

ST. URSULA CATHOLIC SCHOOL

BOILER REPLACEMENT

CHATHAM

ONTARIO

C&B PROJECT NO. 6817

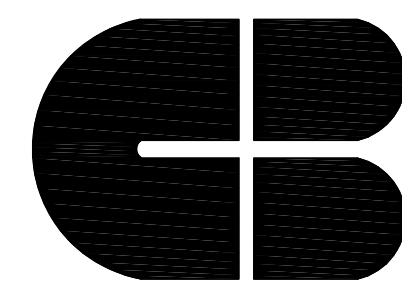
APRIL 2011

ISSUED FOR TENDER



ST. CLAIR CATHOLIC
DISTRICT SCHOOL BOARD

Lighting the Way ~ Rejoicing in Our Journey



Chorley + Bisset

CONSULTING ENGINEERS

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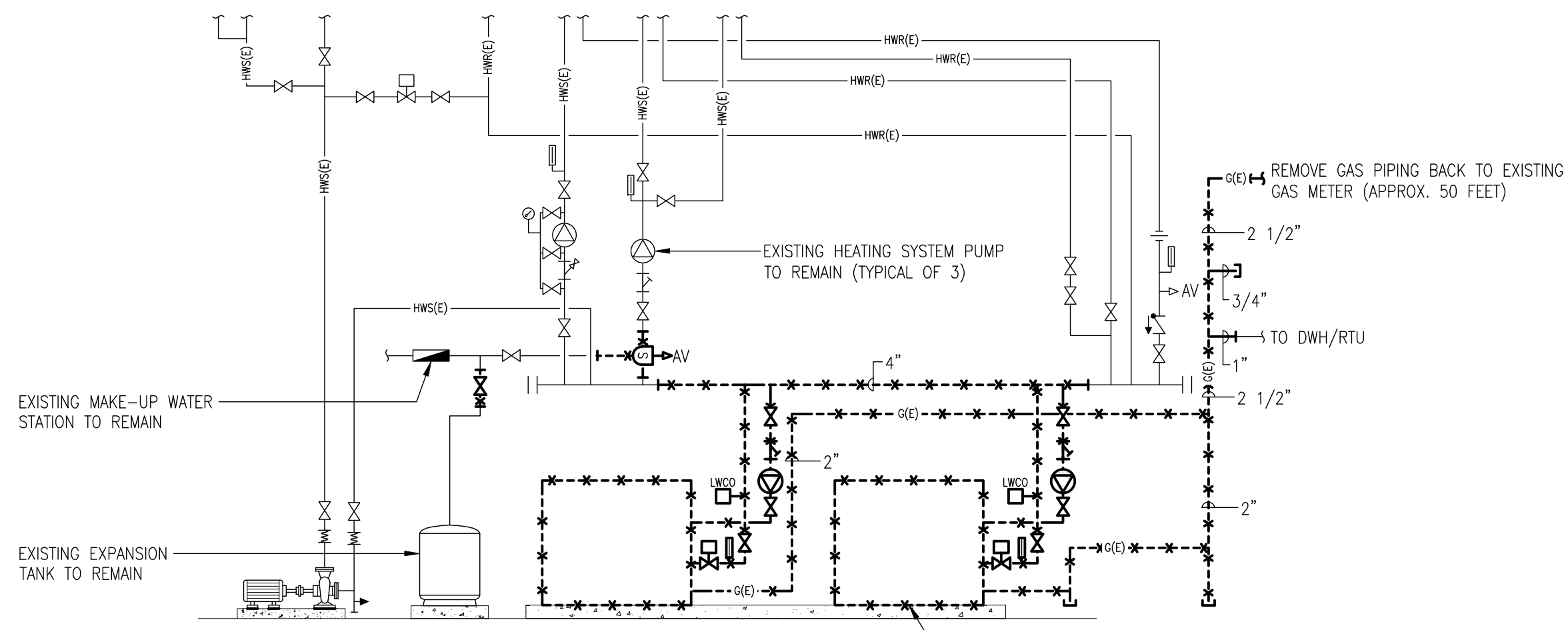
MECHANICAL

ELECTRICAL

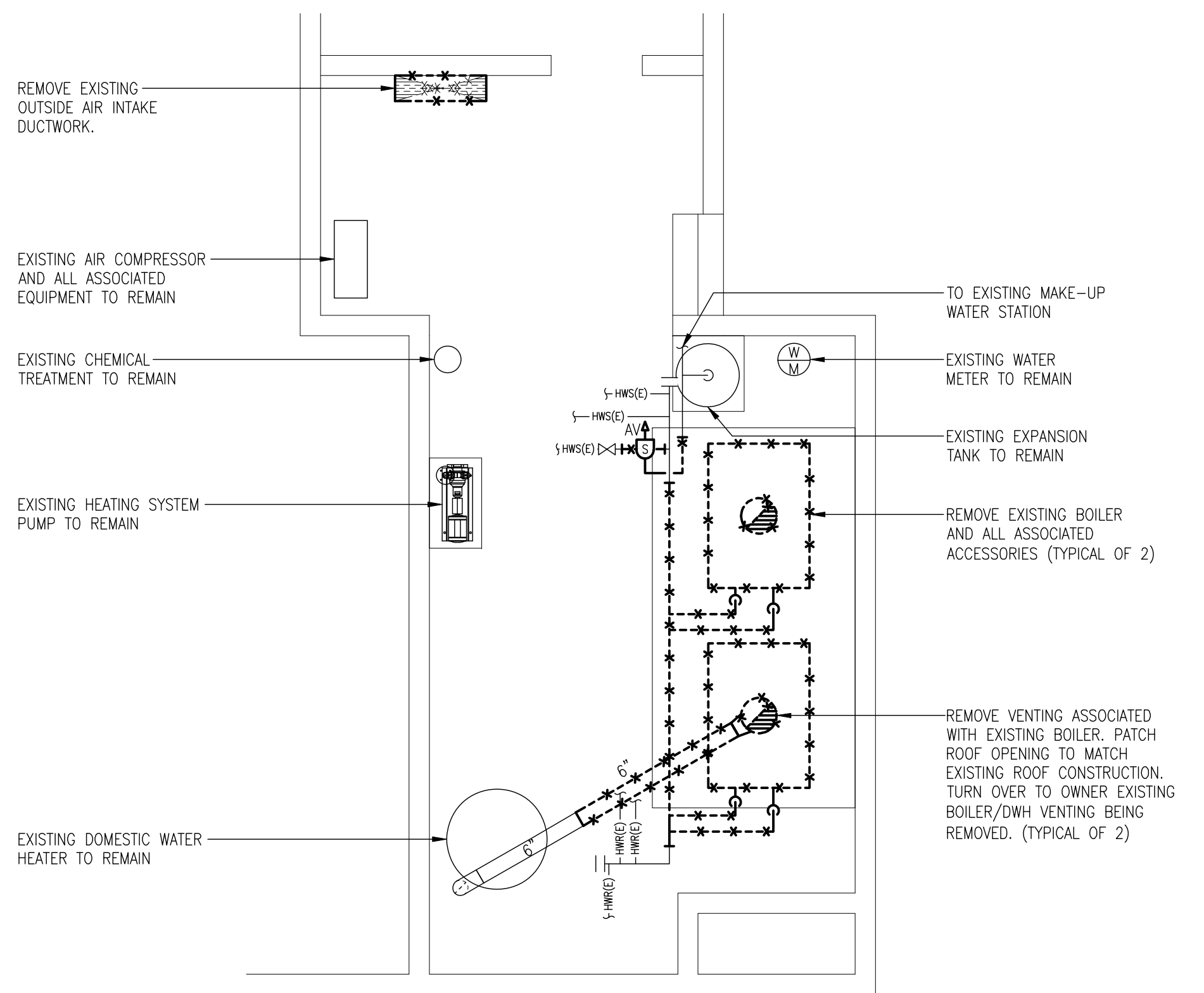
M1.1 LEGEND, DRAWING LIST, SCHEDULES & BOILER ROOM DEMOLITION

M2.1 BOILER ROOM PLANS, SCHEMATICS & DETAILS

E1.1 ELECTRICAL



BOILER ROOM SCHEMATIC - DEMOLITION
 N.T.S.



BOILER ROOM PLAN - DEMOLITION
 SCALE: 1/4"=1'-0"

- NOTES:
- REMOVE ALL REDUNDANT EQUIPMENT ASSOCIATED WITH EXISTING BOILER.
 - RESTORE ALL SURFACES WHERE SERVICES ARE REMOVED. REPAIR ALL WALL AND ROOF OPENINGS TO MATCH EXISTING.
 - CUT BACK AND CAP ALL REDUNDANT PIPING IN BOILER ROOM.
 - REMOVE REDUNDANT HOUSEKEEPING PADS.
 - SEE BOILER ROOM SCHEMATIC - DEMOLITION FOR PIPE SIZES.
 - REINSTALL ALL CONTROL SENSORS IN EXISTING PIPING BEING REMOVED. RECONNECT ALL WIRING TO EXISTING CONTROL PANEL.
 - REMOVE EXISTING OUTDOOR TEMPERATURE SENSOR AND ALL ASSOCIATED WIRING.

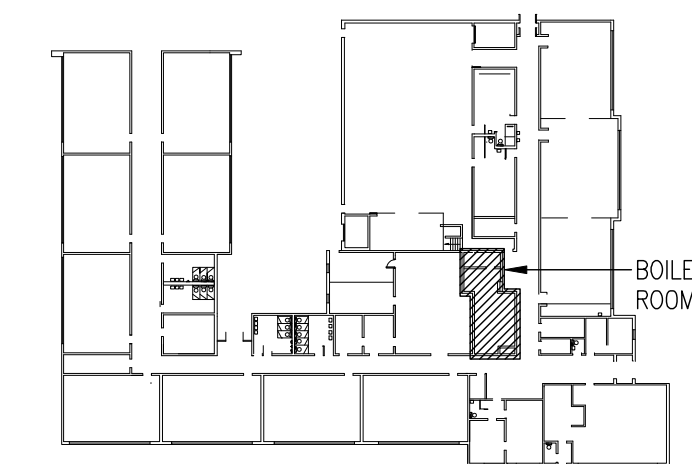
MECHANICAL LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER		FLEXIBLE CONNECTOR
	HOT WATER HEATING SUPPLY		TWO-WAY CONTROL VALVE
	HOT WATER HEATING RETURN		AIR SEPARATOR
	NATURAL GAS		LOW WATER CUT-OFF
	CONDENSATE DRAIN		STRAINER WITH 3/4" BALL VALVE, HOSE CONNECTION AND BRASS CAP AND CHAIN CAP
	CONNECT TO EXISTING		AUTOMATIC AIR VENT
	EXISTING PIPING TO REMAIN		FLOOR DRAIN
	EXISTING PIPING TO BE REMOVED		COLD WATER MAKE-UP STATION
	SHUT OFF VALVE		PUMP
	CHECK VALVE		THERMOMETER
	CONCENTRIC REDUCER		PRESSURE GAUGE
	PRESSURE RELIEF VALVE		DRAIN WITH HOSE CONNECTION
	COMBINATION SHUT-OFF & BALANCING VALVE		EXISTING DUCTWORK TO BE REMOVED
	PRESSURE GAUGE COCK		NEW DUCTWORK
	UNION		

DRAWING LIST	
M1.1	LEGEND, DRAWING LIST, SCHEDULES & BOILER ROOM DEMOLITION
M2.1	BOILER ROOM PLANS, SCHEMATICS & DETAILS

BOILER SCHEDULE										
DRAWING REFERENCE	SERVICE	MANUFACTURER	MODEL	INPUT [MBH]	OUTPUT [MBH]	CONNECTIONS			VOLTAGE	REMARKS
						WATER	GAS	VENT		
BLR-501A/B/C	HEATING SYSTEM	LOCHINVAR	KBN701	700	660	2"	1"	6"	120/1/60	LOW NOx BURNER - MODULATING

PUMP SCHEDULE									
DRAWING REFERENCE	SERVICE	MANUFACTURER	MODEL	FLOW [GPM]	HEAD [FT]	RPM	MOTOR [HP]	ELECTRICAL	
								VOLTAGE	PHASE
CP-301A/B/C	BOILER	ITT	60 - 2x6-1/4	65	30	1750	1.5	230	1

UNIT HEATER SCHEDULE									
DRAWING REFERENCE	MANUFACTURER	MODEL	CAPACITY [MBH]	WATER FLOW [GPM]	AIR FLOW [CFM]	MOTOR [HP]	ELECTRICAL		
							VOLTAGE	PHASE	
UH-401	SIGMA	030H	22.4	2.3	420	1/20	120	1	



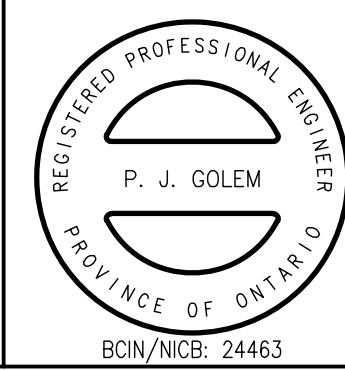
KEY PLAN
 N.T.S.

No.	By	Revisions	Date
1	PJG	ISSUED FOR BOARD REVIEW	APR. 12, 2011

	DETAIL NO.
	DWG. NO. - WHERE REQUIRED
	DWG. NO. - WHERE DETAILED

DO NOT SCALE THE DRAWINGS. ALL MEASUREMENTS ARE TO BE CHECKED AND VERIFIED ON SITE BY THE CONTRACTOR. ANY DISCREPANCIES ARE TO BE REPORTED TO THE CONSULTANT BEFORE PROCEEDING WITH THE WORK.

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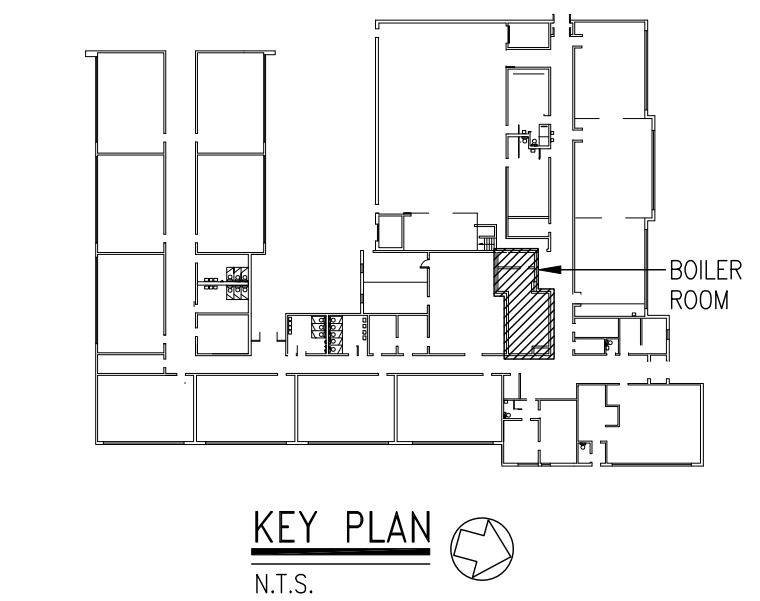
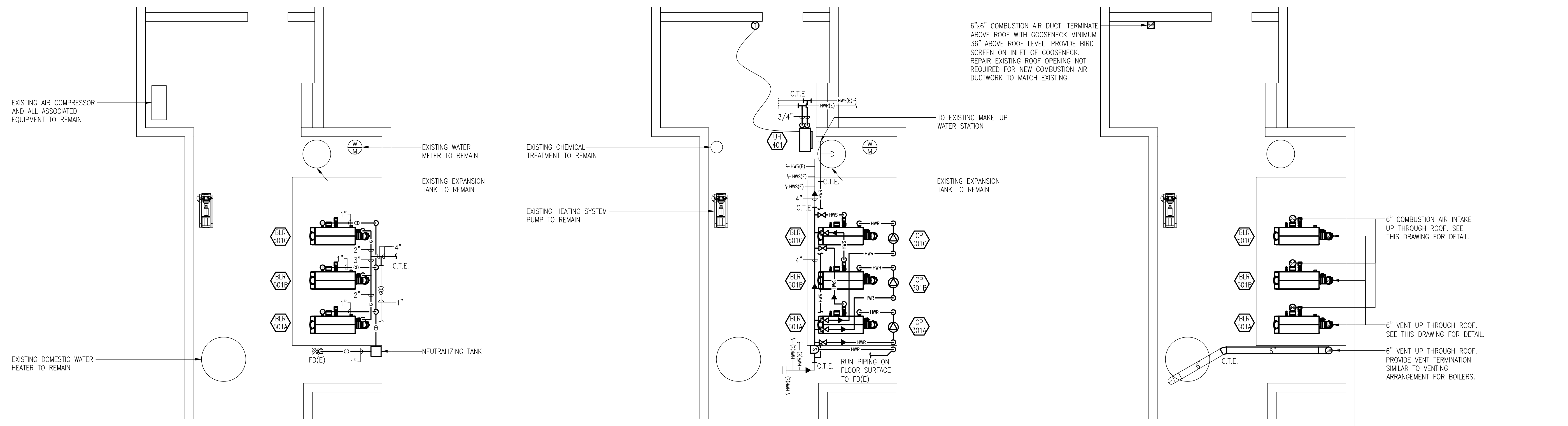
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Project Title
**BOILER REPLACEMENT
 ST. URSULA CATHOLIC SCHOOL**

**ST. CLAIR CATHOLIC
 DISTRICT SCHOOL BOARD**
 CHATHAM, ONTARIO

Drawing Title
**LEGEND, DRAWING LIST,
 SCHEDULES & BOILER ROOM
 DEMOLITION**

Drawn JDF	Checked JDF	Approved PJG	Drawing No. M1.1
Scale AS NOTED	Date APR. 2011	Project No. 6817	Rev. No.



BOILER ROOM PLAN
PLUMBING
SCALE: 1/4"=1'-0"

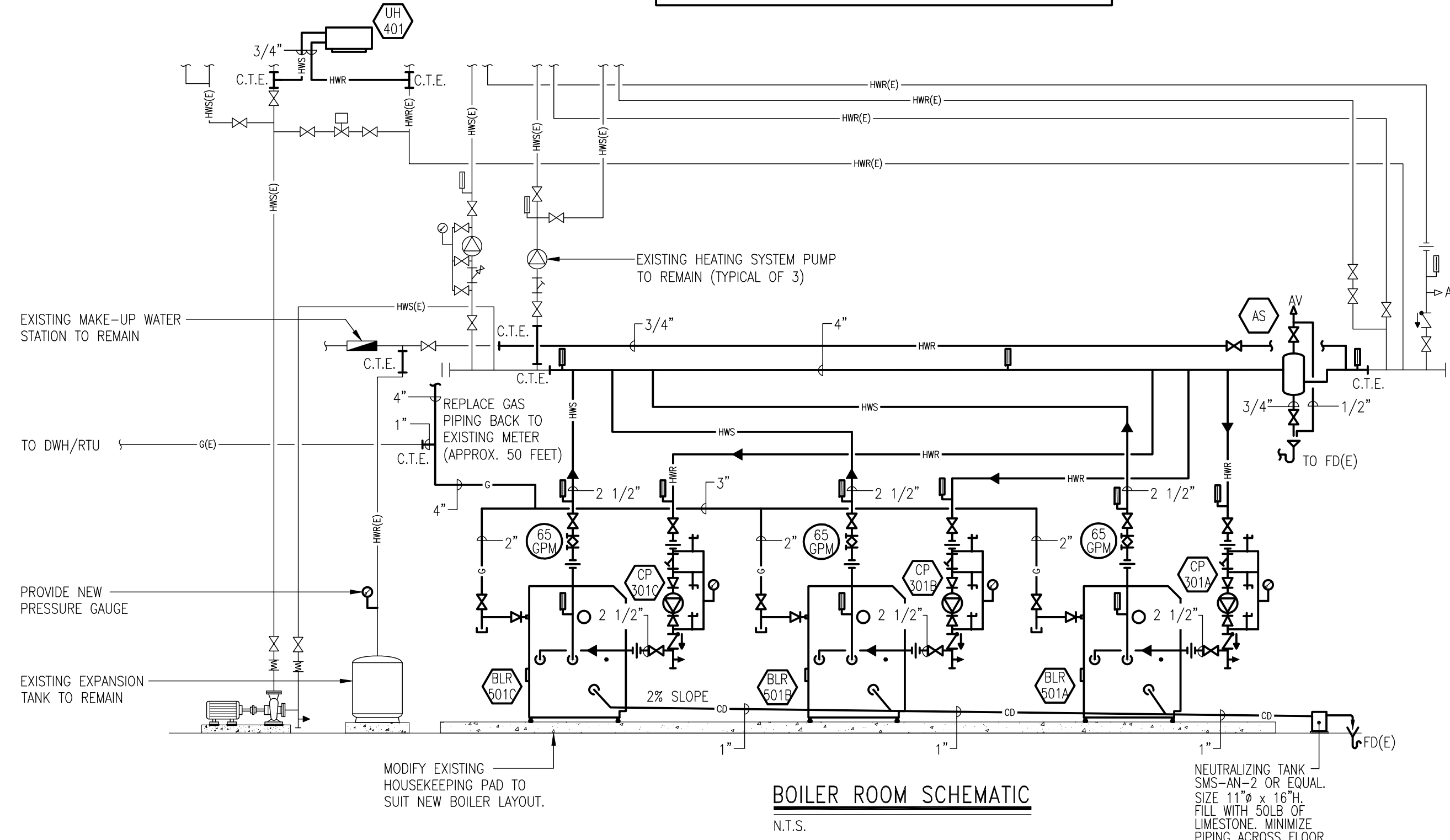
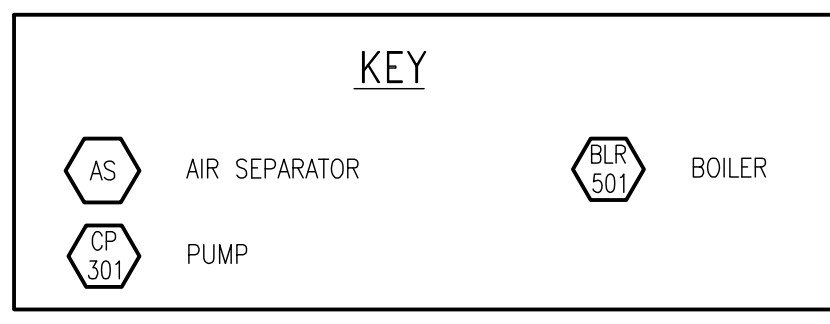
- NOTES:
1. MINIMUM BELOW GRADE SANITARY PIPE SIZE IS 3".
 2. ALL BOILER DRAINAGE PIPING TO BE CPVC.
 3. PIPE BOILER RELIEF VALVES TO EXISTING FLOOR DRAIN. USE 1-1/2" DRAIN PIPING.

BOILER ROOM PLAN
HEATING
SCALE: 1/4"=1'-0"

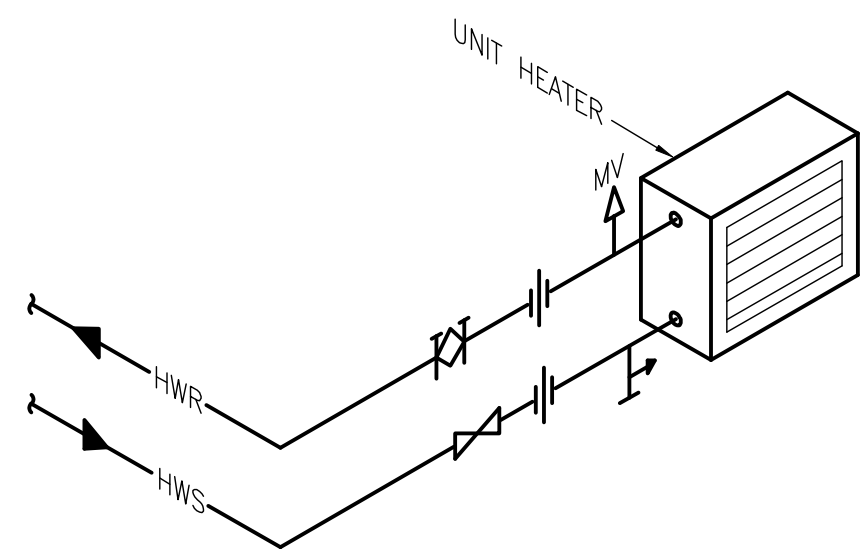
- NOTES:
1. BOILER RELIEF VALVE SUPPLIED BY BOILER MANUFACTURER.
 2. THERMOWELLS SUPPLIED AND INSTALLED BY DIVISION 15.
 3. SHUT-OFF VALVES MAY BE BALL STYLE FOR PIPES 2" AND SMALLER OR BUTTERFLY STYLE FOR PIPES OVER 2". DO NOT USE GATE VALVES.
 4. PROVIDE AUTOMATIC AIR VENTS AT ALL HIGH POINTS IN PIPING.

BOILER ROOM PLAN
VENTILATION
SCALE: 1/4"=1'-0"

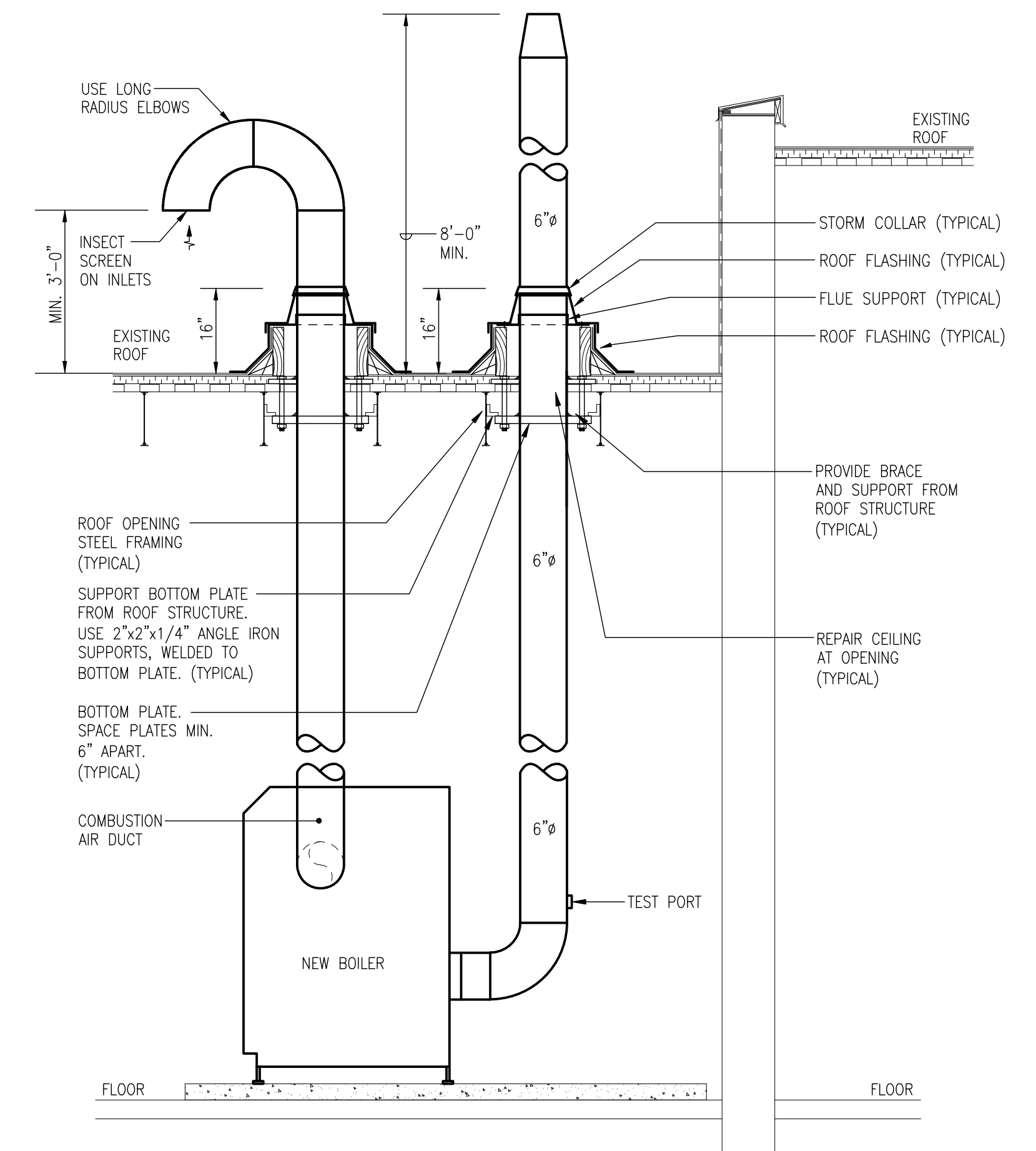
- NOTES:
1. SEE THIS DRAWING FOR BOILER VENT AND COMBUSTION AIR DUCT DETAIL.



BOILER ROOM SCHEMATIC
N.T.S.



TYPICAL PIPING ARRANGEMENT FOR HORIZONTAL UNIT HEATER
N.T.S.

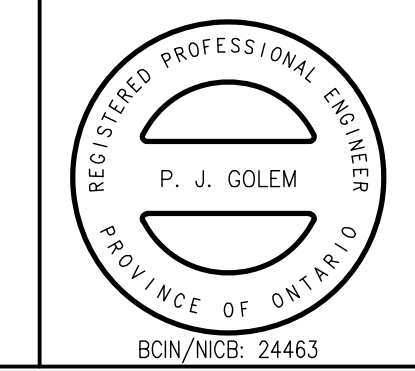


TYPICAL BOILER VENT AND COMBUSTION AIR DUCT THROUGH ROOF DETAIL
N.T.S.

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A	DETAIL NO.
B	DWG. NO. - WHERE REQUIRED
C	DWG. NO. - WHERE DETAILED

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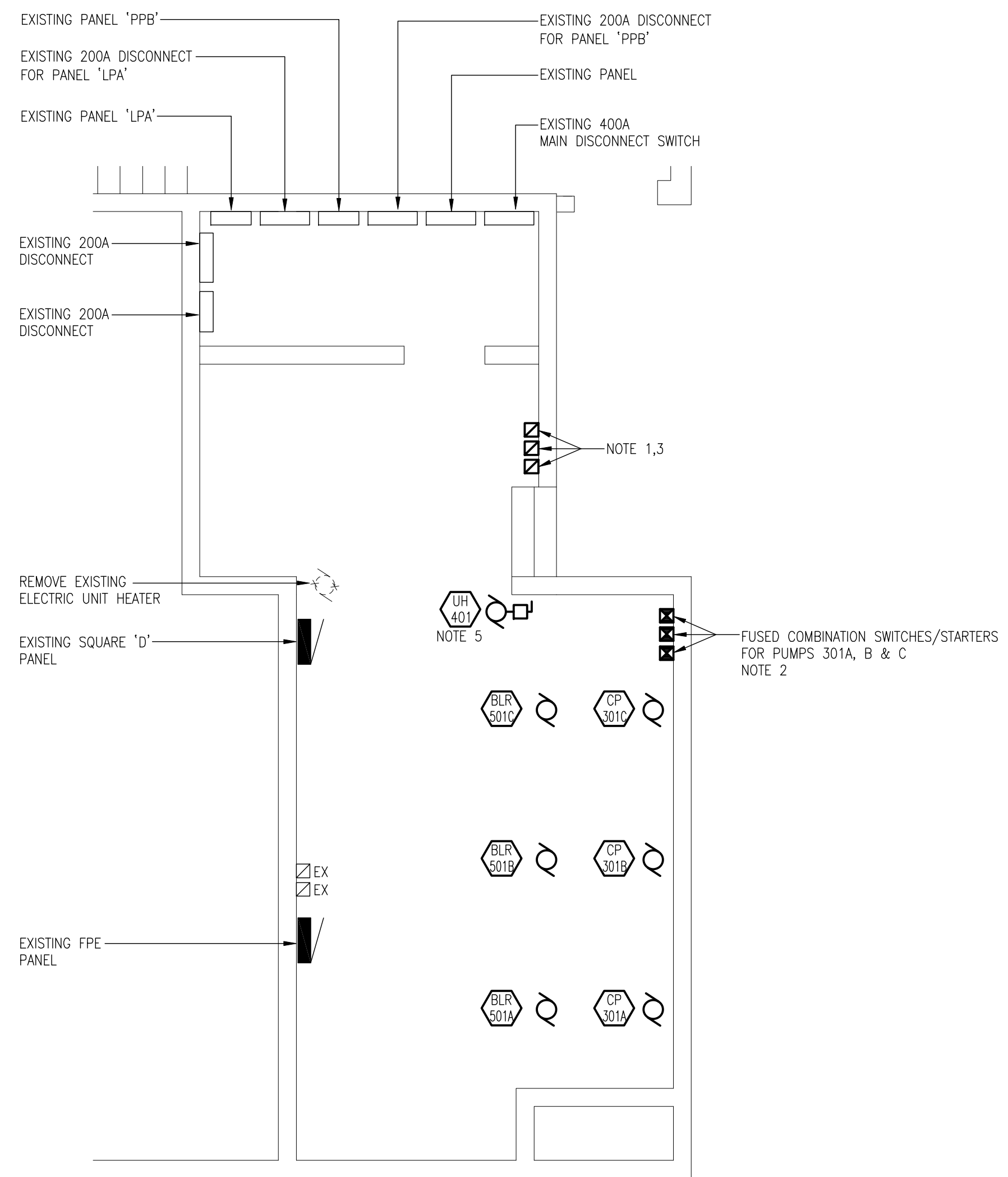
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ST. CLAIR CATHOLIC DISTRICT SCHOOL BOARD
CHATHAM, ONTARIO

Boiler Room Plans & Schematics
N.T.S.

Drawn JDF	Checked JDF	Approved PJG	Drawing No. M2.1
Scale AS NOTED	Date APR. 2011	Project No. 6817	Rev. No.

DATE PLOTTED: 15-MAR-2011 1:18 PM



BOILER ROOM PLAN

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

NOTES:

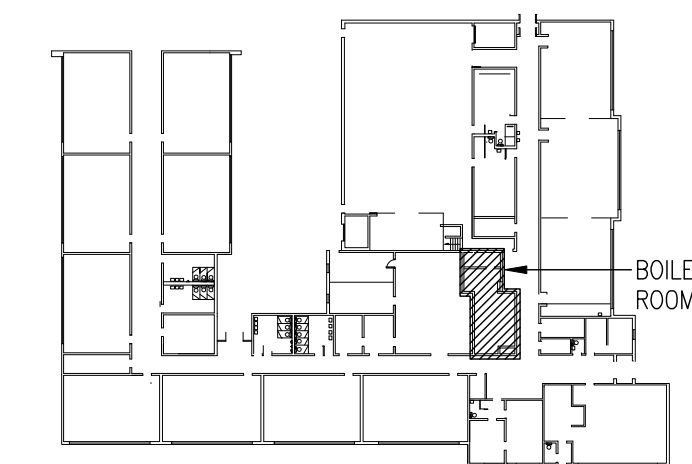
1. PROVIDE A SINGLE PHASE MANUAL STARTER C/W LOCKABLE TOGGLE SWITCH ATTACHMENT AND PILOT LIGHT TO BE ALLEN-BRADLEY CAT# 600-TAX216/600-W1 OR APPROVED EQUAL. PROVIDE A SUITABLE ENCLOSURE. PROVIDE ONE FOR EACH BOILER.
2. CONNECT PUMPS TO A 20A 2P CIRCUIT IN PANEL 'PPB'. PROVIDE ONE CIRCUIT FOR 3 PUMPS. EXISTING PANEL IS TAYLOR ELECTRIC NQLB, 120/240V, 200A, 1PH, 3W. PROVIDE NEW 20A 2P BREAKER TO SUIT AND MOVE SINGLE POLE BREAKERS AS REQUIRED.
3. PROVIDE THREE 20A 1P BREAKERS IN PANEL 'LP-A' - TAYLOR ELECTRIC NQLB. PROVIDE ONE BREAKER PER BOILER.
4. REFER TO MECHANICAL PLANS FOR EXTENT OF DEMOLITION WORK. REMOVE ALL CONDUIT, CABLE, STARTERS AND ACCESSORIES FOR 2 BOILERS AND 2 PUMPS.
5. CONNECT UNIT HEATER TO AN AVAILABLE CIRCUIT IN EITHER OF PANELS 'LPA' OR 'PPB'. PROVIDE A 15A 1P BREAKER TO SUIT.

ELECTRICAL LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
☒	COMBINATION MAGNETIC STARTER	▬	ELECTRICAL PANEL
☐	MANUAL STARTER	EX	EXISTING DEVICE TO REMAIN
⊙	MOTOR	REM	EXISTING DEVICE TO BE REMOVED
⊕	CIRCUIT BREAKER	NEW	NEW DEVICE

MECHANICAL EQUIPMENT SCHEDULE										
ITEM	DESCRIPTION	LOCATION	EQUIPMENT SUPPLIED AND INSTALLED BY OTHERS WIRED BY DIV. 16				CONTROL EQUIPMENT SUPPLIED AND INSTALLED BY DIV. 16		FEED FROM	REMARKS/NOTES
			hp	MCA	PHASE	VOLTS	STARTER/CONTROL TYPE	STARTER/CONTROL TYPE		
BLR-501 A,B,C	BOILER	BOILER ROOM	FHP		1	120	MAN	EX. PANEL	20	1 2 #12 3/4"
CP-301 A,B,C	BOILER CIRCULATION PUMP	BOILER ROOM	1.5		1	230	COMB	EX. PANEL	20	2 3 #12 3/4"
UH-401	UNIT HEATER	BOILER ROOM	FHP		1	120	DS	EX. PANEL	15	1 2 #12 3/4"

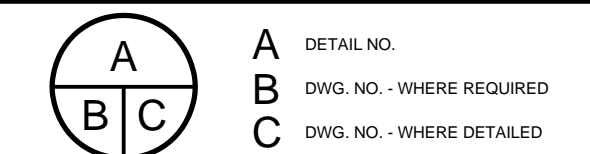
NOTES:
1. DIVISION 16 TO OBTAIN COPIES OF MECHANICAL EQUIPMENT SHOP DRAWINGS AND COORDINATE ELECTRICAL SERVICES.
2. PROVIDE LOCAL NON-FUSED DISCONNECT SWITCHES AT MOTORS IN ACCORDANCE WITH SECTION 28-604 OF THE ONTARIO ELECTRICAL SAFETY CODE.
3. UNLESS INDICATED OTHERWISE ALL CONTROL WIRING IS BY DIVISION 15.

MOTOR CONTROL ABBREVIATIONS			
ALST	ALTERNATOR STARTER	HOA	HAND-OFF-AUTO SELECTOR SWITCH
COMB	COMBINATION DISCONNECT SWITCH & STARTER ON WALL ADJACENT MOTOR	MAN	MANUAL STARTER
CON	CONTACTOR	MCA	MINIMUM CIRCUIT AMPACITY
DS	UN-FUSED DISCONNECT SWITCH	MCC	MOTOR CONTROL CENTRE
FDS	FUSED DISCONNECT SWITCH	PL	PILOT LIGHT

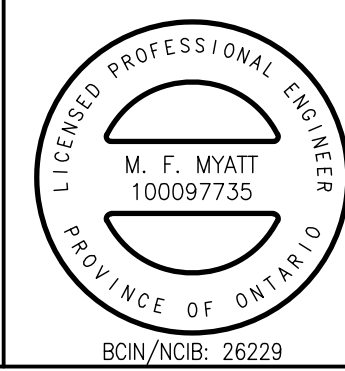


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