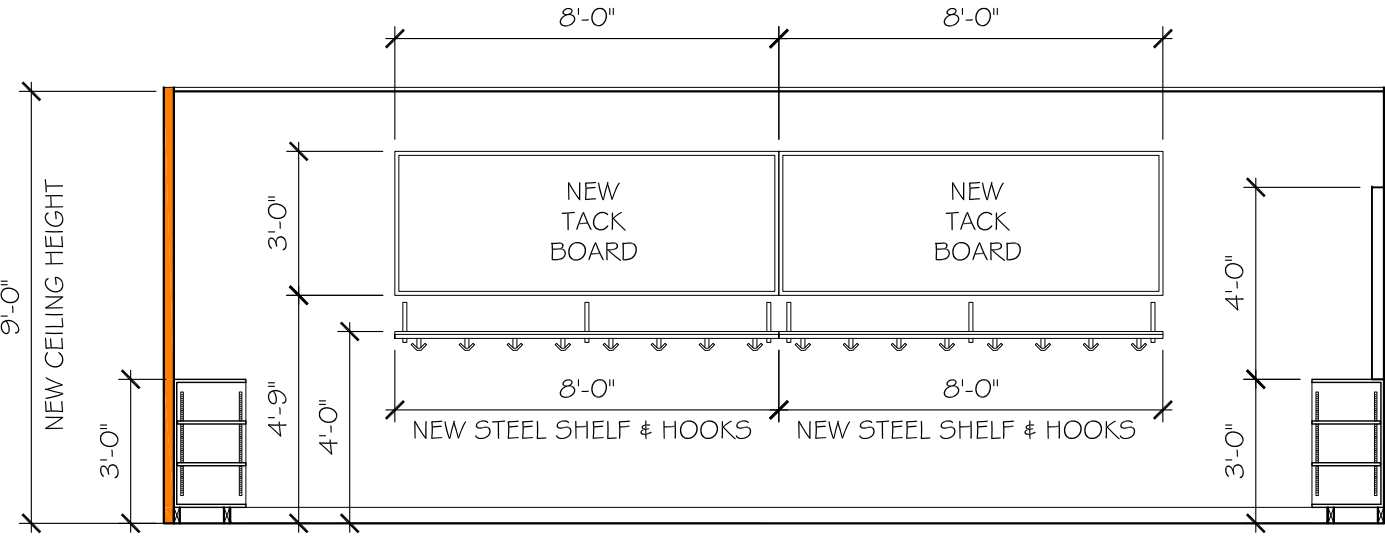
1 NEW SOUTH ELEVATION
A5 SCALE: 1/4" = 1'-0"



2 NEW WEST ELEVATION
A5 SCALE: 1/4" = 1'-0"

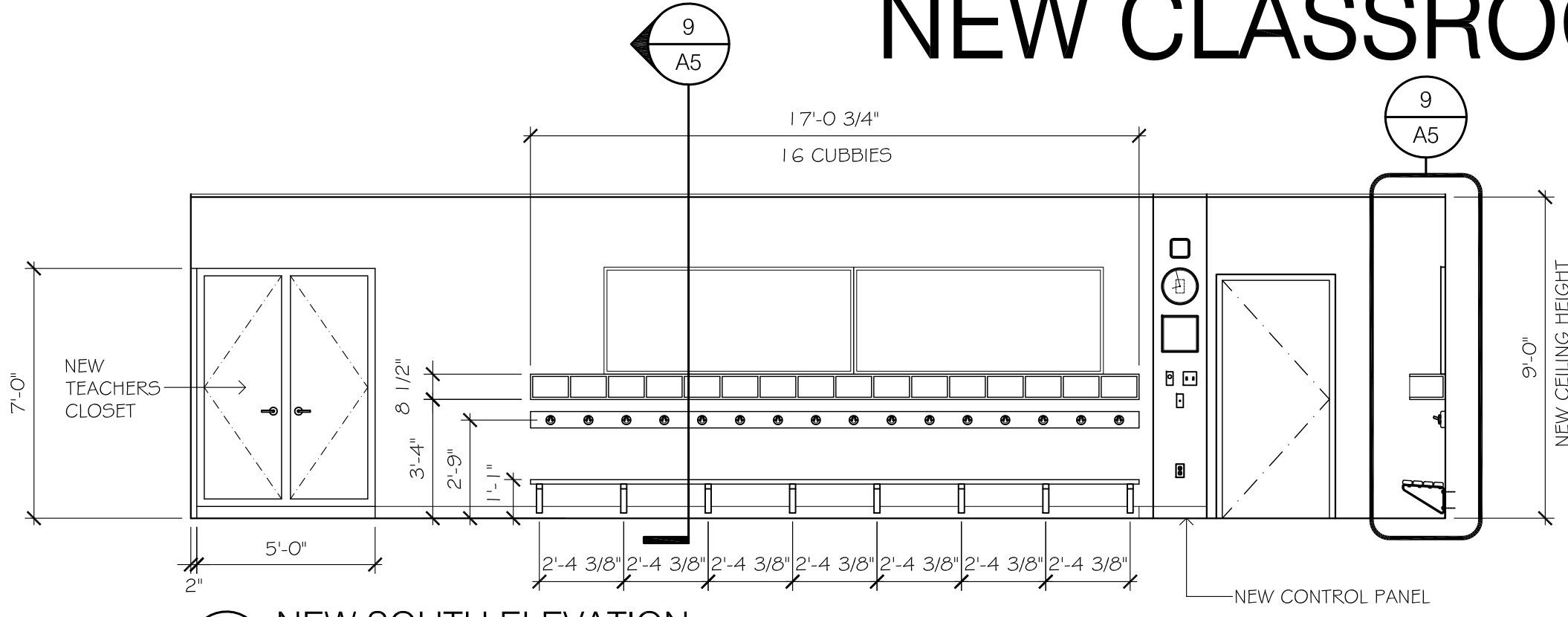


3 NEW NORTH ELEVATION
A5 SCALE: 1/4" = 1'-0"

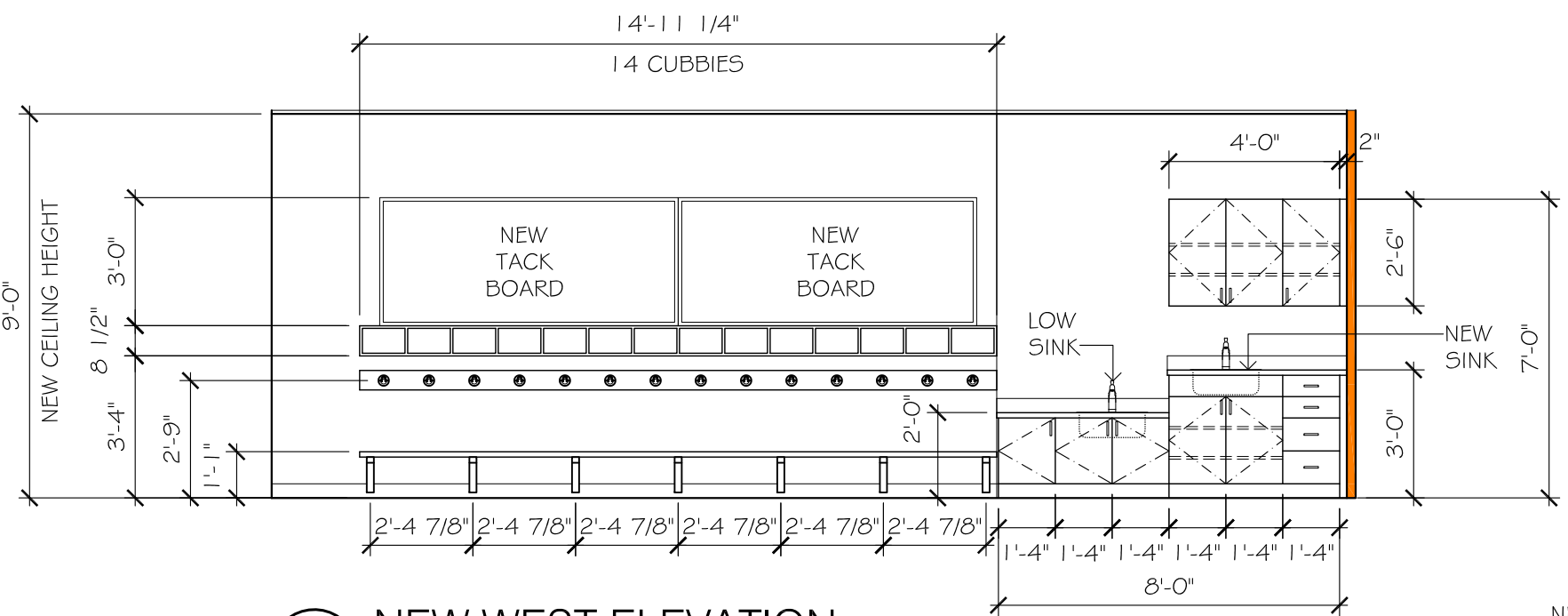


4 NEW EAST ELEVATION
A5 SCALE: 1/4" = 1'-0"

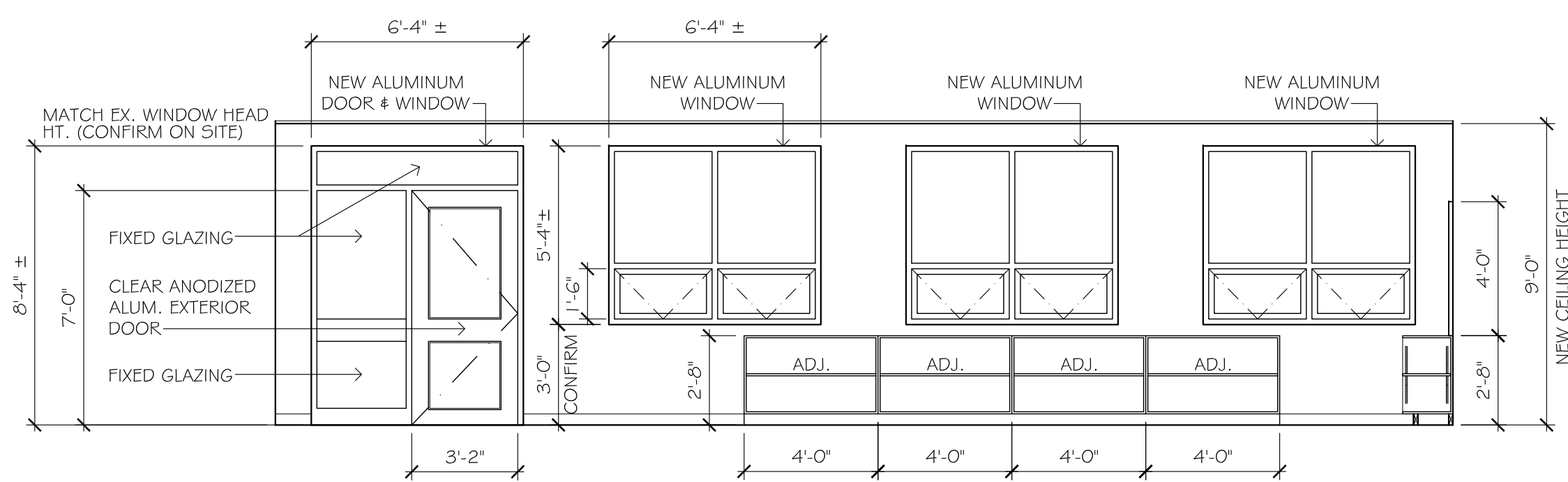
NEW CLASSROOM 10 - KINDERGARTEN



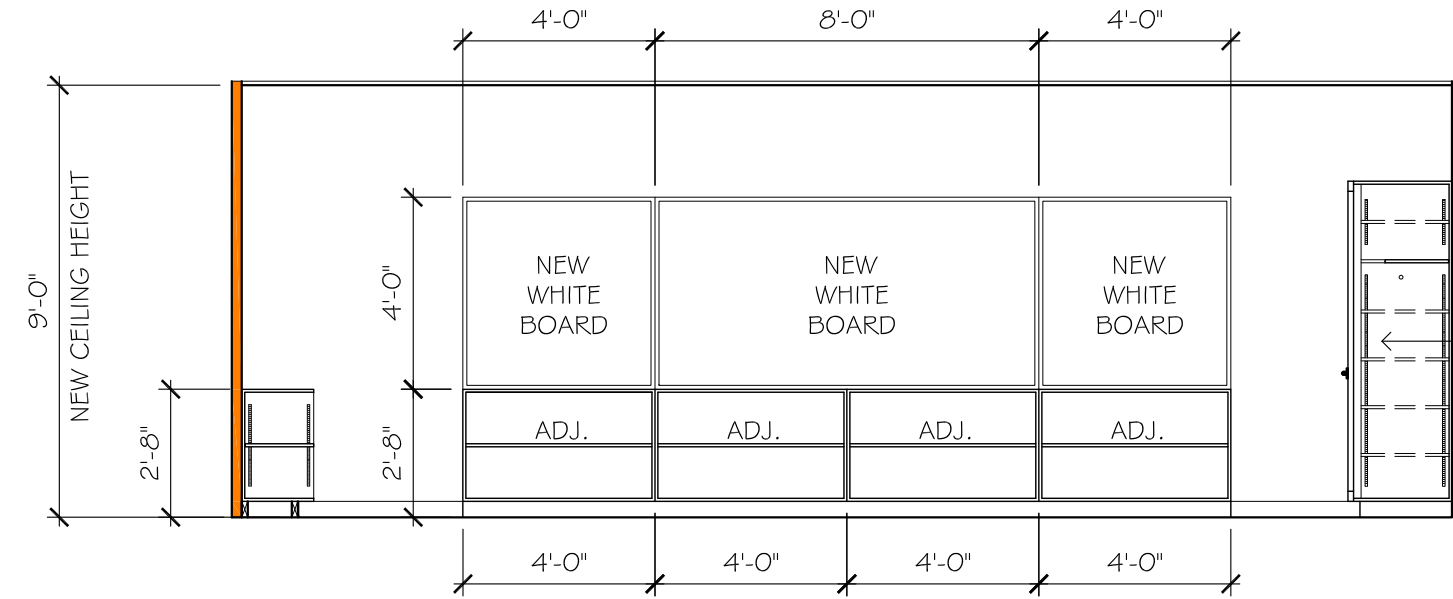
5 NEW SOUTH ELEVATION
A5 SCALE: 1/4" = 1'-0"



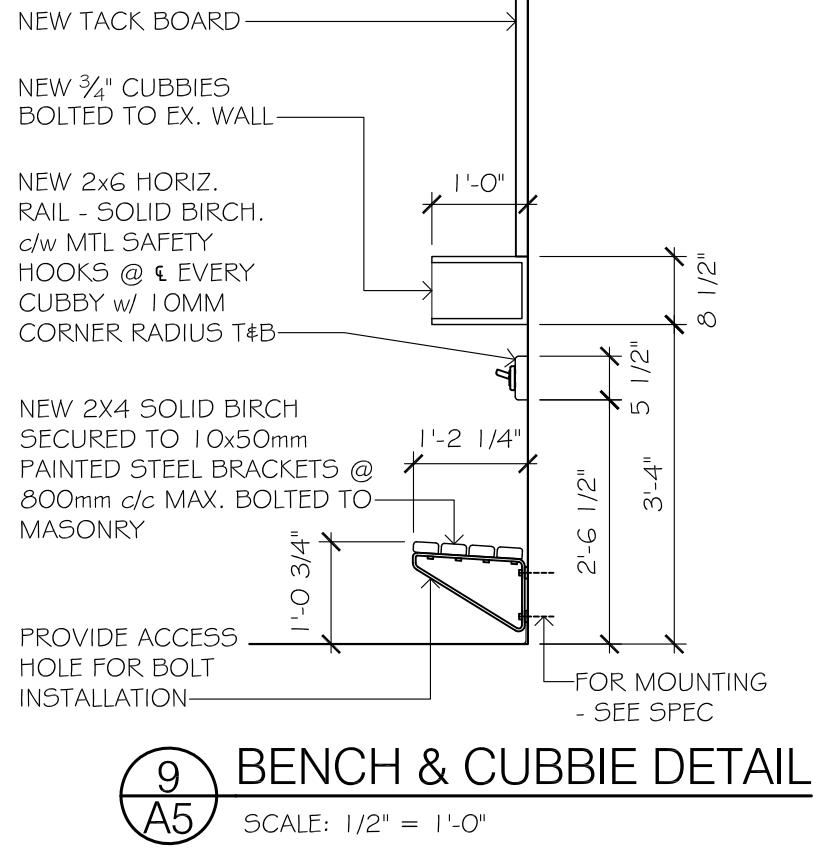
6 NEW WEST ELEVATION
A5 SCALE: 1/4" = 1'-0"



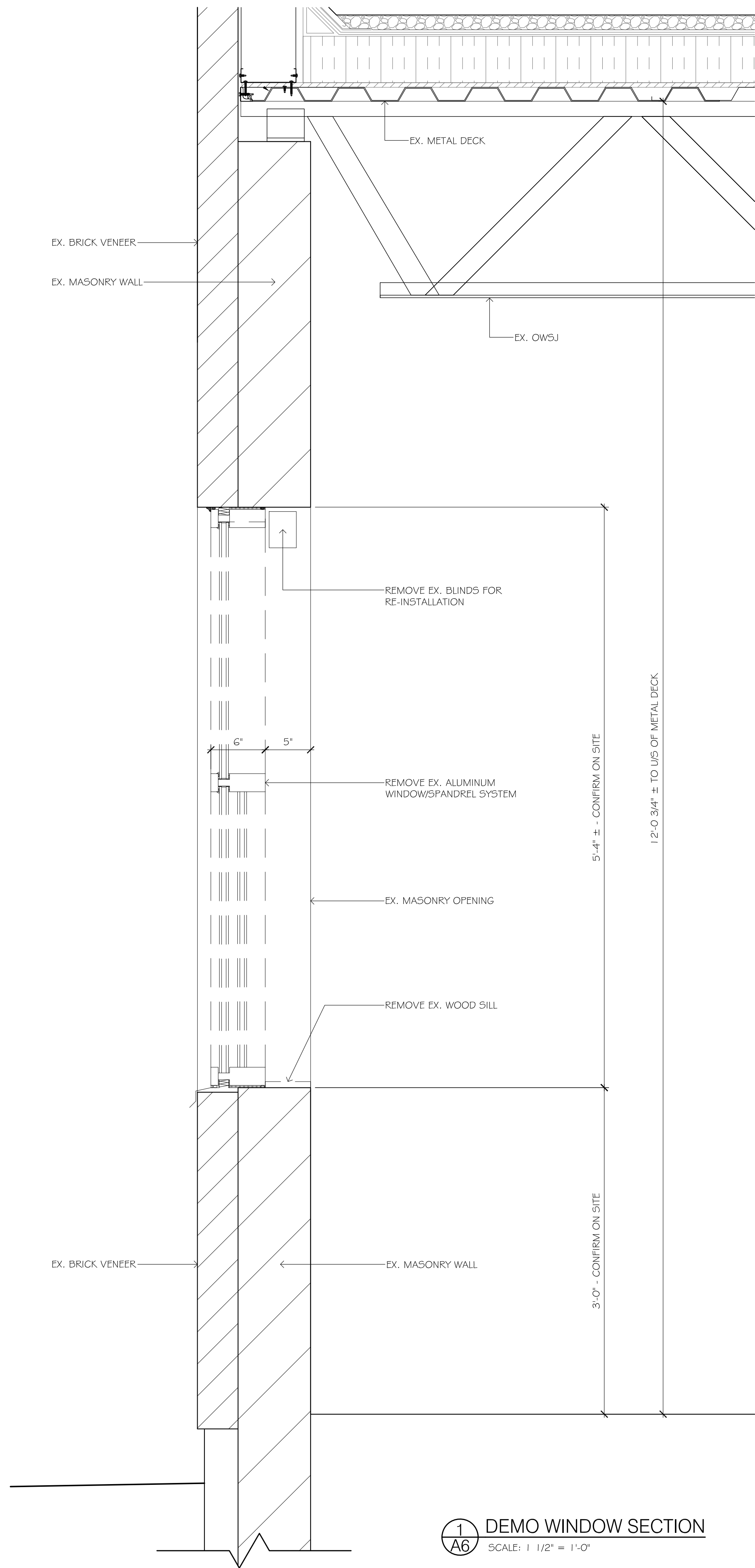
7 NEW NORTH ELEVATION
A5 SCALE: 1/4" = 1'-0"



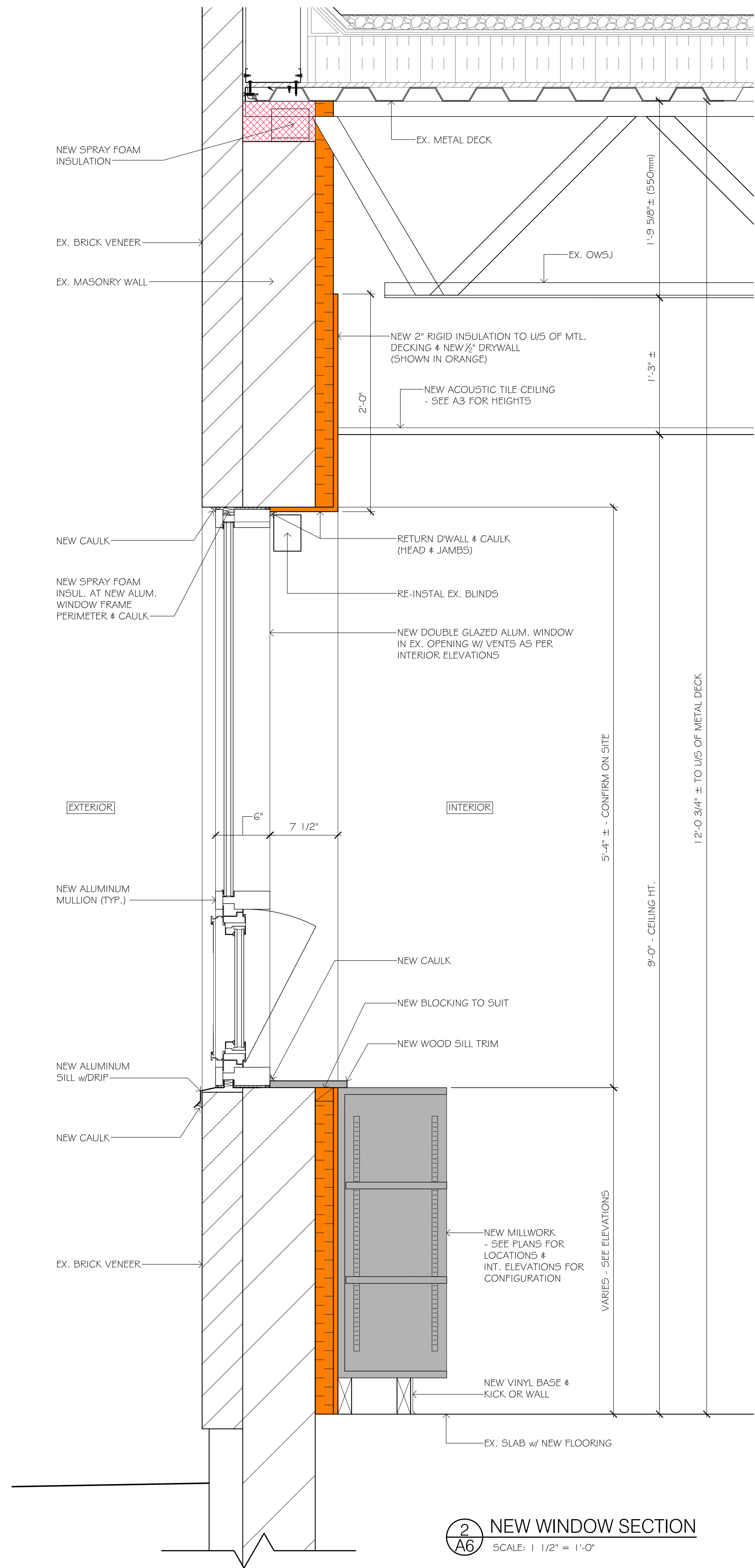
8 NEW EAST ELEVATION
A5 SCALE: 1/4" = 1'-0"



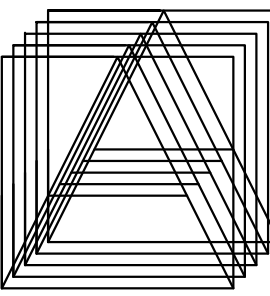
9 BENCH & CUBBIE DETAIL
A5 SCALE: 1/2" = 1'-0"



1 DEMO WINDOW SECTION
SCALE: 1 1/2" = 1'-0"



2 NEW WINDOW SECTION
SCALE: 1 1/2" = 1'-0"



**WILCOX
ARCHITECTS INC.**
74 LINDSAY ST. SOUTH
LINDSAY, ONTARIO
PHONE: 705-328-0175
wilcox.off@gmail.com



PROJECT NORTH



Peterborough Victoria
Northumberland and Clarington
Catholic District School Board

FOR TENDER & PERMIT

JULY 04, 2025

ISSUED:

DATE:

THIS DRAWING IS COMPLIMENTARY & MUST BE READ IN CONJUNCTION WITH ALL THE OTHER DRAWINGS AND/OR SPECIFICATIONS. REPORT ANY INCONSISTENCIES TO THE ARCHITECT.

PROJECT:

RENOVATIONS TO
NOTRE DAME C.E.S.
COBOURG

760 Burnham St., Cobourg, ON K9A 2X6

DRAWING TITLE:

WINDOW SECTION DETAILS

SCALE: A5 NOTED

DRAWING NUMBER:

DRAWN BY: JH

CHECKED BY: GW

A6

OF 6
23004

15802 REFRIGERANT SYSTEMS

- 1.1 Completed refrigeration systems must meet the requirements of ANSI B16.22 Wrought Copper and Copper Alloy Solder-joint Pressure Fittings, ANSI B31.5, Refrigeration Piping, ASME Sec. VIII, Boiler and Pressure Vessel Code for unfired vessels, ANSI ASHRAE 15 Safety Code for Mechanical Refrigeration, ASTM B280 Seamless Copper Tube for Air Conditioning and Refrigeration Field Service.
- 1.2 Install systems as per the manufacturer's requirements.
- 1.3 Co-ordinate layout and installation of tubing with other trades.
- 1.4 Support tubing 3/8" and under every 4'-0" and larger than 1/2" diameter every 6'-0".
- 1.5 Use plastic coated straps on copper tubes.
- 1.6 Insulate suction and liquid lines as per Section 15300.
- 1.7 All outside exposed refrigeration piping to be insulated and covered neatly with PVC jacketing.
- 1.8 Seal all penetrations through fire separations (corridor walls and mechanical room walls) to Code and ULC requirements, Use fire proof caulking equal to Hiti FS-1.

15802 ENERGY RECOVERY VENTILATORS

- 1.0 GENERAL
- 1.1 Refer to section 15800.
- 2.0 PRODUCTS: ERV-1
- 2.1.1 Capacities and sizes: refer to ERV schedule.
- 2.1.2 The Energy Recovery Ventilators ERV-1 shall have the following characteristics:
- Casing: 22 Ga painted galvanized steel double wall cabinet with 1" insulation. Access doors to be hinged with quarter turn handles, galvanized steel drain pan, 1" drain connections.
- Configuration: Vertical discharge and return. Extensions provided for vertical discharge and heating coils.
- Mounting: Roof Mounted on insulated roof curbs supplied by manufacturer, 14 for ERV-1.
- Exchanger: High Latent recovery core, performance certified to AHRI 1060.
- Blowers: Dynamically balanced with permanently sealed ball bearings.
- Motors: TEFC premium efficiency motors on supply and exhaust. Motor size as per manufacturer's selection. Provide VFDs on the motors for adjusting speeds upon commissioning. VFDs are to be equivalent to ABB 580
- Controls: 24v motor contactor with start-up from dry contact, 24v transformer for controls,
- Defrost Control: Supply blower shuts down and outside damper closes. Exhaust air continues to operate to provide washroom exhaust.
- Dampers: Include motorized dampers and actuators for supply and exhaust for night shutdown.
- Controls: Unit to have internal controls for selecting normal, defrost modes. Start-up/shut down to be by local timer.
- Dampers: Supply and exhaust motorized dampers to close on power failure and night shutdown, and defrost as above.
- Roof Curbs: Provided by manufacturer, as per schedule.
- Filters: 2" Pleated Merv 8 on exhaust, 2" Pleated MERV 8 on supply, replaceable
- Power: 208-3-60, Unit comes with non-fused disconnect.
- Hoods: Options include intake and exhaust hoods with bird screen.
- Shipping: Include Freight to Site
- Warranty: One year manufacturer's warranty on cores and equipment
One year supplier on parts and labour

- 2.1.3 Acceptable Product: NuAir ERV to be supplied as per schedule, available from: Kevin Noll, Master Group district sales rep, 1-705-790-6970
- 2.1.4 Note: Unit has been selected to provide 2400 cfm. The current requirement is for 1900 cfm; the increase will be required in a future renovation.

3.0 EXECUTION

- 3.1 Install the unit according to the manufacturer's recommendations on roof curbs provided with units. Mount the units level and true.
- 3.2 Pipe 3/4" condensate to roof.
- 3.3 Connect ducting with flexible neoprene connections.
- 3.4 Controls Contractor to provide duct temperature controller to provide a 0-10v signal to duct heater. Refer to detail on Dwg M11.
- 3.5 Air balance contractor to set fan speeds.
- 3.6 Units to be started by 24/ 7 timer provided with units.
- 3.7 Start-up by the manufacturer's representative the systems.
- 3.8 Demonstrate the unit to the Owner.

15715 ELECTRIC DUCT HEATER

- 1.1 Provide an electric duct heater for warming make-up air.

- 2.1 Coils to be of high grade nickel-chrome alloy and shall be insulated by ceramic bushings. Coil terminal pins to be SS.
- 2.2 Heaters to be slip in design with flange for side mounting on a duct.
- 2.3 Duct heaters to be equipped with fail-safe, auto reset, manual reset disc type thermal cutouts.
- 2.4 Heaters shall be CSA approved.
- 2.5 Heaters to be equipped with magnetic contactors, 24v transformer, airflow sensor, duct thermostat/sensor, SCR (proportional) control, load fuses, solid state relay, contactors, pilot lights, protective screens, built-in disconnect, etc.
- 2.6 Unit to be 30kW, to be installed in a 30x16 duct. Air flow to be 1900 cfm. Unit to operate on 208-3-60 power.
- 2.7 Unit to be supplied by Thermolec, Montreal, QC, 1-514-336-9130

- 3.0 Install where indicated and according to manufacturer's instructions.
- 3.1 Unit to be supplied and installed by Division 15, wired by Division 16.

15900 CONTROLS

- 1.1 The work of this section includes the following:
- installation of new control components including wall mounted heat pump controls.
- 2.1 All equipment supplied under this section shall be installed complete with all required electric control wiring by Division 15.
- 2.2 All control wiring will be less than 50 volts and shall be a minimum of #18 gauge wire and be plenum rated.
- 2.3 All control wiring, conduit, accessories, etc. shall be installed by the controls contractor in accordance with requirements specified by local electrical authority, all control wiring shall be concealed behind walls or ceilings. Where exposed in public spaces (classrooms) it shall be run in wiremold or painted conduit.
- 2.4 Control wiring in mechanical rooms can be exposed but must be neatly arranged and tied. All control wiring shall be labeled.
- 2.5 All power wiring shall be done by Division 16 and meet the requirements of the Ontario Electric Code.
- 2.6 Mount thermostats and temperature controllers 44" above finished floor to meet barrier free requirements.

15950 BALANCING AND TESTING & COMMISSIONING

- 1.0 Hire an independent balancing contractor and balance and test the new HVAC systems according to the most recent SMACNA standards. Prepare a written air balance report and submit for approval. All air flows are to be measured on forced air systems, along with motor HP, rpm, amperage draw, static pressures, fresh air intake, exhaust air, etc.
- 2.0 Start-Up and Commissioning
- 2.1 Start up of equipment shall be as per the manufacturer's instructions.
- 2.2 Once the equipment is commissioned to requirements, the contractor shall arrange for a demonstration and training of the equipment with the Owner and Consultant to verify that the equipment is operating satisfactory. This shall form part of the requirements for project completion before any holdback is released.
- 3.0 Documentation
- 3.1 Provide final maintenance manuals and as-built drawings. Final holdback will not be paid until this documentation has been received.

PLUMBING FIXTURE SCHEDULE						
REF.	FIXTURE NAME	HOT	COLD	DRAIN	VENT	REMARKS
C.O.	CLEAN OUT	-	-	-	-	ZURN ZN-1602, ADJUSTABLE HEAD WITH BODY SLEEVE SEAL
LAV1	LAVATORY (ACCESSIBLE)	1/2"	1/2"	1 1/2"	1 1/4"	ADA COMPLIANT LAVATORY: 22" x 21" LAVATORY REAR OVERFLOW, FIRE CLAY CHINA, WALL HUNG WITH CUTOUT TEMPLATE AND MOUNTING KIT. 4" CENTRES FOR FAUCET, AMERICAN STANDARD MURRO #0954 000. FAUCET TO BE POLISHED CHROME PLATE FINISH, SOLID METAL CONSTRUCTION, GOOSENECK DESIGN, WRIST BLADE HANDLES WITH HOT AND COLD INDICATORS, AERATOR LIMITED TO 4.5 L/MIN, EQUAL TO MOEN DURA #8279. DRAIN TO BE MCGUIRE #155wc CHROME PLATED BRASS, POLISHED DRAIN, OFFSET OPEN GRID STRAINER, CAST BRASS 1 1/2". MCGUIRE #LF165 SUPPLIES, CHROME PLATED, POLISHED SHORT RIGID ANGLE WITH ESCUTCHEONS AND BRAIDED FLEXIBLE HOSES. MCGUIRE #8088 C.P. POLISHED P TRAP, CAST BRASS, 1 1/2" WITH CLEAN-OUT AND ESCUTCHEON.
LAV2	LAVATORY (BARRIER FREE)	1/2"	1/2"	1 1/2"	1 1/4"	18 1/2" x 20 1/2" WHITE VITREOUS CHINA WALL HUNG SINK, 3 HOLE, 4" CENTRES, FRONT OVERFLOW, c/w WALL HANGER, EQUAL TO AMERICAN STANDARD LUCERNE 0355.012 FAUCET TO BE POLISHED CHROME PLATE FINISH, SOLID METAL CONSTRUCTION, GOOSENECK DESIGN, SMOOTH WRIST BLADE HANDLES, AERATOR LIMITED TO 4.5 L/MIN, EQUAL TO MOEN DURA #8279SMF12. DRAIN TO BE MCGUIRE #155A CHROME PLATED, POLISHED DRAIN, OPEN GRID STRAINER, CAST BRASS 1 1/2". MCGUIRE #LF165 SUPPLIES, CHROME PLATED, POLISHED SHORT RIGID ANGLE WITH ESCUTCHEONS AND BRAIDED FLEXIBLE HOSES. MCGUIRE #8872C C.P. POLISHED P TRAP, CAST BRASS, 1 1/2" WITH CLEAN-OUT AND ESCUTCHEON.
WC1	WATER CLOSET (ACCESSIBLE)	-	-	3"	1 1/2"	BARRIER FREE HEIGHT, WHITE VITREOUS CHINA, ELONGATED BOWL, FLOOR MOUNTED AND TANK WATER CLOSET, 4.8 LPF, AMERICAN STANDARD CADET 215AA.104 SEAT TO BE BEMIS HEAVY DUTY, SOLID WHITE PLASTIC, IMPACT RESISTANT, OPEN FRONT, "STA-TITE" PLASTIC HINGES WITH SS POSTS. PLUMBER TO ADJUST LOCATION OF THE FLOOR FLANGE AS REQUIRED.
WC2	WATER CLOSET (REGULAR)	-	1/2"	3"	1 1/2"	REGULAR HEIGHT, WHITE VITREOUS CHINA, ROUND BOWL, FLOOR MOUNTED WATER CLOSET & TANK, 4.8 LPF TOILET, AMERICAN STANDARD CADET 215DA.104 OR EQUAL. SEAT TO BE BEMIS HEAVY DUTY, SOLID WHITE PLASTIC, IMPACT RESISTANT, OPEN FRONT, "STA-TITE" PLASTIC HINGES WITH SS POSTS. PLUMBER TO ADJUST LOCATION OF THE FLOOR FLANGE AS REQUIRED.
U	URINAL	-	1"	2"	1 1/2"	VITREOUS CHINA FLUSHING RIM, SIDE SHIELDS, 3/4" TOP SPUD INLET, 2" OUTLET, WALL HANGERS, EQUAL TO AMERICAN STANDARD WASHBROOKE 6590.001. FLUSH VALVE TO BE CHROME PLATED BRASS CONSTRUCTION, HANDS FREE SENSOR OPERATED, BATTERY POWERED WITH MANUAL OVERRIDE BUTTON, FULLY ENCLOSED SENSOR, 24 HR NON-USE AUTOFLUSH, LOW BATTERY INDICATOR, 0.9 LPF (1 USGal/F), EQUAL TO AMERICAN STANDARD 6063051.002
S1	KITCHEN SINK	1/2"	1/2"	1 1/2"	1 1/4"	20" X 20" X 8" DP. SINGLE COMPARTMENT, 20 GAUGE LEDGEBACK STAINLESS STEEL SINK, 3 HOLES, EQUAL TO KINDRED STEELQUEEN QSL2020/8. FAUCET TO BE POLISHED CHROME PLATED, 8" CENTRES, SINGLE HANDLE, CHROME PLATED, 5.7 L/MIN (1.5 USGPM), EQUAL TO MOEN CHATEAU 7425.
S2	WASH BASIN	1/2"	1/2"	1 1/2"	1 1/4"	EXISTING BRADLEY STYLE WASH BASINS ARE TO BE RE-USED.
S3	JANITOR'S SINK	1/2"	1/2"	2"	1 1/2"	EXISTING JANITOR'S SINK TO REMAIN IN PLACE.
HWT	HOT WATER TANK	3/4"	3/4"	-	-	41 IMP GAL (184 LITRE) ELECTRIC HOT WATER HEATER , 3000 WATTS, 240V POWER, UNIT TO BE SUPPLIED WITH ASME RATED T&P VALVE, GLASS LINED INNER TANK, INSULATED WITH HIGH DENSITY FOAM INSULATION, AUTOMATIC TEMPERATURE CONTROLLER, DRAIN VALVE. 3/4" DIELECTRIC WATER CONNECTIONS, BOTTOM COLD WATER ENTRY, 6 YEAR LIMITED WARRANTY, AND BE LISTED BY CSA 22.2. THE UNIT SHALL BE EQUAL TO GIANT 152E-2F8M
TV1	THERMOSTATIC MIXING VALVE	3/4"	3/4"	-	-	ADJUSTABLE TEMPERATURE SETTING, CAST BRASS BODY, LEAD FREE, INTEGRAL CHECK VALVE, MAX 200F, 150 PSI TO CSA B125, UNION SWEAT CONNECTIONS, EQUAL TO WATTS/POWERS #FLM491-1. MOUNT ON HOT WATER TANK AND SET FOR 110oF.
HD	HUB DRAIN	-	-	1 1/2"	1 1/4"	PVC HUB DRAIN FOR LOCATED NEAR FLOOR FOR INDIRECT DRAIN.
RD	ROOF DRAIN	-	-	4"	-	DURA-COATED, CAST IRON BODY, WITH COMBINATION MEMBRANE FLASHING CLAMP & GRAVEL GUARD AND POLYDOME, EQUAL TO ZURN Z-100. CONTRACTOR TO SELECT OPTIONS TO SUIT MEMBRANE ROOF.

FAN SCHEDULE							
Item	Name	Airflow (c/m)	ESP (c'c)	Motor	Power (v-ph-hz)	Model	Description
EF-1 EF-2	WC EXHAUST FAN	90	.25	30 watts 1161 rpm	120-1-60	PANASONIC WHISPER CEILING FV-11VQ5	LOW NOISE CEILING MOUNTED EXHAUST FAN, CENTRIFUGAL, DIRECT DRIVE, HOUSING MADE OF GALVANIZED STEEL, INTEGRAL BACKDRAFT DAMPER, PLASTIC GRILLE, 4 POLE PLUG-IN MOTOR, 6" DUCT OUTLET, AMCA RATED. INSTALL ON CEILING AND OPERATE BY WALL TIMER BY DIV 16

NOTES

1. ERV-1 IS 100% FRESH AIR AND 100% EXHAUST.
2. In this design fire smoke dampers are not specified as the ERV system also acts as a smoke exhaust system since the movement or air is continuous, and the configuration of the air handling system prevents the recirculation of exhaust or return air under fire emergency conditions as per OBC 3.1.8.8A, item 1(c) .

HEAT PUMP SCHEDULE

System	Item	Cooling (BTU/hr)	Heating (BTU/hr)	Electric Heat (kW)	Air Flow (cfm)	Power			Noise (dBA)	Weight (lb.)	Model	Remarks
						MCA	Fuella	Volt				
CLASSROOM #107	AH-1	33,000	38,000 AT 17oF	10 kW (separate feed)	1000 CFM AT 0.8"WC	5.6	15	208/230	43	175	MITSUBISHI PVA-A36AA7	VERTICAL CLOSET AIR HANDLER
	C-1						26	42	208/230	51	290	MITSUBISHI PUZ-HA36NKAA
CLASSROOM #107	AH-1	33,000	38,000 AT 17oF	10 kW (separate feed)	1000 CFM AT 0.8"WC	5.6	15	208/230	43	175	MITSUBISHI PVA-A36AA7	VERTICAL CLOSET AIR HANDLER
	C-1						26	42	208/230	51	290	MITSUBISHI PUZ-HA36NKAA
CLASSROOM #107	AH-1	33,000	38,000 AT 17oF	10 kW (separate feed)	1000 CFM AT 0.8"WC	5.6	15	208/230	43	175	MITSUBISHI PVA-A36AA7	VERTICAL CLOSET AIR HANDLER
	C-1						26	42	208/230	51	290	MITSUBISHI PUZ-HA36NKAA
CLASSROOM #107	AH-1	33,000	38,000 AT 17oF	10 kW (separate feed)	1000 CFM AT 0.8"WC	5.6	15	208/230	43	175	MITSUBISHI PVA-A36AA7	VERTICAL CLOSET AIR HANDLER
	C-1						26	42	208/230	51	290	MITSUBISHI PUZ-HA36NKAA

- INDOOR SYSTEMS TO BE SUPPLIED WITH THE FOLLOWING ACCESSORIES:
WIRED CONTROLLER PROGRAMMABLE 24/ 7 THERMOSTAT PAR-41MAA & WALL BRACKET TO CONTROL ALL AIR HANDLER. MERV 11 AIR FILTER.
- PROVIDE OPTIONAL 10 Kw ELECTRIC HEATER EH10-MPA-LB, WITH SEPARATE POWER FEED. ELECTRIC HEATER CONTROLLED BY AIR HANDLER
- OUTDOOR UNITS TO BE SUPPLIED WITH: 18" HIGH MOUNTING STAND.
- CONTRACTOR TO ENSURE THAT MANUFACTURER'S REFRIGERANT PIPING LENGTH AND SIZE REQUIREMENTS ARE MET.
- **EQUIVALENT DAIKIN OR FUJITSU UNITS ARE ACCEPTABLE.

BASEBOARD HEATERS

Item	Heat (catt.)	Length (inches)	Model	Remarks
BB-1, BB-2	2000	96"	OUELLET OFM2008	WHITE ELECTRIC BASEBOARD HEATER, 208 VOLTS, c/w LINE VOLTAGE TAMPERPROOF BUILT-IN THERMOSTAT SUPPLIED AND INSTALLED BY DIVISION 15 AND WIRED BY DIV 16.

ELECTRIC CABINET HEATERS

Item	Capacity	Model	Remarks
CH-1	3kW/208-1PH	OUELLET OAC 04000-T	ELECTRIC CABINET HEATER, SS TUBULAR ELEMENTS, SURFACE MOUNT, WHITE, 208/1/60 POWER, c/w TAMPERPROOF BUILT-IN THERMOSTAT, SUPPLIED AND INSTALLED BY DIVISION 15 AND WIRED BY DIV 16.
CH-2, CH-3	2kW/208-1PH	OUELLET OLI 2008	ELECTRIC CABINET CONVECTOR, SS TUBULAR ELEMENTS, WHITE CABINET, 208/1/60 POWER, c/w TAMPERPROOF BUILT-IN THERMOSTAT, SUPPLIED AND INSTALLED BY DIVISION 15 AND WIRED BY DIV 16.

DIFFUSER SCHEDULE

Item	Size	No. of Joints	Colour	EH Price Model	Remarks
D1	24x24	6"	WHITE	6/24x24/SCD/3/3C/B12	
D2	24x24	8"	WHITE	8/24x24/SCD/3/3C/B12	
D3	24X24	10"	WHITE	10/24x24/SCD/3/3C/B12	
D4	12X12	6"	WHITE	6/12x12/SCD/3/3C/B12	

GRILLE SCHEDULE

Item	Type	Colour	EH Price Model	Remarks
G1	RET	WHITE	24x24/80/F/A/B12	WITH BALANCING DAMPER
G2	RET	WHITE	12x12/80/F/A/B12	WITH BALANCING DAMPER
G3	RET	WHITE	18x22/530/S/F/A/B12	WITH BALANCING DAMPER
G4	SUP	WHITE	14x10/520/L/F/A/B12	WITH BALANCING DAMPER
G5	RET	WHITE	16x16/80/F/A/B12	WITH BALANCING DAMPER

ERV □NITS - ROOF MO□NTED										ENERGY WHEEL	VERTICAL DISCH.	14" ROOF CURB	MOTORIZED OUTDOOR DAMPERS	DIRTY FILTER SWITCH	SMOKE DETECTORS	NF DISCONNECT	BMS CONNECTION	
□nit	Airlo□ (c.m)	Fre□h Air (c.m)	Supply Fan		Ex□hau□t Fan		Electrical											Model No.
			E.S.P. ("□c)	Motor HP	E.S.P. ("□c)	Motor HP	MCA amp	Fu□le amp	volt□ph									
ERV-1	2400	100%	0.75"	1.0	0.75"	1.0			208/3	NU-AIR 2540 MOTORS TO BE PREMIUM EFFICIENCY TEFC, POWERED VIA VFDs.	X	X	X	X	X	X		

					-
					-
0	JUL 4 25	FOR PERMIT AND TENDER	AB		-
P3	JUN 1 25	90% SUBMISSION	AB		-
Rev.	Date	Description	By	App.	

NOVADYNE
269 North Indian Road Tel: (705) 696-2119
Hamilton, ON, Canada
K0L 1Y0

REGISTERED PROFESSIONAL ENGINEER
A.G. BUCHKOWSKI
JUL 3, 2025
PROVINCE OF ONTARIO
MECHANICAL

DWN. AB MAY 2025
CHK.
DSN. A. BUCHKOWSKI MAY 2025
SCALE: As Noted

CLIENT

**Peterborough Victoria Northumberland and Clamington Catholic District School Board**

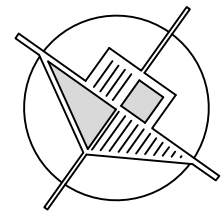
PROJECT
CLASSROOM RENOVATIONS
NOTRE DAME CES, COBOURG, ON

TITLE
SCHEDULES AND DETAILS

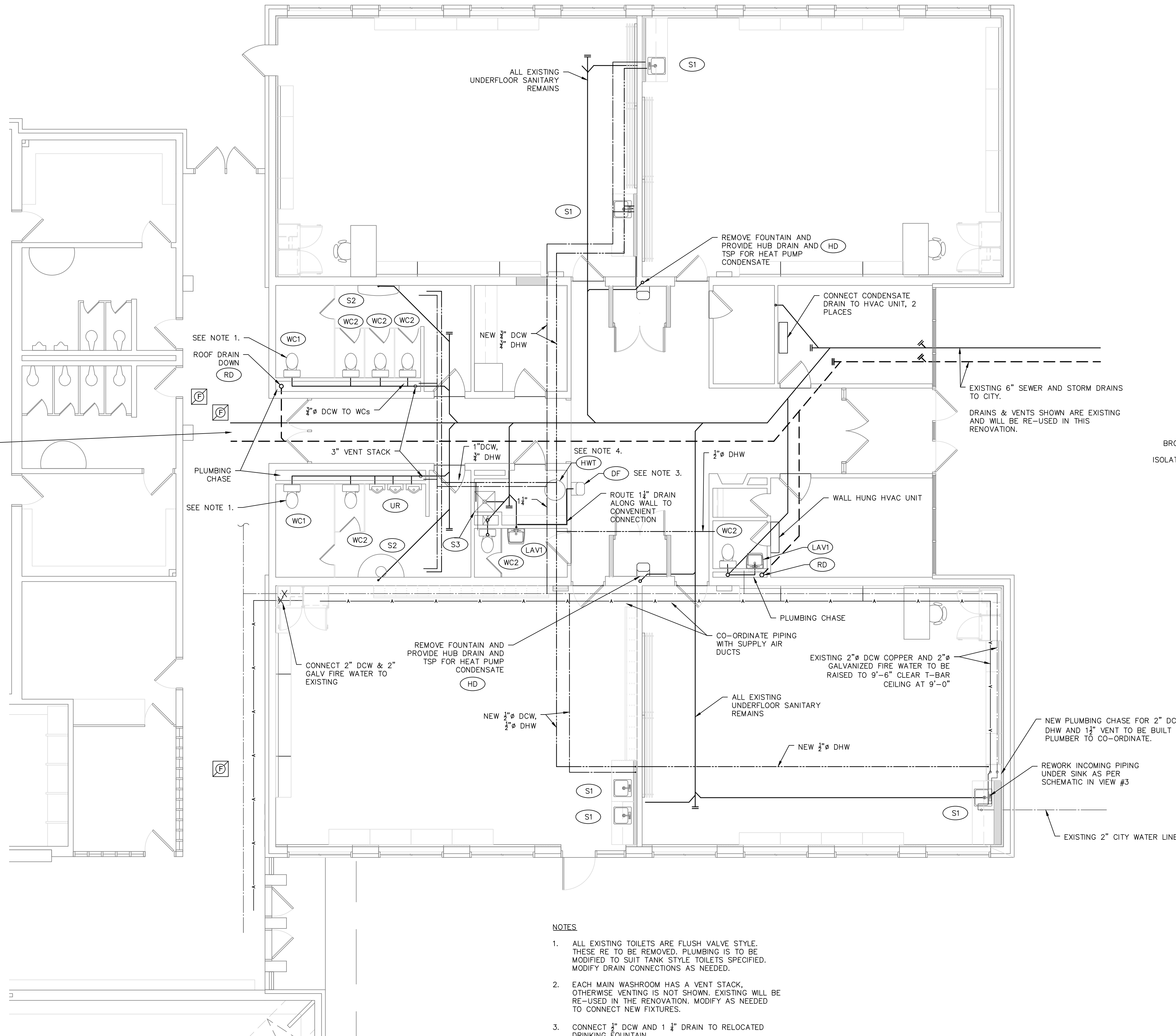
FILE No. 0674-M2
CLIENT FILE No.

DWG. No. M2

Rev. No. 0



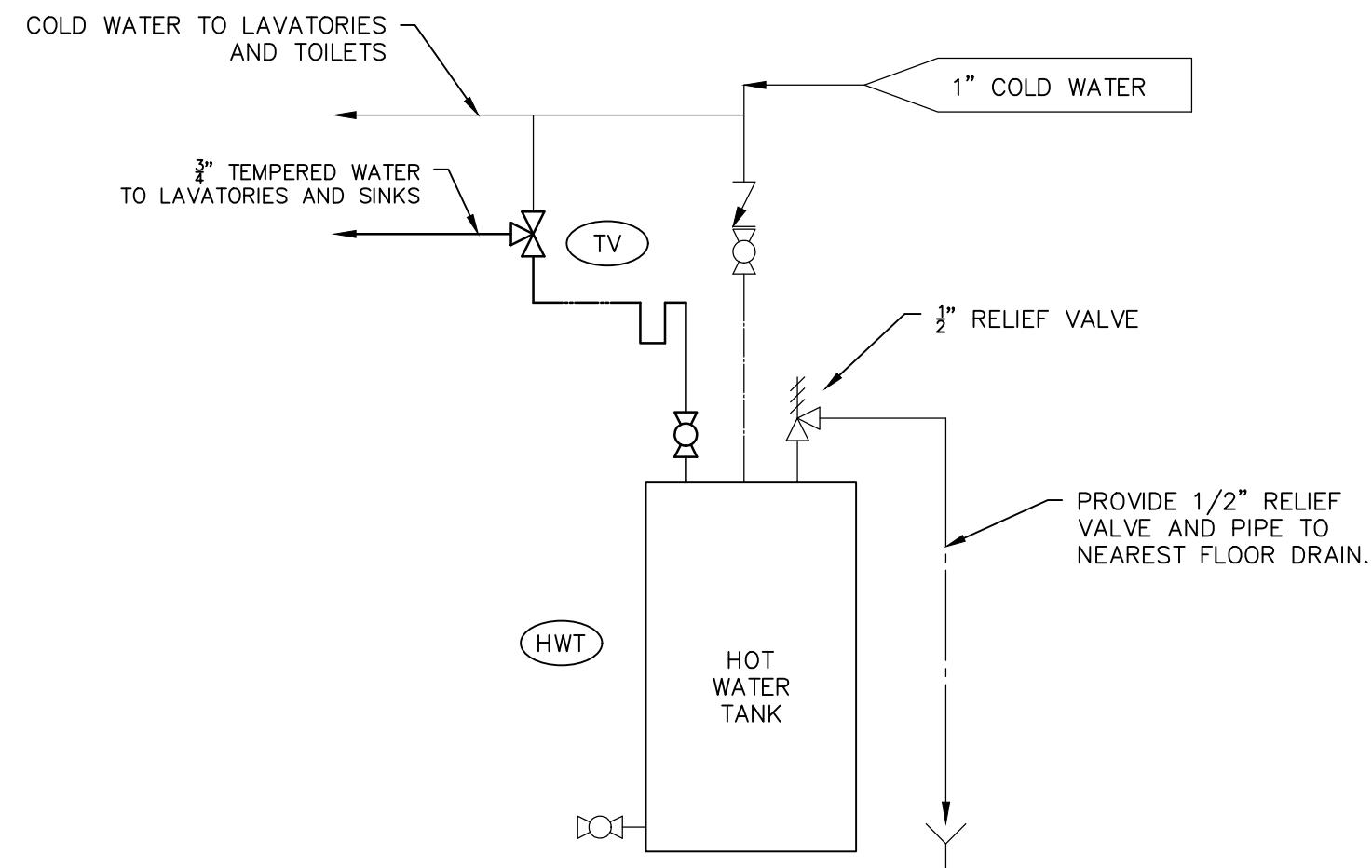
6"Ø SANITARY AND STORM TO REMAINDER OF THE SCHOOL



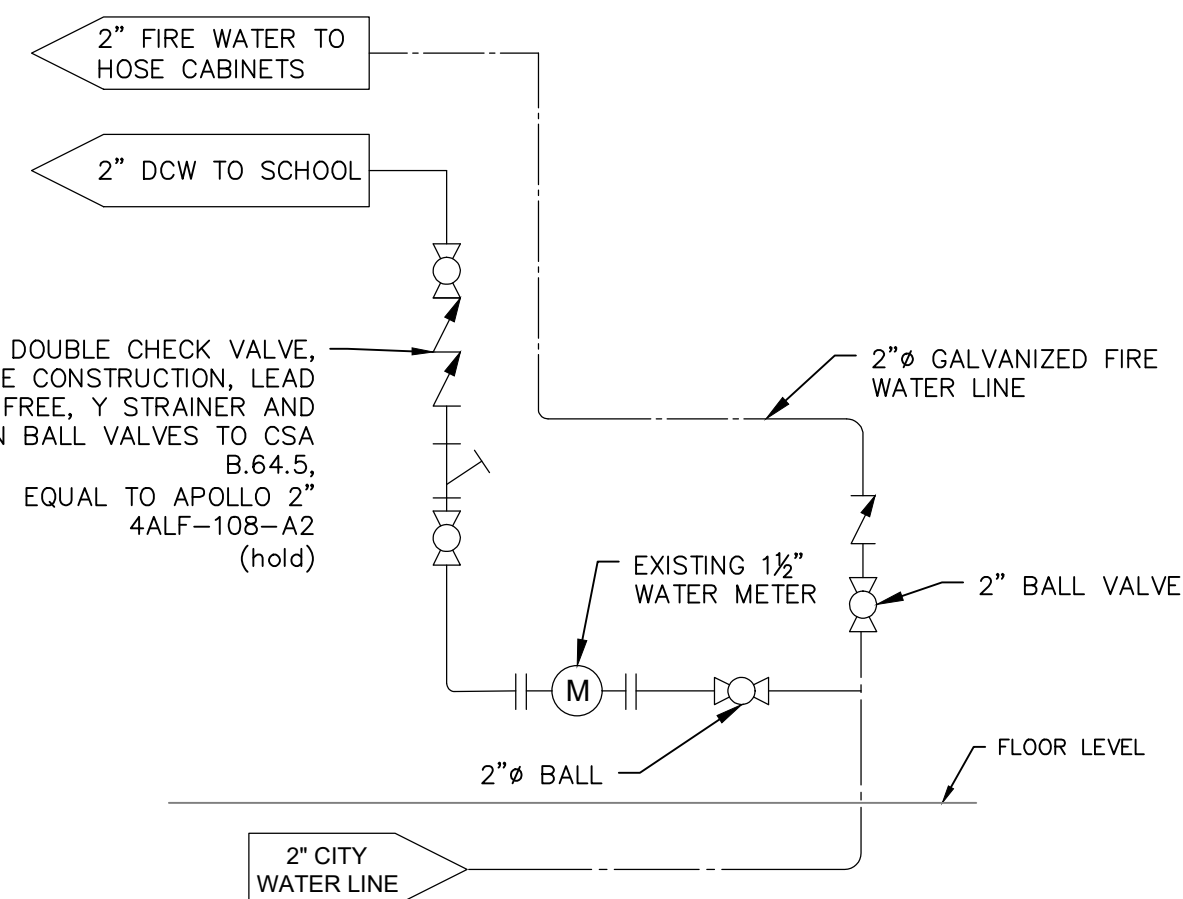
NOTES

- ALL EXISTING TOILETS ARE FLUSH VALVE STYLE. THESE RE TO BE REMOVED. PLUMBING IS TO BE MODIFIED TO SUIT TANK STYLE TOILETS SPECIFIED. MODIFY DRAIN CONNECTIONS AS NEEDED.
- EACH MAIN WASHROOM HAS A VENT STACK. OTHERWISE VENTING IS NOT SHOWN. EXISTING WILL BE RE-USED IN THE RENOVATION. MODIFY AS NEEDED TO CONNECT NEW FIXTURES.
- CONNECT 1/2\"/>
- INSTALL NEW HOT WATER TANK AS PER SCHEMATIC ON THIS DRAWING.

1 FLOOR PLAN
SCALE: 1/4\"/>



2 ELECTRIC HOT WATER TANK
SCALE: NOT TO SCALE



3 WATER SERVICE SCHEMATIC
SCALE: NTS

Rev.	Date	Description	By	App.
0	JUL 4 25	FOR PERMIT AND TENDER	AB	-
P3	JUN 1 25	FOR CO-ORDINATION	AB	-

NOVADYNE

269 North Indian Road Tel: (705) 696-2119
Halting: ON, Canada
K0L 1Y0



DWN.	AB	JUN 25
CHK.		
DSN.	A. BUCHKOWSKI	JUN 25
SCALE:	As Noted	

CLIENT



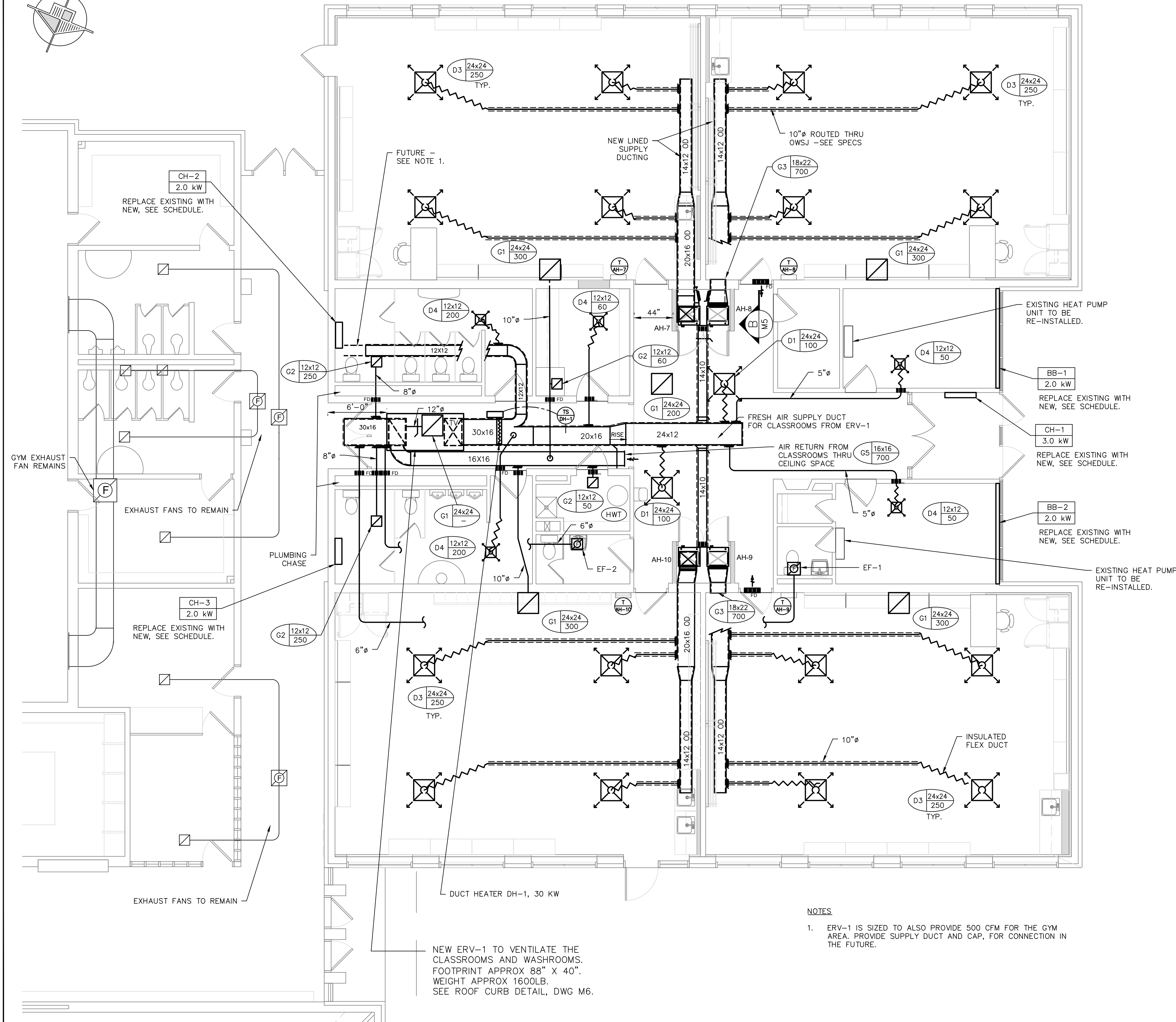
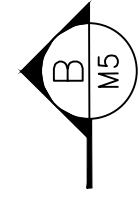
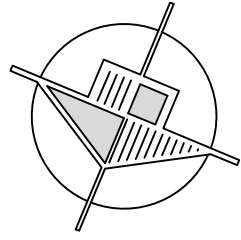
PROJECT

CLASSROOM RENOVATIONS
NOTRE DAME CES, COBOURG, ON

TITLE

PLUMBING PLANS

FILE No.	0674-M3	DWG. No.	M3	Rev. No.	0
CLIENT FILE No.					



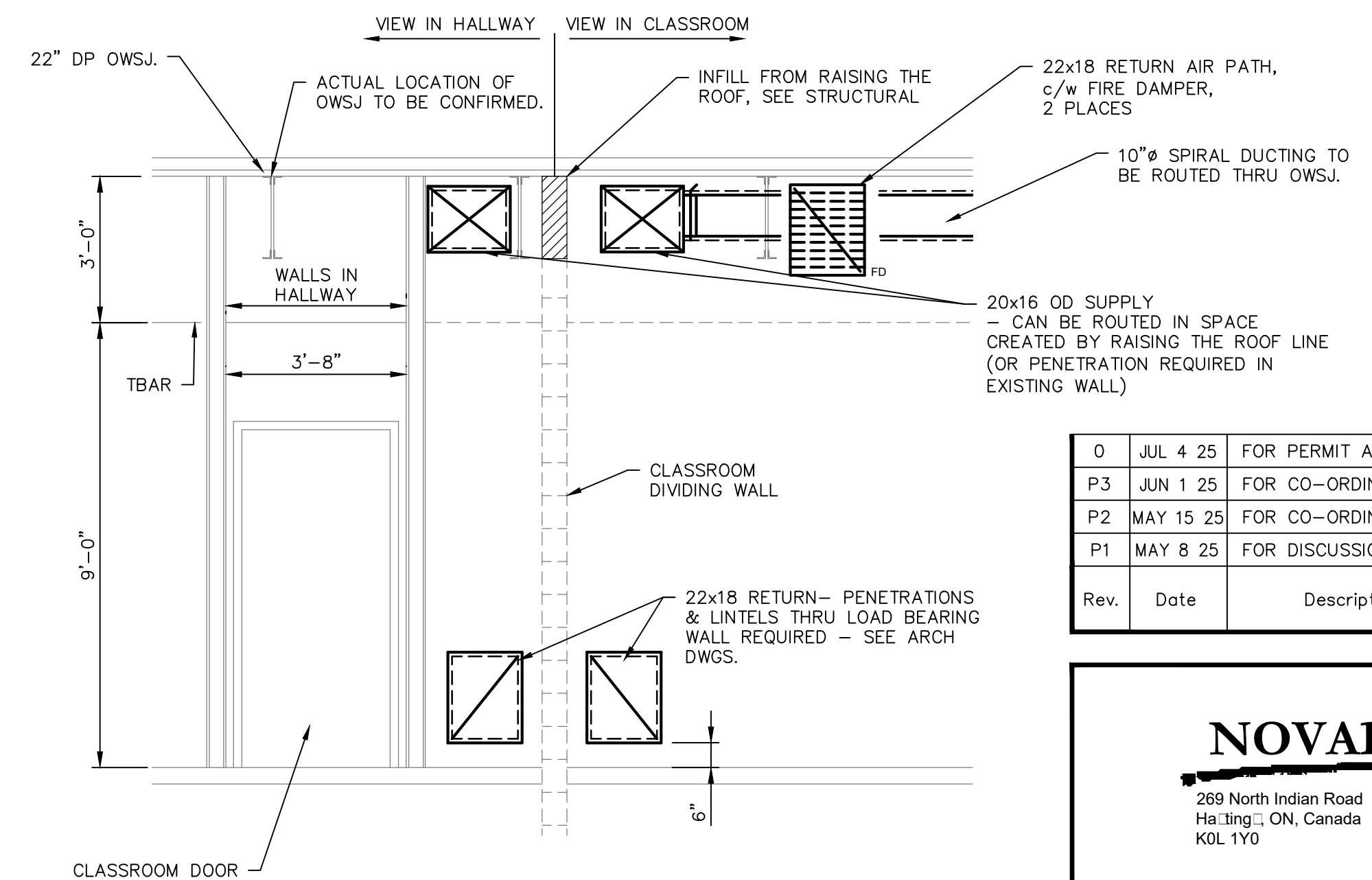
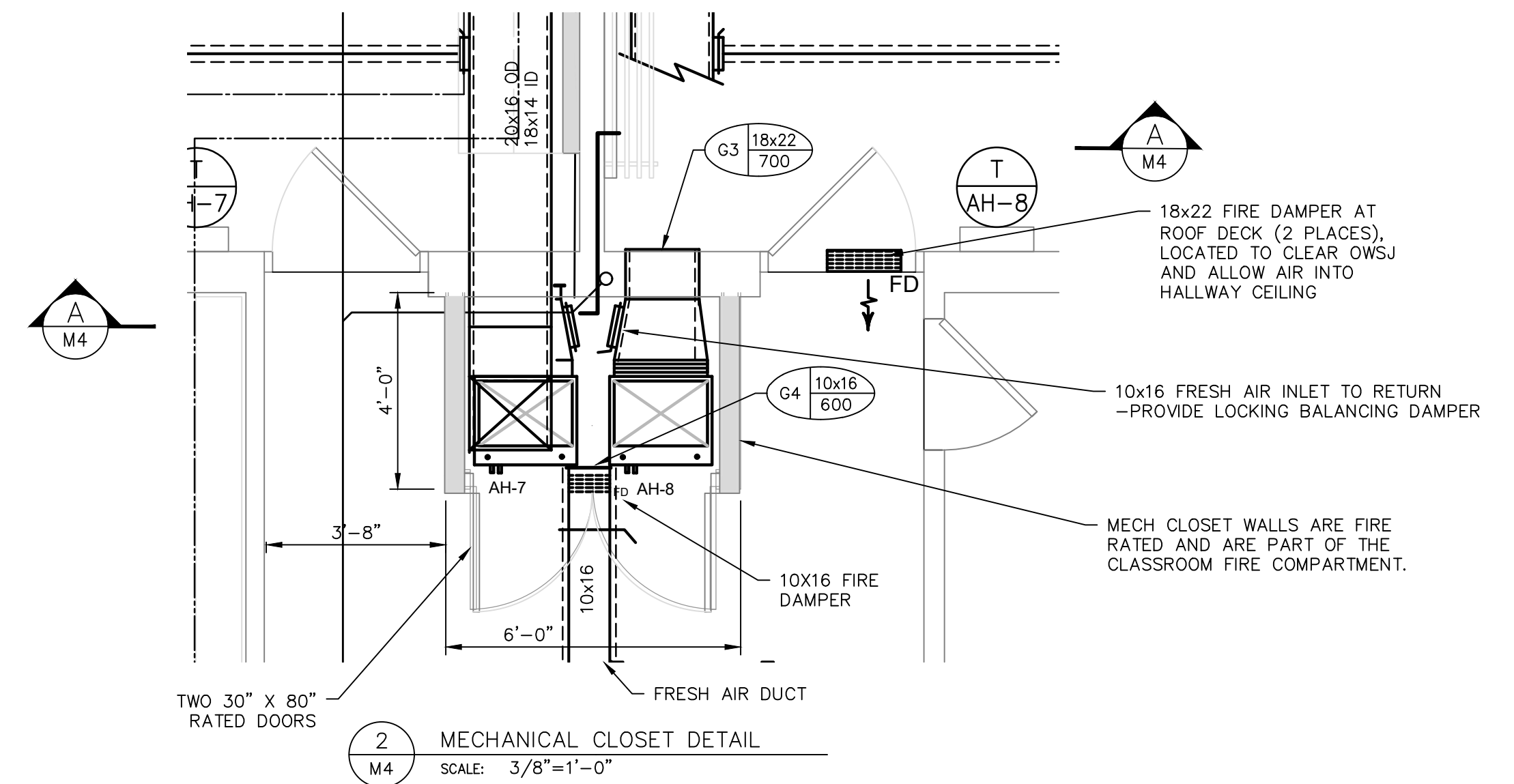
NOTES

- ERV-1 IS SIZED TO ALSO PROVIDE 500 CFM FOR THE GYM AREA. PROVIDE SUPPLY DUCT AND CAP, FOR CONNECTION IN THE FUTURE.

1
M4
MAIN FLOOR PLAN - HVAC
SCALE: 3/16"=1'-0"

MECHANICAL CLOSETS ARE LOCATED BETWEEN THE TWO CLASSROOMS. EACH CONTAINS AN AIR HANDLER FOR EACH CLASSROOM. FRESH AIR IS SUPPLIED TO THE UNITS FROM THE NEW ERV. FIRE RATED DOUBLE DOORS MAKE THE AIR HANDLERS PART OF THE CLASSROOM. THERE IS A SUPPLY DUCT TO THE ROOM AND A RETURN DUCT NEAR THE FLOOR. SOME EXISTING MASONRY WILL HAVE TO BE REMOVED TO ALLOW THIS. LINTELS REQUIRED.

ARRANGEMENT IS SIMILAR FOR ALL CLASSROOMS.



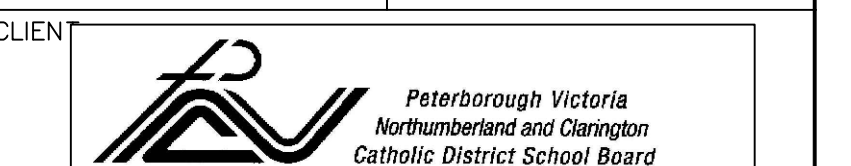
Rev.	Date	Description	By	App.
0	JUL 4 25	FOR PERMIT AND TENDER	AB	-
P3	JUN 1 25	FOR CO-ORDINATION	AB	-
P2	MAY 15 25	FOR CO-ORDINATION	AB	-
P1	MAY 8 25	FOR DISCUSSION	AB	-

NOVADYNE

269 North Indian Road Tel: (705) 696-2119
Hawking, ON, Canada
K0L 1Y0



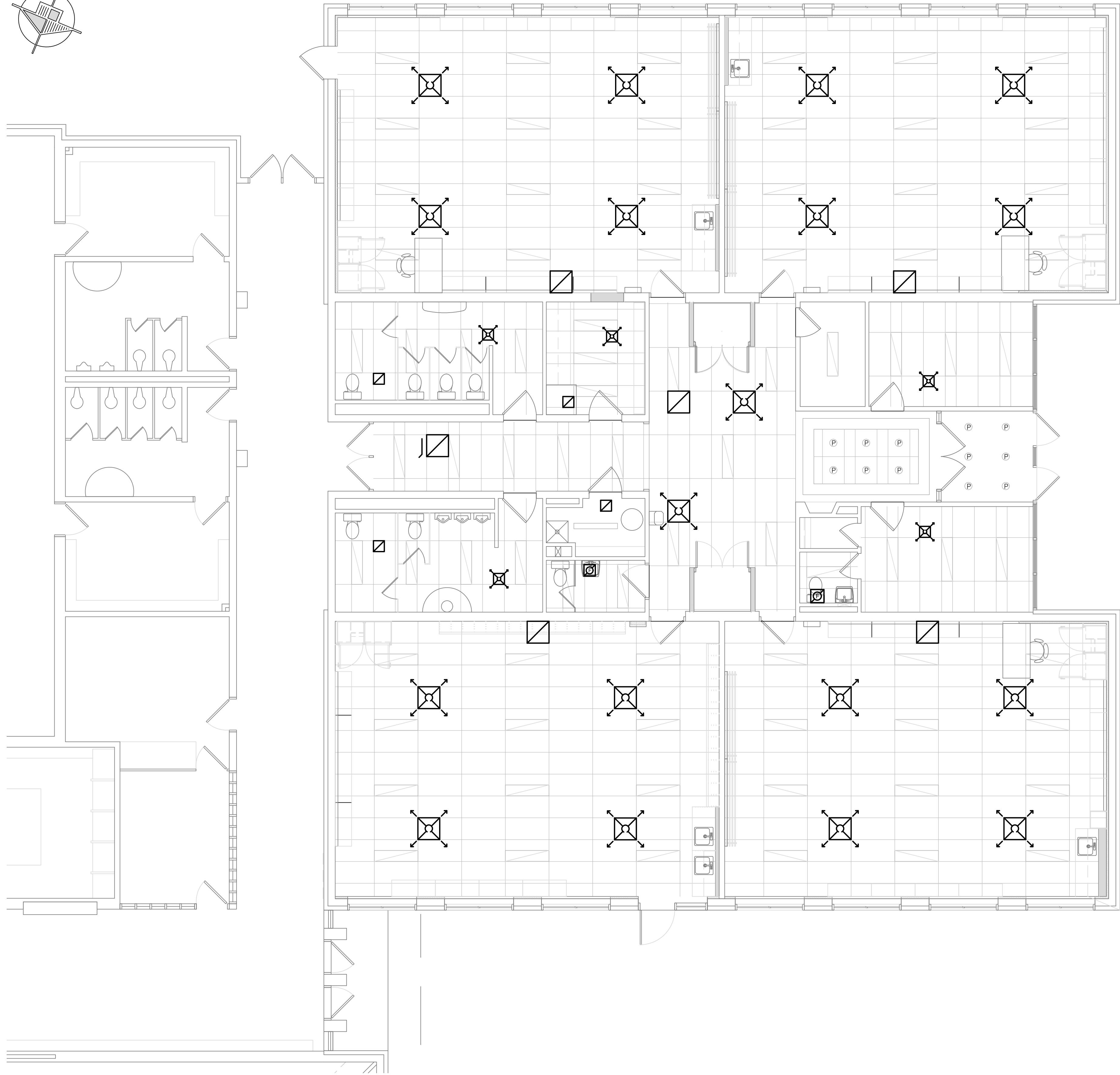
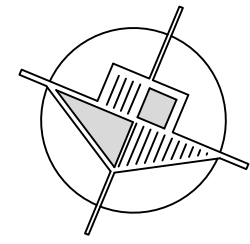
DWN.	AB	MAY 2025
CHK.		
DSN.	A. BUCHKOWSKI	MAY 2025
SCALE:	As Noted	



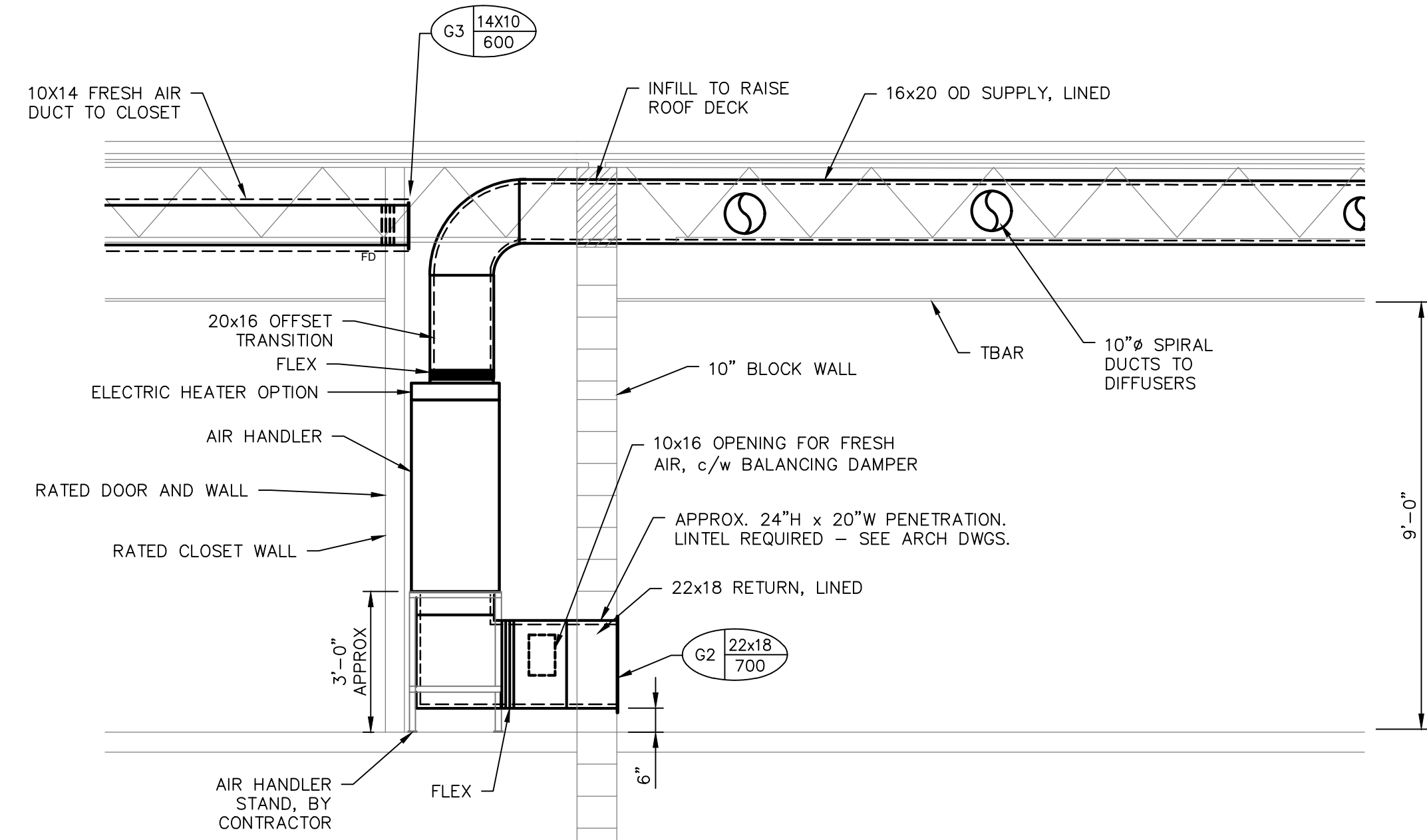
PROJECT
CLASSROOM RENOVATIONS
NOTRE DAME CES, COBOURG, ON

TITLE
MAIN FLOOR HVAC PLANS

FILE No.	DWG. No.	Rev. No.
0674-M4		
CLIENT FILE No.	M	0



1 REFLECTED CEILING PLAN
SCALE: 3/16"=1'-0"



2 SECTION B-B
SCALE: 1/4"=1'-0"

0	JUL 4 25	FOR PERMIT & TENDER	AB	-
P3	JUN 1 25	FOR CO-ORDINATION	AB	-
P2	MAY 15 25	FOR CO-ORDINATION	AB	-
P1	MAY 8 25	FOR DISCUSSION	AB	-
Rev.	Date	Description	By	App.

NOVADYNE
269 North Indian Road Tel: (705) 696-2119
Hawkington, ON, Canada
K0L 1Y0

	DWN.	AB	MAY 2025
	CHK.		
	DSN.	A. BUCHKOWSKI	MAY 2025
	SCALE:	As Noted	

CLIENT

**Peterborough Victoria
Northumberland and Clarington
Catholic District School Board**

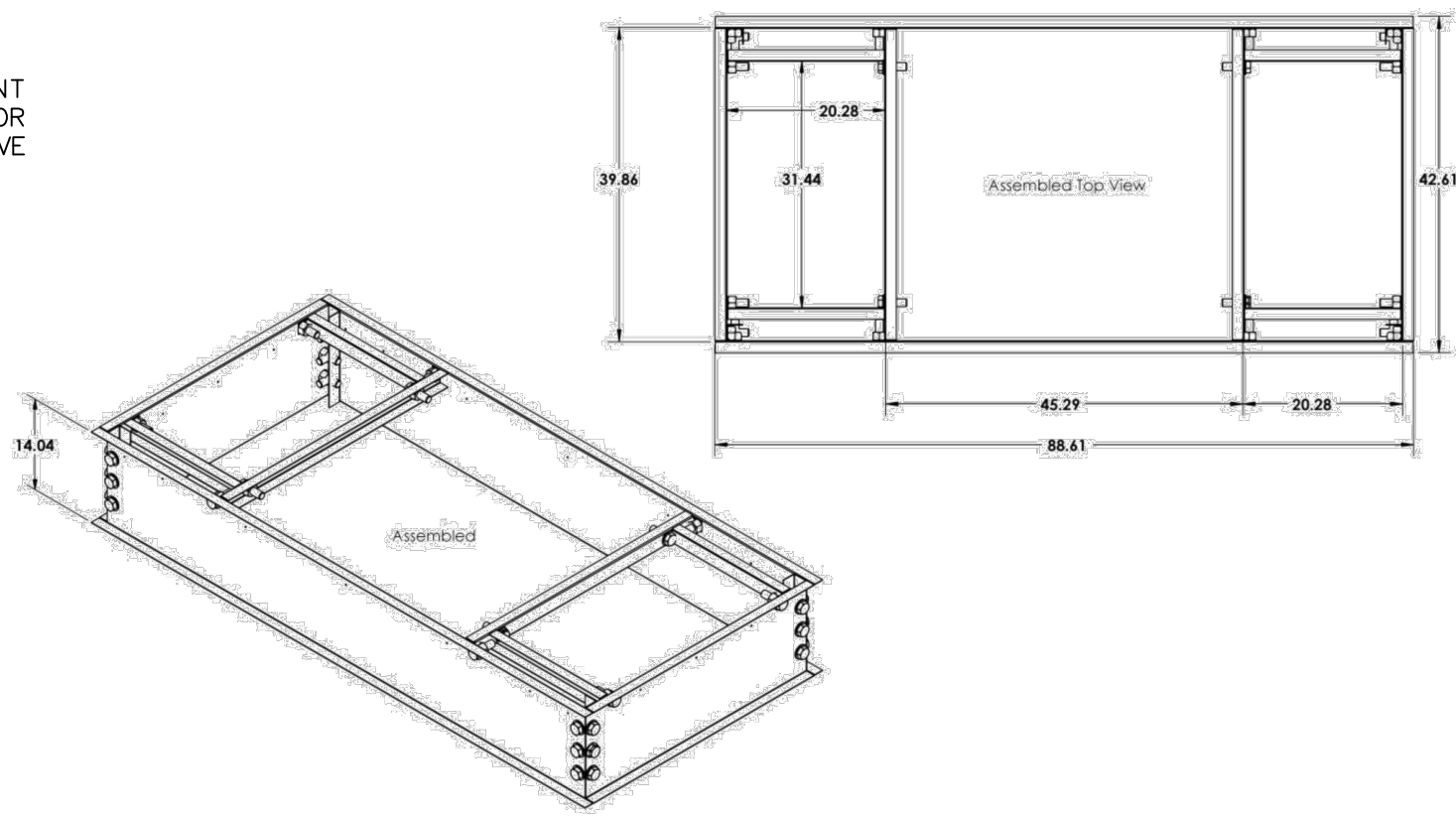
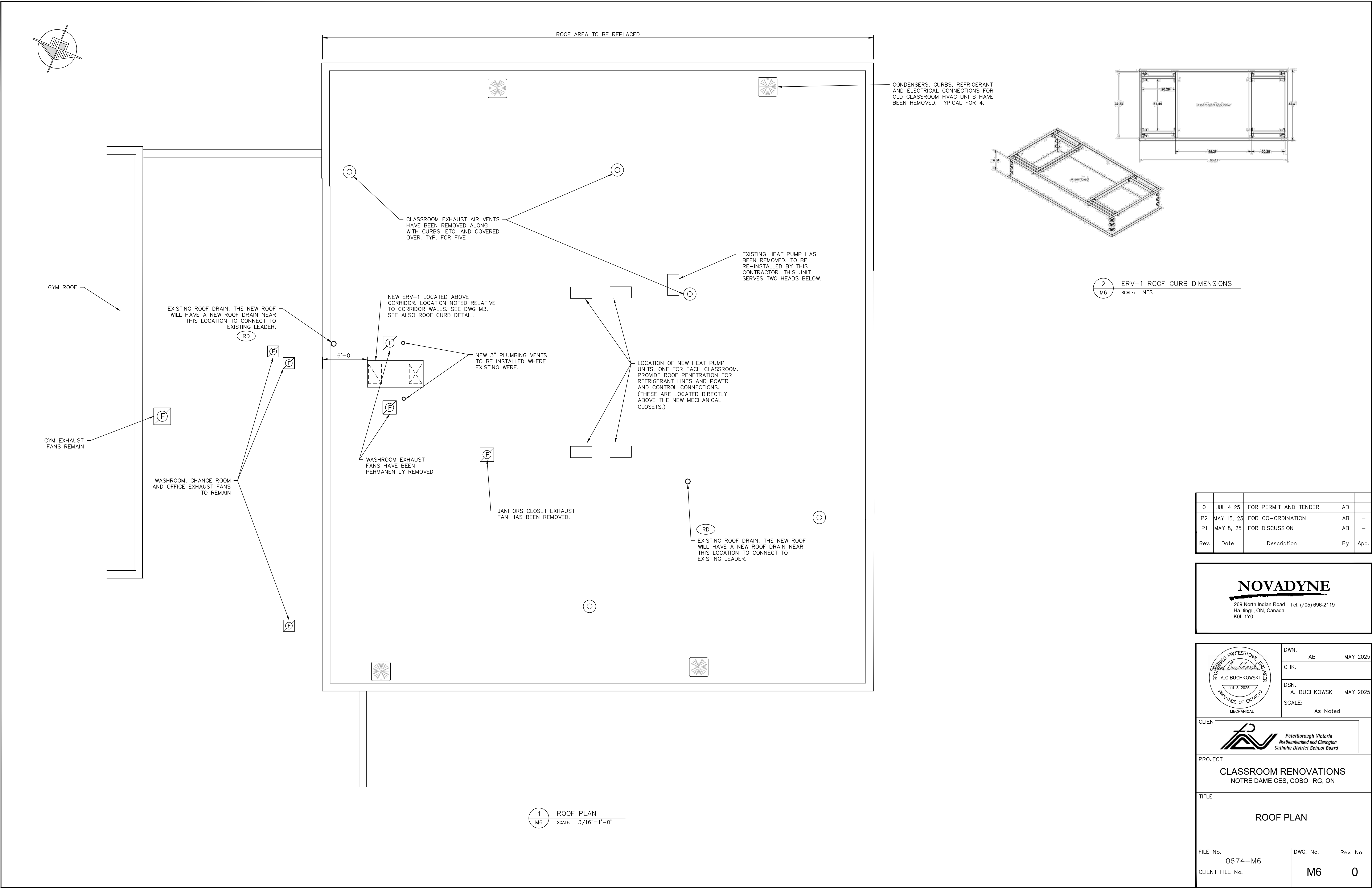
PROJECT

CLASSROOM RENOVATIONS
NOTRE DAME CES, COBOURG, ON

TITLE

**REFLECTED CEILING PLAN
AND DETAILS**

FILE No.	DWG. No.	Rev. No.
0674-M5	M5	0
CLIENT FILE No.		



2 ERV-1 ROOF CURB DIMENSIONS
M6 SCALE: NTS

Rev.	Date	Description	By	App.
0	JUL 4 25	FOR PERMIT AND TENDER	AB	—
P2	MAY 15, 25	FOR CO-ORDINATION	AB	—
P1	MAY 8, 25	FOR DISCUSSION	AB	—

NOVADYNE
269 North Indian Road Tel: (705) 696-2119
Halting, ON, Canada
K0L 1Y0

DWN. AB MAY 2025
CHK.
DSN. A. BUCHKOWSKI MAY 2025
SCALE: As Noted

CLIENT

Peterborough Victoria
Northumberland and Clarington
Catholic District School Board

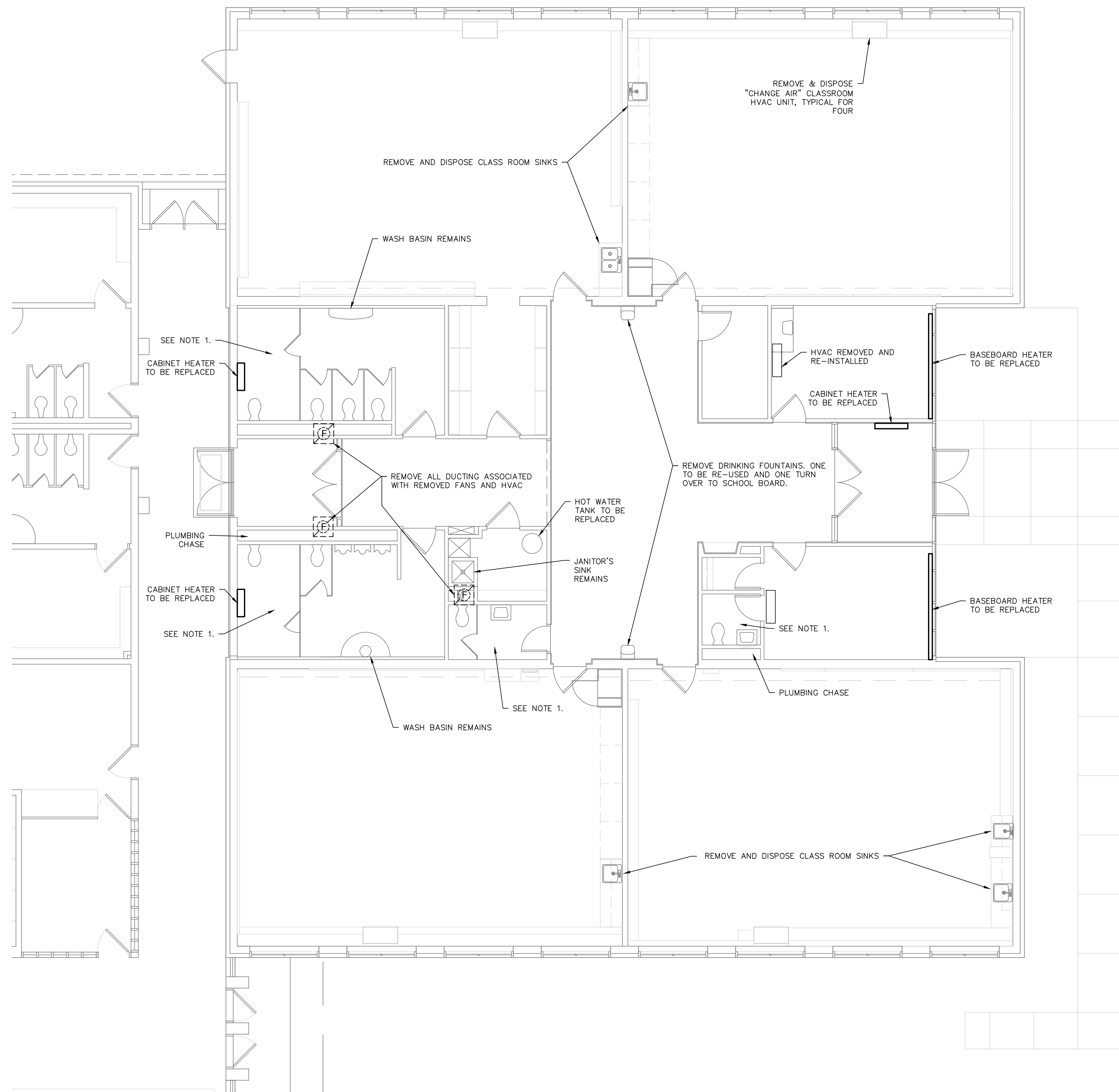
PROJECT
CLASSROOM RENOVATIONS
NOTRE DAME CES, COBOURG, ON

TITLE
ROOF PLAN

FILE No. 0674-M6
CLIENT FILE No.

DWG. No. M6

Rev. No. 0



1. IN WASHROOMS, REMOVE ALL FIXTURES: TOILETS, URINALS AND LAVATORIES (EXCEPT WASH BASINS AS NOTED). CUT BACK PLUMBING AND MODIFY
2. ANY UNDERFLOOR WATER SUPPLY PIPING IS TO BE ABANDONED. (EXCEPT INCOMING WATER SERVICE.)

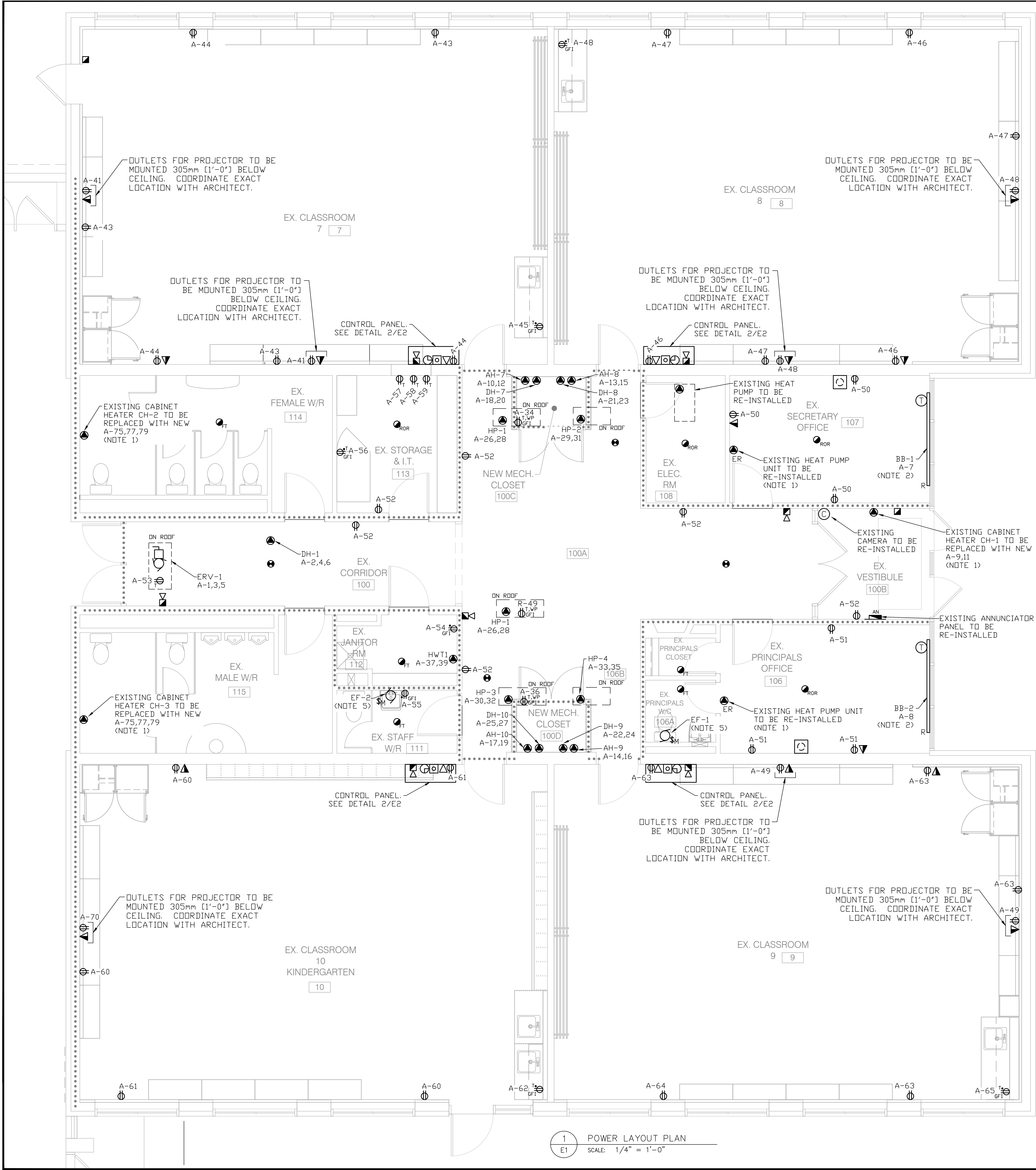
NOVADYNE

269 North Indian Road Tel: (705) 696-2119
Hastings, ON, Canada
K0L 1Y0

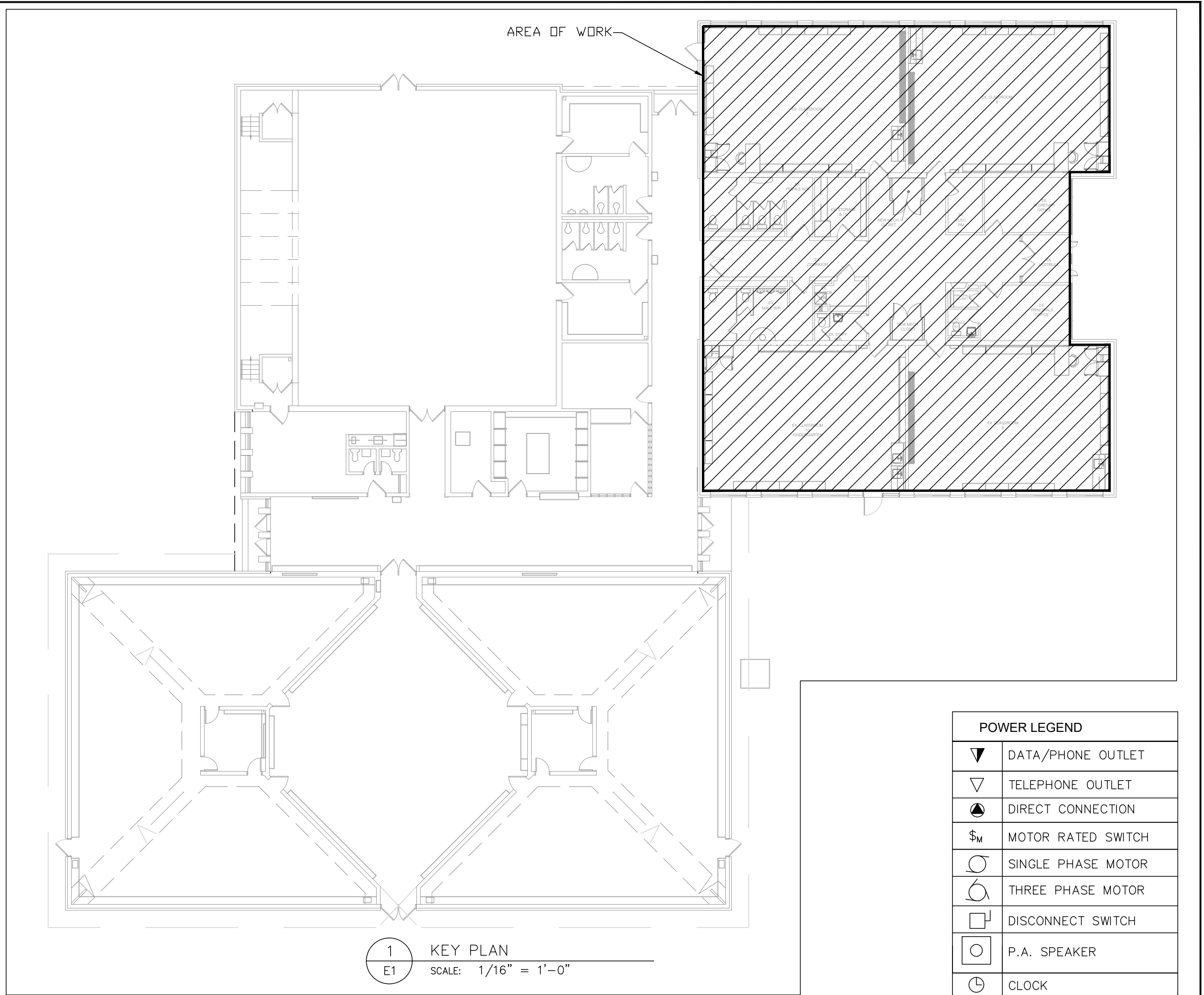
CLIENT  *Peterborough Victoria
Northumberland and Clarrington
Catholic District School Board*

TITLE
MECHANICAL DEMOLITION

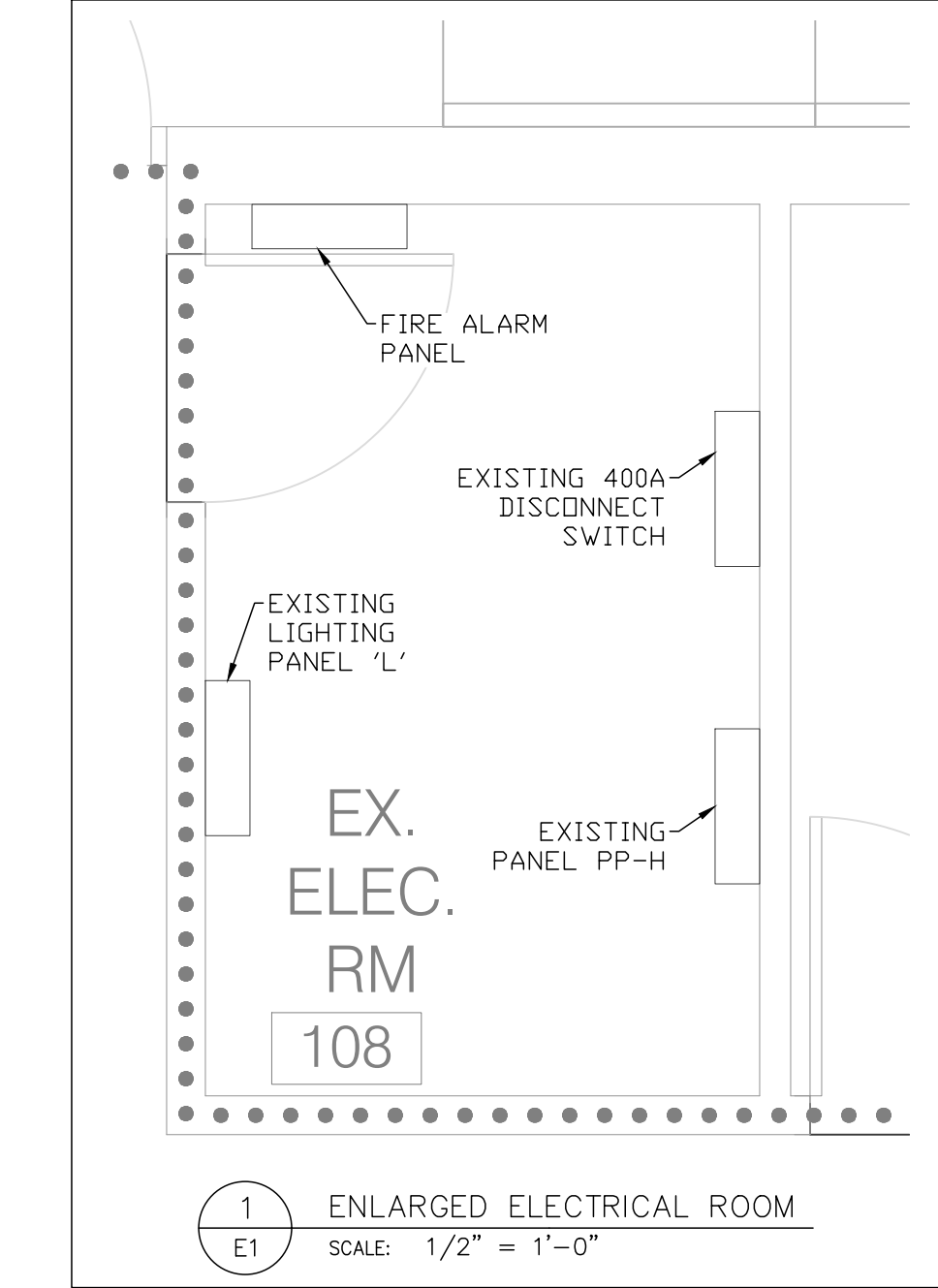
FILE No. 0674-M7	DWG. No. M7	Rev. No. 0
CLIENT FILE No.		



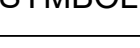
1
E1 POWER LAYOUT PLAN
SCALE: 1/4" = 1'-0"



1
E1 KEY PLAN
SCALE: 1/16" = 1'-0"



1
E1 ENLARGED ELECTRICAL ROOM
SCALE: 1/2" = 1'-0"

ELECTRIC HEATING SCHED LE		
SYMBOL	BASEBOARD N MBER	DESCRIPTION
	BB-1, BB-2	2000W, 208V BASEBOARD HEATER, SUPPLIED BY MECHANICAL, INSTALLED BY ELECTRICAL
	CH-1	MATCH EXISTING, SUPPLIED BY MECHANICAL, INSTALLED BY ELECTRICAL
	CH-2, CH-3	1500W, 208V CABINET HEATER, SUPPLIED BY MECHANICAL, INSTALLED BY ELECTRICAL

- NOTES:
1. EXTEND EXISTING WIRING AS REQUIRED.
 2. NEW WIRING PROPOSED, BUT EXISTING WIRING MAY BE USED IF PRACTICAL.
 3. PROVIDE PRICE TO REPLACE EXISTING PANEL PP-H. REQUIRED CIRCUITS ARE SHOWN ON DRAWING E3. CIRCUITS MAY BE INSTALLED IN EITHER PANEL.
 4. CONNECT NEW FIRE ALARM DEVICES TO EXISTING FIRE ALARM FLOOR ZONE.
 5. EXISTING EQUIPMENT SUCH AS FIRE ALARM, HAND DRYERS, ETC. FED FROM EXISTING PANEL(S) SHALL BE RECONNECTED TO EXISTING OR NEW PANEL AS REQUIRED. WIRING SHALL BE RE-USED/EXTENDED WHERE POSSIBLE.
 6. CONTROLLED BY ROOM LIGHTING SWITCH.

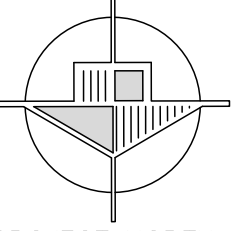
POWER LEGEND	
	DATA/PHONE OUTLET
	TELEPHONE OUTLET
	DIRECT CONNECTION
	MOTOR RATED SWITCH
	SINGLE PHASE MOTOR
	THREE PHASE MOTOR
	DISCONNECT SWITCH
	P.A. SPEAKER
	CLOCK
	CAMERA
	EXISTING EQUIPMENT TO BE REPLACED WITH NEW
	EXISTING EQUIPMENT TO BE RE-INSTALLED

Rev.	Date	Description	By	App.
0	25/07/04	ISSUED FOR PERMIT & TENDER	PGB	-

BERTHELOT ENGINEERING LTD
2193 Lynhaven Rd., Peterborough, ON. K9K 1W8
Tel: (705) 775-1517
Email: pberthelot@bertheloteng.com


ELECTRICAL BCIN 23396

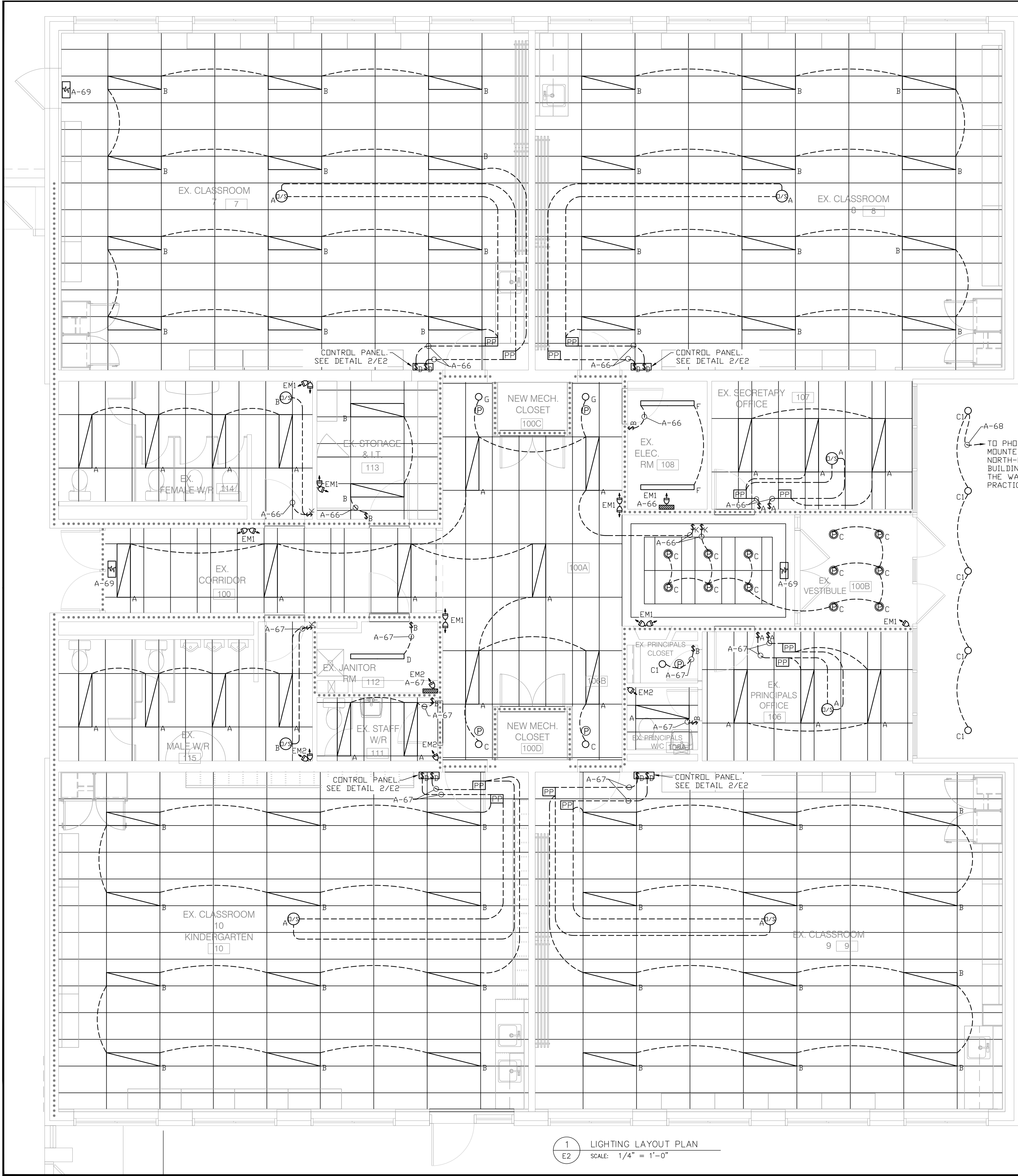
DWN.	T. ST. JEAN
CHK.	P. BERTHELOT
DSN.	PGB/TMS
SCALE:	AS NOTED


PROJECT NORTH

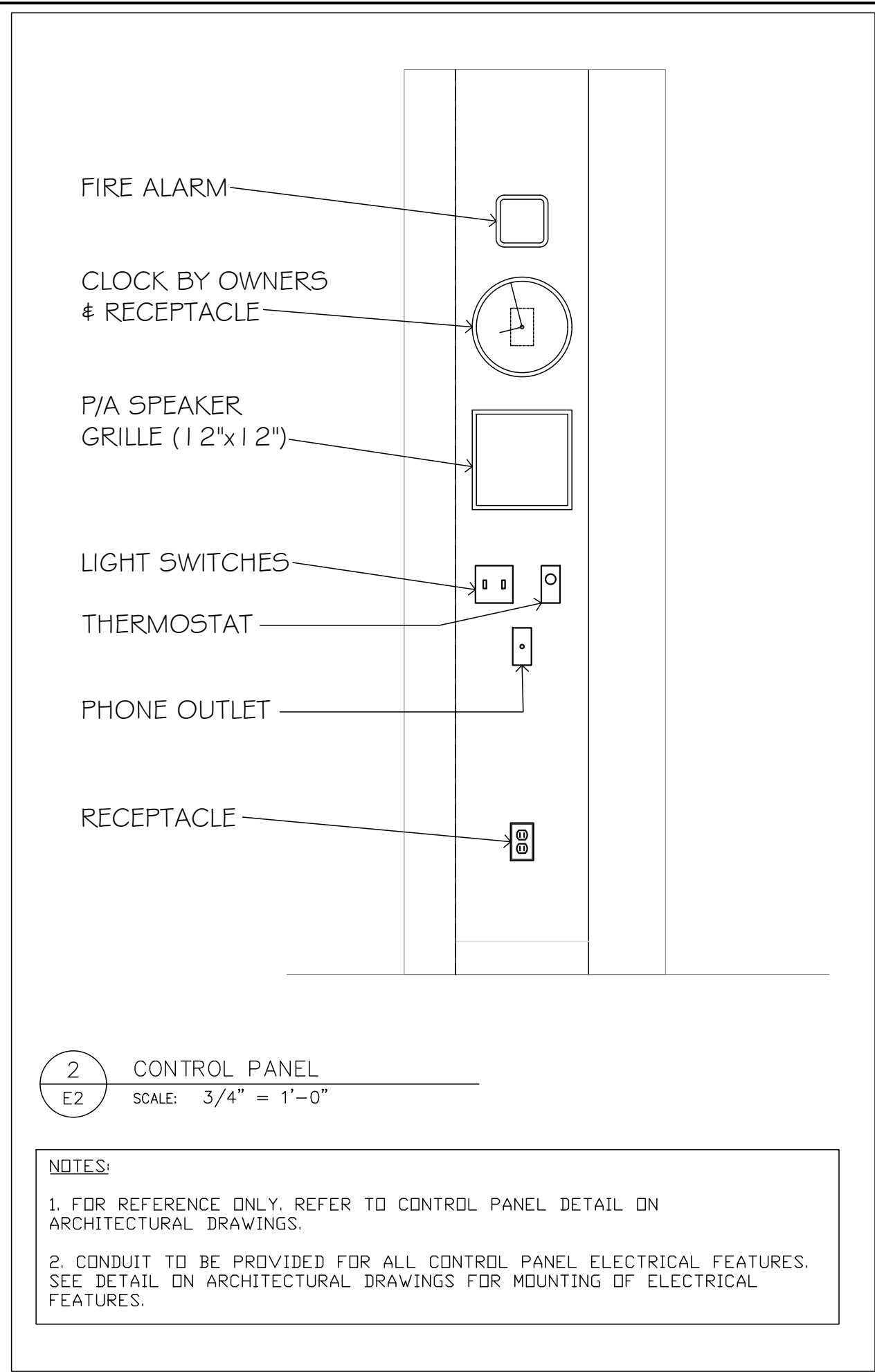
NOTRE DAME C.E.S. CLASSROOM RENOVATIONS
760 Burnham Street
Cobourg, Ontario

POWER LAYOUT PLAN

FILE No.	DWG. No.
737	E1



1 LIGHTING LAYOUT PLAN
SCALE: 1/4" = 1'-0"



LIGHTING SCHED LE			
SYMBOL	MODEL N MBER	MAN FACT RER	DESCRIPTION
A	14FP2640C	COOPER - METALUX	1'x4' SURFACE MOUNTED FLAT PANEL LED LUMINAIRE, 3017 LUMENS (25.5W), 4000K, 120V
B	14FP4240C	COOPER - METALUX	1'x4' SURFACE MOUNTED FLAT PANEL LED LUMINAIRE, 4226 LUMENS (38.6W), 4000K, 120V
C	SMX6RLSFS2W-SMX6RTRMMW C/W 6" COMPATIBLE HOUSING	COOPER-HALO OR APPROVED EQUAL	6" SURFACE LED DOWNLIGHT, 90CRI, 120V, WHITE, SET TO 750 LUMENS, SET TO 4000K, 7.9W
C1	SMX6RLSFS2W-SMX6RTRMMW C/W 6" COMPATIBLE HOUSING	COOPER-HALO OR APPROVED EQUAL	6" SURFACE LED DOWNLIGHT, 90CRI, 120V, WHITE, SET TO 1200 LUMENS, SET TO 4000K, 13.8W
D	4SNLED-LD5-65HL-LW-UNV-L840-CD1-U	COOPER-METALUX OR APPROVED EQUAL	4' SURFACE MOUNTED STRIP LIGHT, FULL FROST LENS, 6633 LUMENS (62W), 120V, 4000K, 0-10V DIMMING DRIVER
F	4SNLED-LD5-41SL-LW-UNV-L840-CD1-U	COOPER-METALUX OR APPROVED EQUAL	4' SURFACE MOUNTED STRIP LIGHT, FULL FROST LENS, 4214 LUMENS (35W), 120V, 4000K, 0-10V DIMMING DRIVER

EMERGENCY LIGHTING E IT SCHED LE			
SYMBOL	MODEL No.	MAN FACT RER	DESCRIPTION
EM1	12ESLxx/xxx	EMERGILITE OR APPROVED EQUAL	EMERGENCY LIGHTING UNIT, BATTERY CAPACITY AS LISTED IN TABLE ON THIS DRAWING, 12VDC, 10 YEAR BATTERY, C/W MR16 LED HEADS AS LISTED AND MOUNTING SHELF
	EF9DM-LI	EMERGILITE OR APPROVED EQUAL	DUAL REMOTE HEAD, 12VDC, 5W, MR16 LED
	EF9M-LI	EMERGILITE OR APPROVED EQUAL	SINGLE REMOTE HEAD, 12VDC, 5W, MR16 LED
	EA1WIDN	EMERGILITE OR APPROVED EQUAL	SELF POWERED RUNNING EXIT SIGN, SINGLE FACE, WALL OR CEILING MOUNT AS INDICATED, ARROWS AS INDICATED, LED LAMPS FOR 120VAC, CSA-C860-96 LISTED & CERTIFIED

LIGHTING CONTROLS SCHED LE			
SYMBOL	MODEL N MBER	MAN FACT RER	DESCRIPTION
\$A	LVS-M-1-PL-WH	CURRENT OR APPROVED EQUAL	MANUAL ON/OVERRIDE OFF LOW VOLTAGE MOMENTARY SWITCH, WHITE IN COLOUR
\$B	LHMTS1	CURRENT OR APPROVED EQUAL	PASSIVE, DUAL TECHNOLOGY WALL SWITCH OCCUPANCY SENSOR, 120V, WHITE IN COLOUR, PROGRAMMED MANUAL-ON (WALL PLATE NOT INCLUDED)
\$D	LVSD-M-3-WH	CURRENT OR APPROVED EQUAL	MANUAL ON/OVERRIDE OFF LOW VOLTAGE MOMENTARY DIMMING SWITCH, WHITE IN COLOUR
[PP]	UVPP/UVPPM/MPSA	CURRENT OR APPROVED EQUAL	UNIVERSAL VOLTAGE POWER PACK/AUXILIARY PACK
A	OMNIDT2000	CURRENT OR APPROVED EQUAL	DUAL TECHNOLOGY, 360° CEILING MOUNTED SENSOR, LOW VOLTAGE, WHITE IN COLOUR C/W MANUAL ON/OFF POWER PACK
B	OMNIDT2000BP1277	CURRENT OR APPROVED EQUAL	DUAL TECHNOLOGY, 360° CEILING MOUNTED SENSOR, LINE VOLTAGE, WHITE IN COLOUR

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0	25/07/04	ISSUED FOR PERMIT & TENDER	PGB	-
Rev.	Date	Description	By	App.

BERTHELOT ENGINEERING LTD
2193 Lynhaven Rd.,
Peterborough, ON.
K9K 1W8
Tel: (705) 775-1517
Email: pberthelot@bertheloteng.com

PROFESSIONAL ENGINEER
P.G.P. BERTHELOT
July 4/25
PROVINCE OF ONTARIO

DWN.
T. ST. JEAN
CHK.
P. BERTHELOT
DSN.
PGB/TMS
SCALE:
AS NOTED

PROJECT NORTH
PROJECT
NOTRE DAME C.E.S. CLASSROOM RENOVATIONS
760 Burnham Street
Cobourg, Ontario

LIGHTING LAYOUT PLAN

FILE No. 737
DWG. No. **E2**

PANEL:

A

LOCATION:

ELECTRICAL ROOM

TYPE:

SURFACE MOUNTED

FED FROM:

EXISTING

VOLTAGE:

208/120V 3P 4W

MAIN BUS:

400A

MAIN BREAKER:

400A

IC RATING:

10kA

CIRCUITS:

84

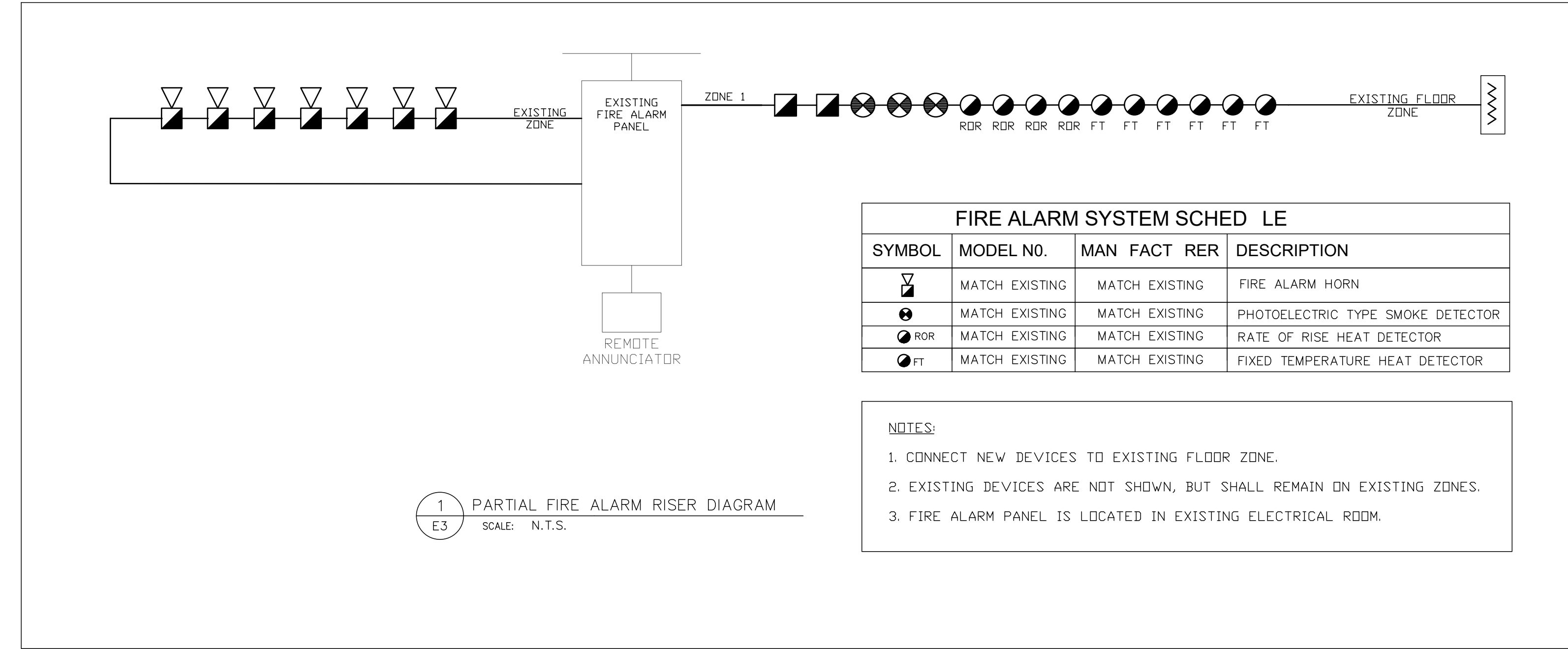
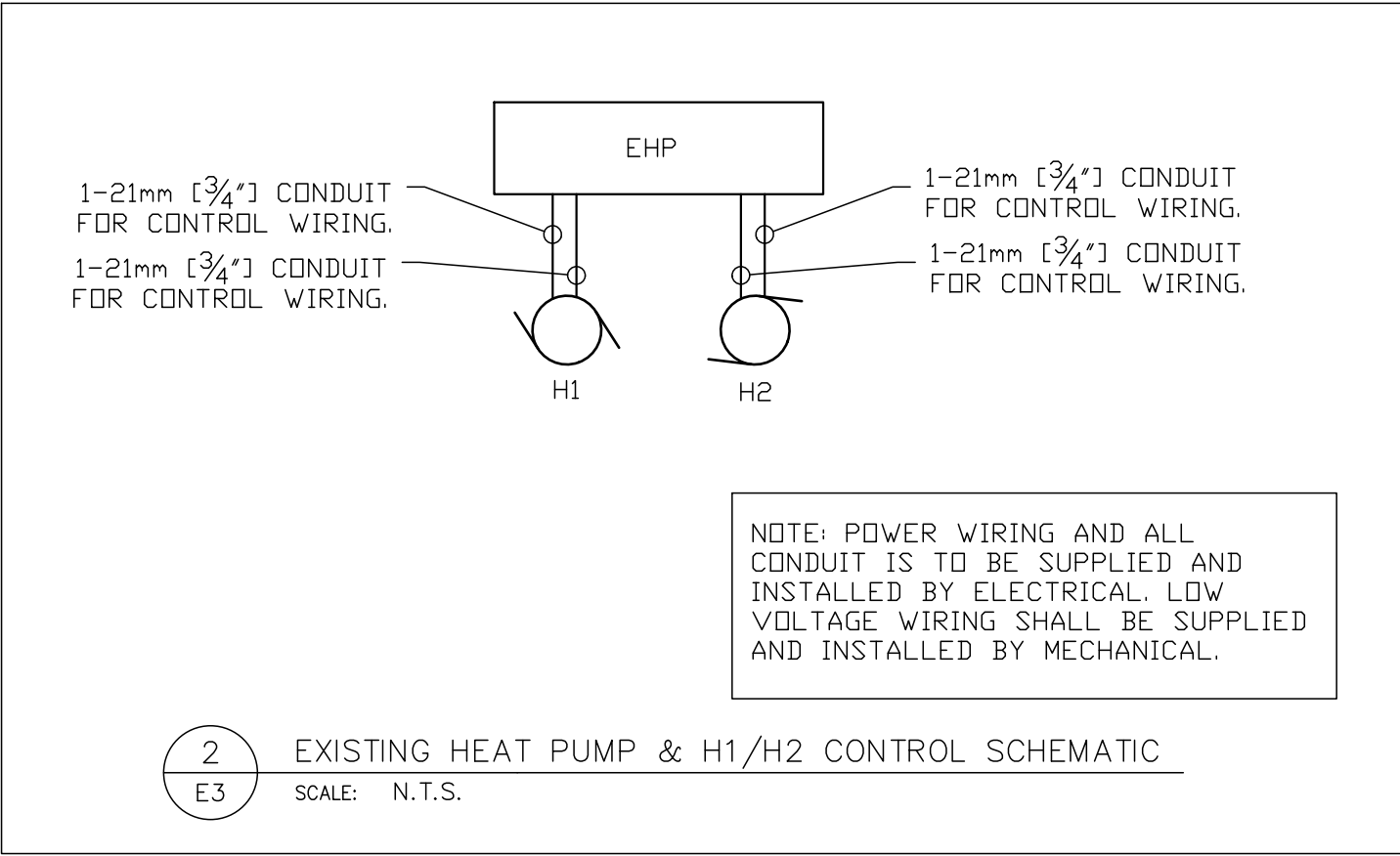
NOTE:

PROVIDE PRICE TO REMOVE EXISTING PANEL AND INSTALL NEW 400A, 120/208V, 84 CIRCUIT PANEL. NEW PANEL SHALL BE FED FROM EXISTING FEED IF PRACTICAL.

CIRCUIT DESCRIPTION	LOAD (kVA)	CCT BKR	CCT #	PHASE	CCT #	CCT BKR	LOAD (kVA)	CIRCUIT DESCRIPTION		CIRCUIT DESCRIPTION	LOAD (kVA)	CCT BKR	CCT #	PHASE	CCT #	CCT BKR	LOAD (kVA)	CIRCUIT DESCRIPTION
ERV-1	x	15A	1	a	2	x				CLASSROOM 7 RECEPTACLES	x	15A	43	a	44	15A	x	CLASSROOM 7 RECEPTACLES
	x		3	b	4	100A	x	DH-1		CLASSROOM 7 COUNTER REC.	x	20A	45	b	46	15A	x	CLASSROOM 8 RECEPTACLES
	x		5	c	6	x				CLASSROOM 8 RECEPTACLES	x	15A	47	c	48	15A	x	CLASSROOM 8 COUNTER REC.
SPARE	x	20A	7	a	8	20A	x	SPARE		CLASSROOM 8 PROJECTOR REC	x	15A	49	a	50	20A	x	SECRETARY OFFICE REC.
CH-1	x	20A	9	b	10	15A	x	AH-7		PRINCIPAL'S OFFICE REC.	x	15A	51	b	52	15A	x	CORRIDOR RECEPTACLES
	x		11	c	12	x				STAFF-1 CONVENIENCE REC.	x	20A	53	c	54	15A	x	JANITOR ROOM GFCI REC.
AH-8	x	15A	13	a	14	15A	x	AH-9		ERV1 WASHROOM GFCI REC.	x	15A	55	a	56	20A	x	IT ROOM RECEPTACLE
	x		15	b	16	x				IT ROOM RECEPTACLE	x	20A	57	b	58	20A	x	IT ROOM RECEPTACLE
AH-10	x	15A	17	a	18	50A	x	DH-7		IT ROOM RECEPTACLE	x	20A	59	c	60	15A	x	CLASSROOM 10 RECEPTACLES
	x		19	b	20	x				CLASSROOM 10 RECEPTACLES	x	15A	61	a	62	20A	x	CLASSROOM 10 COUNTER REC.
DH-8	x	50A	21	b	22	50A	x	DH-9		CLASSROOM 9 RECEPTACLES	x	15A	63	b	64	15A	x	CLASSROOM 9 RECEPTACLES
	x		23	c	24	x				CLASSROOM 9 COUNTER REC.	x	20A	65	c	66	20A	x	CLASSROOM 7/8/CORR. LTG
DH-10	x	50A	25	a	26	40A	x	HP-1		C.R. 9/10/PRINCIPAL'S OFF. LTG	x	15A	67	a	68	15A	x	EXTERIOR LIGHTING
	x		27	b	28	x				EXIT SIGNS [1]	x	15A	69	b	70	15A	x	CLASSROOM 10 PROJECTOR
HP-2	x	40A	29	c	30	40A	x	HP-3		BB-1/BB-2	x	30A	71	c	72	15A	x	SPARE
	x		31	a	32	x					x		73	a	74	15A	x	SPARE
HP-4	x	40A	33	b	34	20A	x	HP CONVENIENCE RECEPTACLE			x		75	b	76	15A	x	SPARE
	x		35	c	36	20A	x	HP CONVENIENCE RECEPTACLE		CH-2/CH-3	x	15A	77	c	78	15A	x	SPARE
HWT1	x	20A	37	a	38	EX [2]	x	HP-5			x	x	79	a	80	x	x	x
	x		39	b	40	x					x	x	81	b	82	x	x	x
CLASSROOM 7 PROJECTOR REC	x	15A	41	c	42	15A	x	CLASSROOM 8 PROJECTOR REC			x	x	83	c	84	x	x	x

[1] BREAKER SHALL BE LOCKED AND PAINTED RED

[2] COORDINATE SIZE OF BREAKER WITH EXISTING EQUIPMENT



-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0	25/07/04	ISSUED FOR PERMIT & TENDER	PGB	-
Rev.	Date	Description	By	App.

BERTHELOT

ENGINEERING LTD

2193 Lynhaven Rd.,
Peterborough, ON.
K9K 1W8
Email: pberthelot@bertheloteng.com

Tel: (705) 775-1517

LICENSED PROFESSIONAL ENGINEER

P.G.P. Berthelot

P.G.P. BERTHELOT

July 4/25

PROVINCE OF ONTARIO

ELECTRICAL BCIN 23396

DWN.
T. ST. JEAN

CHK.
P. BERTHELOT

DSN.
PGB/TMS

SCALE:
AS NOTED

PROJECT

NOTRE DAME C.E.S.
CLASSROOM RENOVATIONS
760 Burnham Street
Cobourg, Ontario

TITLE

SCHEDULES, DETAILS AND
FIRE ALARM RISER

FILE No.

737

DWG. No.

E3

Part 1 – General

1.1. General

- 1.1.1. This section covers the general requirements for the electrical work. Read all divisions of the contract documents.
- 1.1.2. All equipment shall be CSA approved.
- 1.1.3. All equipment, materials and installation methods shall conform to the best commercial standard practice, and in accordance with the Ontario Electrical Safety Code and all bulletins.

1.2. Outline Scope

- 1.2.1. The following major items of work shall be supplied and installed under the electrical contract:
- 1.2.1.1. Provide all labour, materials, equipment and services to complete the work of the electrical division as further specified and as shown on the drawings:
- a. Supply and install light fixtures as detailed on the drawings.
 - b. Supply and install distribution panels as detailed on the drawings.
 - c. Supply and install exit, emergency lights, fire alarm equipment and receptacles as detailed on drawings.
 - d. Miscellaneous removals as required.

1.3. Contract Drawings

- 1.3.1. Drawings for electrical work are performance drawings, diagrammatic, intended to convey scope of work and indicate general arrangement and approximate location of apparatus, fixtures and wiring. Drawings do not show all conduits. Those shown are diagrammatic only.
- 1.3.2. Additional money over the contract price shall not be paid unless an approved change order is issued by the architect. Claims for extras shall be submitted with a complete breakdown of material, labour, hourly rates, etc.

1.4. Shop Drawings

- 1.4.1. Submit four reproducible copies of manufacturer's detailed shop drawings, which indicate clearly the materials and/or equipment actually being supplied, all details of construction, accurate dimensions, capacity, operating characteristics and performance for each piece of manufactured equipment and for items listed under each section for review.
- 1.4.2. Shop drawings submitted for approval that are not stamped and signed in accordance with the preceding requirements will be returned for resubmittal.
- 1.4.3. Installation of any equipment shall not commence until after shop drawings have been reviewed by the consultant.
- 1.4.4. Bind one set of approved shop drawings in each operating and maintenance instruction manual.

1.5. Co-Operation with Other Trades

- 1.5.1. The contractor shall co-operate fully with other trades in such a manner as not to interfere with other work being carried out at the job site. Where other work and equipment has to be installed along with work pertaining to this division, arrange with other trades to install this work to best suit the needs for the particular condition.

1.6. Warranty

- 1.6.1. The contractor shall guarantee all work for a period of one year after the date of issue of the final certificate by the engineer and for longer periods where specified. If any defects become evident within the guarantee periods all necessary repairs and replacements to the work shall be made without cost to the owner. The contractor shall pay for making good any other work damaged through defects in the work of this section during both construction and guarantee periods.

1.7. Insurance

- 1.7.1. The contractor shall maintain all necessary insurance to protect the owner and all trades from all possible claims.

1.8. Liability

- 1.8.1. The contractor shall assume full responsibility for layout of work and for any damage caused by improper location or carrying out of work of these sections.

1.9. Cutting and Patching

- 1.9.1. The contractor shall complete all required cutting and patching to perform the work of this contract. Cuttings shall be kept to a minimum and be performed with clean cut straight edges. Patching shall be neat, clean and restore to original finish conditions using similar types of materials. Use only trades personnel skilled in the various types of work required. Cutting of structural members shall not be permitted without written approval by the owner.

1.10. Record Drawings

- 1.10.1. The contractor shall maintain accurate records of changes to the drawings on the job site. These shall include: all changes included in addenda to the tender documents; site instructions; and contract change notices. Upon project completion, the contractor shall forward to the consultant the set of drawings indicating the as-built conditions.

1.11. Existing Conditions

- 1.11.1. The contractor shall visit and examine the site and become familiar with all existing conditions affecting the work prior to submitting tender. No allowances in cost will be made by the owner for any difficulties encountered in the work arising out of conditions existing at the time of tendering.

1.12. Product Delivery, Storage and Handling

- 1.12.1. Inspect products delivered to the site and before acceptance, ensure that the product is: new; free from defects; is as specified; and is as per reviewed shop drawings, all in accordance with the contract documents. Store materials only in designated areas and protect as necessary to maintain materials in new condition.

1.13. Operations and Maintenance Instructions

- 1.13.1. Three (3) copies of complete operating and maintenance instructions for all electrical equipment and systems, bound in hard covered manuals shall be supplied.

1.14. Instructions to Owner

- 1.14.1. Instruct the owner's representative(s) in all respects of the operation and maintenance of systems and equipment. Obtain from the consultant a list of the owner's representative(s) qualified to receive instructions.

1.15. Clean-Up

- 1.15.1. At all times keep the premises free from accumulations of waste material or rubbish caused by employees or work. At the completion of the work, remove all rubbish and all tools, equipment and surplus materials from and about the work and leave the work "broom clean" or its equivalent, unless more exactly specified. All lighting fixtures, light switches, and other operable electrical devices shall be cleaned at the completion of work.

1.16. Codes and Standards

- 1.16.1. Provide equipment and materials, and do the work, in accordance with the following, and comply with relevant sections as adopted or amended by authorities having jurisdiction:
- a. Canadian electrical code (Canada)
 - b. National Fire Protection Association
 - c. CAN/ULC Standards
 - d. Ontario Electrical Safety Code, including current bulletins and amendments.
 - e. Ontario Building Code
 - f. Worker's Compensation Board Regulations
 - g. Governing Fire Codes in the Province Of Ontario

1.17. Permit, Fees and Inspection

- 1.17.1. The contractor shall apply for, obtain and pay all permits, licenses, inspections, examinations and fees required. The contractor shall arrange for inspection of all work by the authorities having jurisdiction over the work. On completion of the work, present to the owner the final unconditional certificate of approval by the inspection authorities.
- 1.17.2. Before starting any work, submit the required number of copies of drawings and specifications to the authorities for their approval and comments. Comply with any changes requested as part of the contract, but notify the owner immediately of such changes, for proper processing of these requirements.

Part 2 – Basic Materials and Methods

2.1. Conduits, Conduit Fastenings and Conduit Fittings

- 2.1.1. Conduit systems shall be electrical metallic tubing, intermediate metal conduit, galvanized rigid steel conduit, or polyvinyl chloride. Minimum size shall be 1/2". Use EMT above-grade for indoor construction except where rigid conduit is required. Where galvanized rigid steel conduit is required, provide lock-nuts and bushing at terminations.
- 2.1.2. Type BX –90 flexible armoured cable may be used only for final connections to lighting fixtures. Use flexible conduit for final connections to motors and sensors. Lengths should not exceed 18". Use liquid tight PVC jacketed flexible conduit for connections to equipment outdoors or in damp locations.
- 2.1.3. Conduits shall be of sufficient size to permit easy removal of the conductors at any time. Use one hole steel straps to secure surface conduits 2" and smaller, and two hole steel straps for conduits larger than 2". Use beam clamps to secure conduits to expose steel work. Install fittings manufactured for use with the conduit supplied. Watertight connectors and couplings are required for EMT. Set screws are not acceptable.
- 2.1.4. Install conduits to conserve headroom in exposed locations and cause minimum interference in spaces through which they pass. Conduits shall be run exposed in service areas, but shall be concealed in finished rooms. Exposed conduits shall be installed parallel and perpendicular to walls and ceilings. Wherever conduits cross building expansion joints, approved means, such as conduit expansion joints or flexible conduit loops shall be provided as necessary to take care of the movement. Conduit shall not be run horizontally in partitions.
- 2.1.5. All conduits shall be properly supported with spacing not to exceed C.E.C. requirements. Approved electrical hardware, hangers, structural shapes, etc. Shall be used. Perforated strap handlers shall not be permitted. Where run exposed on concrete or masonry walls, conduits shall be supported using conduit clamps and lead anchors or approved preset concrete inserts and where run on building steel, beam clamps shall be used. Conduit clamps shall be heavy duty galvanized malleable iron. "Factory 'ells" shall be used where 90° bends are required for 1" or larger conduits. Make bends and offsets with a hickey or power bender without flattening or denting the conduits. Bend conduit cold. Replace conduit if kinked or flattened more than 1/10th of its original diameter. Connect conduit lengths with only approved couplings or conduit unions.
- 2.1.6. Install conduits so that there is no interference with access openings in ceilings or access to equipment in the ceiling space. Install conduit to avoid proximity to water or heating pipes. Do not run within 6" of such pipes. Where crossings are unavoidable, maintain a minimum distance of 1" from the pipe covering.
- 2.1.7. Square-cut all conduit ends, ream and file to remove all burrs before installation and properly clean and cap all empty conduits. Install fish cord in empty conduits.

2.2. Wires and Cables

- 2.2.1. All conductors shall be copper, unless otherwise noted. Conductors shall be stranded for #8AWG and larger with 1000v insulation of chemically cross-linked thermo setting polyethylene. 600v insulation can be used for conductors smaller than #8AWG. Base the 600 volt RW 90 conductor ampacities on published CEC 90°C. Rating. Cables shall be loaded to not more than 75% (70% to 80%) of this rating. Minimum #12AWG wiring shall be used.
- 2.2.2. Neutrals of power systems, although connected to a common ground at the source, shall be electrically separated and isolated from each other beyond this point of origination. Feeders to two or more switches or panels and the tapoffs to same shall all be run using the same size conductors throughout.
- 2.2.3. All wires shall be carried full size from source to the load. Neutral wires shall be the same size as phase wires. Equipment Ground wires shall be one size smaller than phase wire, except that, the conductor shall not be larger than a 4/0 and shall be no 10 for 30 amps circuits and no 12 for circuits less than 30 amps. Insulation shall be type RW 90. Multi-circuit branch circuits in same conduit require only one equipment ground wire.

2.3. Junction and Pullboxes

- 2.3.1. Junction and pullboxes should be of welded steel construction with screw-on flat covers for surface mounting. Install pullboxes in inconspicuous but accessible locations. Install junction and pullboxes so as not to exceed 30m of conduit run between pullboxes. All junction and pullboxes should be labelled to identify equipment or circuit numbers.

2.4. Outlet, Conduit Boxes and Fittings

- 2.4.1. Size boxes in accordance with CSA C22.1. 100 mm square or larger outlet boxes as required for special devices. Gang boxes where wiring devices are grouped. Provide blank cover plates for boxes without wiring devices. Support boxes independently of connecting conduits. Conduit boxes shall be cast FS boxes with factory threaded hubs and mounting feet for surface wiring. Provide correct size of opening in boxes for conduit and cables. Reducing washers are not allowed.

2.5. Wiring Devices

Switches

- 2.5.1. Locate light switches as shown on the drawings and on the latch side of doors. Install single throw switches with handle in "up" position when switch closed.
- 2.5.2. Install switches in gang type outlet box when more than one switch is required in one location.
- 2.5.3. Provide 20A, 125V single pole specification grade light switches as shown on the contract drawings.

Receptacles

- 2.5.4. Install receptacles in gang type outlet box when more than one receptacle is required in one location. Combination boxes with barriers shall be used where outlets for more than one system are grouped.
- 2.5.5. Provide 15A, 120V specification grade duplex convenience outlets as shown on the contract drawings.
- 2.5.6. Do not install outlets back to back in wall. Allow a minimum 150 mm horizontal clearance between boxes. Change location of outlets at no extra cost or credit, providing distance does not exceed 3000 mm and information is given before installation.

Telephone/Cable T.V./Computer Raceway System, (etc.)

- 2.5.7. Empty conduit systems shall be provided for telephone from outlet box to accessible ceiling space, or as shown on the drawings.
- 2.5.8. Contractor is responsible for providing and/or coordinating the size, type and location of the incoming telephone conduit with the telephone company or the building owner.
- 2.5.9. All interior building raceways shall be EMT.
- 2.5.10. 2 long radius 90 degree bends shall be the maximum allowed between pull boxes.

- 2.5.11. Pole cords shall be provided in each conduit for future pulling of wires.
- 2.5.12. Contractor shall provide necessary boxes and associated cover plates as required for the above systems.

Mounting Heights

- 2.5.13. Mounting heights for wiring devices shall be as follows unless otherwise indicated and shall be from centre line of outlet box to finished floor:
- 2.5.13.1. Duplex receptacles shall be mounted 300mm above finished floor or 150mm above counter top.
- 2.5.13.2. Light switches shall be mounted at no less than 900mm and no more than 1100mm above finished floor.
- 2.5.13.3. Disconnect switches shall be mounted 1200mm above finished floor.
- 2.5.13.4. Exit lights shall be mounted 300mm above door trim.
- 2.5.13.5. Emergency lights shall be mounted 2300mm above finished floor, unless otherwise specified or minimum 150mm clearance from ceiling.
- 2.5.13.6. Panelboards shall be mounted 1200mm above finished floor.

Cover Plates

- 2.5.14. Cover plates from one manufacturer shall be used throughout the project and supplied for all wiring devices and any pullboxes.

Equipment Nameplates

- 2.5.15. Nameplates shall be provided for all pieces of electrical equipment including panelboards, junction boxes, pull boxes, splitters, control panels, disconnect switches and motor starters. Nameplates shall be black laminated rigid plastic with 0.25 inch high white engraved letters. Nameplates shall be fastened to equipment in a conspicuous location on equipment. A list of the exact engraving of nameplates shall be submitted for approval prior to fabrication. Nameplates for disconnect switches shall indicate name of equipment being controlled and circuit and panel from which they are fed.

Part 3 – Distribution

3.1. Disconnect Switches

- 3.1.1. Disconnect switches shall be horsepower rated, quick-make, quick break, with handle interlocked so that switch door cannot be opened unless switch is in de-energized position. Disconnect Switches shall be fusible and nonfusible as indicated on the drawings. Switches shall be heavy duty having visible blade construction, positive pressure fuse clips, and silverplated current carrying parts. Provision shall be made for padlocking switch in "OFF" position. Switches shall have on-off switch position indication on switch enclosure cover.

3.2. Panelboards

- 3.2.1. Use panelboards of one manufacturer throughout the project. The supplier shall install circuit breakers in panelboards before shipment. Sequence phase bussing shall have odd numbered breakers on left and even on right with each breaker identified by permanent number identification as to circuit number. All panelboards shall have a copper bus. Single phase lighting and distribution panelboards shall have a solid neutral of same ampere rating as mains. Mains shall be suitable for bolt-on breakers. Enclosures shall be EEMAC type 1 surface mounted with trim and floor finish grey.

- 3.2.2. Complete circuit directory with typewritten legend showing location and load of each circuit. The directory shall be updated from the contract drawings to include all addenda, site instructions, contract change orders and any other circuit changes. Supply two keys for each panelboard and key panelboards alike.

- 3.2.3. Main breaker shall be separately mounted on top or bottom of panel to suit cable entry. When mounted vertically, down position should open breaker. Lock on devices for certain breakers shall be provided for items such as exit, emergency and night light circuits.

- 3.2.4. Locate panelboards as indicated and mount securely, plumb, true and square to adjoining surfaces. Install surface mounted panelboards on steel angle or channel framing or on fire rated painted plywood backboards.

Part 4 – Lighting Equipment

Luminaires

- 4.1. Locate and install luminaires as indicated on contract drawings and connect luminaires to lighting circuits.

Lighting Control

- 4.2. Locate and install lighting control devices as indicated on the contract drawings, and in accordance with ASHRAE Standard 90.1–2010, Section 9, Lighting.
- 4.3. Contractor shall provide functional testing of the lighting control system as per Section 9.4.4. (Functional Testing), of ASHRAE Standard 90.1–2010.
- 4.3.1. Lighting control devices and control systems shall be tested to ensure that control hardware and software are calibrated, adjusted, programmed, and in proper working condition.
- 4.3.2. When occupant sensors, time switches, programmable schedule controls, or photosensors are installed, at a minimum, the following procedures shall be performed:
- a. Confirm that the placement, sensitivity, and time-out adjustments for occupancy sensors yield acceptable performance, lights turn off only after space is vacated and do not turn on unless space is occupied.
 - b. Confirm that the time switches and programmable schedule controls are programmed to turn the lights off.
 - c. Confirm that photosensor controls reduce electric light levels based on the amount of usable daylight in the space as specified.
- 4.3.3. The party responsible for the functional testing shall not be directly involved in either the design or construction of the project and shall provide documentation certifying that the installed lighting controls meet or exceed all documented performance criteria. Certification shall be specific enough to verify conformance.

Emergency lighting

- 4.4. Install unit equipment and remote mounted fixtures as indicated.
- 4.5. Emergency lighting shall be installed in such a manner that it will be automatically actuated upon failure of the power supply to the normal lighting in the area covered by that unit equipment.
- 4.6. Emergency lighting shall have a supply voltage of 120VAC, and an output voltage of 12VDC, and be able to assume the electrical load automatically for a minimum of 30 minutes.

Exit signs

- 4.7. Install exit signs as per the contract drawings.
- 4.8. Exit signs shall consist of a green pictogram and white graphic symbol meeting the visibility specifications referred to in ISO 3864–1.
- 4.9. Exit signs shall be continuously illuminated.

PART 5 – FIRE ALARM SYSTEM

- 5.1. Contractor shall provide all material, equipment, and labour as required for the complete and adequate installation of the fire alarm system, as shown on the contract drawings, and as described below. Where an existing fire alarm system is present, all new devices shall match the existing system.
- 5.2. Contractor is responsible for the submittal of shop drawings for the complete system. At a minimum, the following shall be submitted:
- 5.2.1. Layout of equipment;
 - 5.2.2. Zoning;
 - 5.2.3. Wiring diagrams for connections and devices;
 - 5.2.4. Methods of operation;
 - 5.2.5. Fire alarm device make, model number, and type.
- 5.3. All components of the system, its installation and the system as a whole shall be ULC listed and labeled and shall meet the requirements of all authorities having jurisdiction of the application. The entire installation shall be carried out in accordance with CAN/ ULC S524 and shall be verified in accordance with CAN/ ULC S537.
- 5.4. Fire alarm control and booster panel breakers shall be of the lockable type, and shall be painted red.
- 5.5. Separate circuits from the control panel to each zone of initiating devices shall be provided.
- 5.6. Fire alarm system shall be single stage operation.
- 5.2.1. Single stage fire alarm system shall, upon the operation of any manual pull station or fire detector, cause an alarm signal to sound on all audible signal devices in the system.
- 5.7. The sound pattern of an alarm signal shall conform to the temporal pattern defined in Clause 4.2. of ISO 8201.
- 5.8. Fire alarm device zones to be clearly indicated on control panel.
- 5.9. Power supply is 120VAC, 60hz input, 24VDC output from rectifier to operate alarm and signal circuits with standby power gell cell batteries. Minimum expected life of four years, sized in accordance with NBC.
- 5.10. Fire alarm system riser diagram shall be provided in fire alarm control panel.

- 5.11. Arrange and pay for on-site lecture and demonstration by fire alarm equipment manufacturer to train operational personnel in use and maintenance of fire alarm system.

- 5.12. Synchronization modules for strobe lights shall be coordinated as necessary with fire alarm system manufacturer.

- 5.13. Sufficient output modules shall be provided in fire alarm control panel.

- 5.14. Output modules shall be provided in the fire alarm control panel as needed.

- 5.15. All fire alarm junction boxes shall be painted red.

Part 6 – Heating Equipment

- 6.1. Electrical heaters will be supplied and installed by division 15. Division 16 will be responsible for providing power connections to heating equipment.

Part 7 – Mechanical Equipment

- 7.1. Provide power and connections to all mechanical equipment as detailed on the drawings.
- 7.2. Ensure all equipment is properly protected with disconnect switches.
- 7.3. Confirm with mechanical trade for exact locations of equipment and connection points.
- 7.4. Verify all motor connections for proper phase rotation.

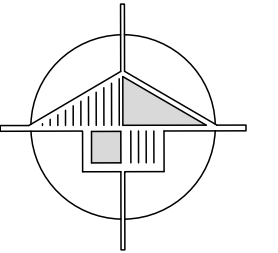
Part 8 – Removals

- 8.1. Contractor shall disconnect and remove all existing electrical devices and equipment, as per the contract documents.

–	–	–	–	–
–	–	–	–	–
–	–	–	–	–
0	25/07/04	ISSUED FOR PERMIT & TENDER	PGB	–
Rev.	Date	Description	By	App.

BERTHELOT
ENGINEERING LTD
2193 Lynhaven Rd.,
Peterborough, ON.
K9K 1W8
Email: pberthelot@bertheloteng.com

Tel: (705) 775-1517

 ELECTRICAL BCIN 23396	DWN. T. ST. JEAN
	CHK. P. BERTHELOT
	DSN. PGB/TMS
	SCALE: AS NOTED
	
PROJECT NOTRE DAME C.E.S. CLASSROOM RENOVATIONS 760 Burnham Street Cobourg, Ontario	
TITLE SPECIFICATION	
FILE No. 737	DWG. No. E



1 ROOF DEMO PLAN
E5 SCALE: N.T.S.

POWER LEGEND	
	MOTOR RATED SWITCH
	SINGLE PHASE MOTOR
X	EXISTING TO BE REMOVED

NOTES:
1. DISCONNECT DEVICES SCHEDULED FOR REMOVAL OR RELOCATION. REMOVE EXISTING WIRING AND CONDUIT BACK TO SOURCE, WHERE PRACTICAL, AND MAKE SAFE.

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0	25/07/04	ISSUED FOR PERMIT & TENDER	PGB	-
Rev.	Date	Description	By	App.

BERTHELOT
ENGINEERING LTD
2193 Lynhaven Rd.,
Peterborough, ON.
K9K 1W8
Email: pberthelot@bertheloteng.com

Tel: (705) 775-1517

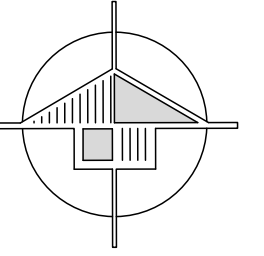


DWN.
T. ST. JEAN

CHK.
P. BERTHELOT

DSN.
PGB/TMS

SCALE:
AS NOTED



PROJECT

NOTRE DAME C.E.S.
CLASSROOM RENOVATIONS
760 Burnham Street
Cobourg, Ontario

TITLE

ROOF DEMOLITION LAYOUT
PLAN

FILE No.

737

DWG. No.

E5