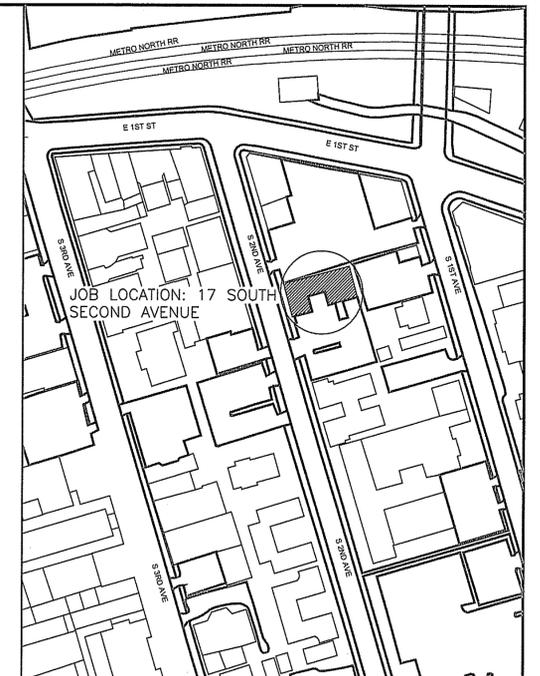


WESTCHESTER COUNTY



WESTCHESTER COUNTY, NEW YORK
 DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
 DIVISION OF ENGINEERING

CONTRACT No. 21-514
BOILER REPLACEMENT AND ASSOCIATED WORK
VERNON PLAZA FAMILY CENTER
17 SOUTH SECOND AVE
MOUNT VERNON, NEW YORK



LOCATION MAP

DRAWING INDEX

SHEET NO.	SHEET TITLE	DPW FILE NO.
T-1	TITLE SHEET	54-29-T-47
ARCHITECTURAL		
A-1	CELLAR FLOOR PLANS	54-29-A-48
PLUMBING		
P-1	DETAILS, SYMBOL LEGEND & NOTES	54-29-P-49
P-2	DEMOLITION AND NEW WORK PLAN, CELLAR LEVEL	54-29-P-50
MECHANICAL		
HV-1	DETAILS AND SYMBOL LEGEND	54-29-HV-51
HV-2	NOTES	54-29-HV-52
HV-3	DEMOLITION AND NEW WORK PLAN, CELLAR LEVEL	54-29-HV-53
HV-4	SCHEDULES AND SCHEMATICS	54-29-HV-54
ELECTRICAL		
E-1	BOILER ROOM POWER AND LIGHTING PLAN	54-29-E-55

IN CHARGE OF JAI PUNNOOSE, P.E.
 CHECKED BY JAI PUNNOOSE, P.E.
 MADE BY VINCENT LEONE, P.E.

[Signature] 6/14/21
 RECOMMENDED FOR DESIGN DATE
 JAI PUNNOOSE, P.E.
 ASSOCIATE ENGINEER
 DEPARTMENT OF PUBLIC WORKS
 AND TRANSPORTATION

[Signature] 6.4.2021
 RECOMMENDED FOR CONSTRUCTION DATE
 GAYLE M. KATZMAN, P.E.
 FIRST DEPUTY COMMISSIONER
 DEPARTMENT OF PUBLIC WORKS
 AND TRANSPORTATION

[Signature] 6/14/21
 APPROVED FOR CONSTRUCTION DATE
 LEONARD G. TOWNES
 COMMISSIONER
 DEPARTMENT OF SOCIAL SERVICES

[Signature] 6/14/21
 APPROVED FOR CONSTRUCTION DATE
 HUGH J. GREECHAN, JR., P.E.
 COMMISSIONER
 DEPARTMENT OF PUBLIC WORKS
 AND TRANSPORTATION

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

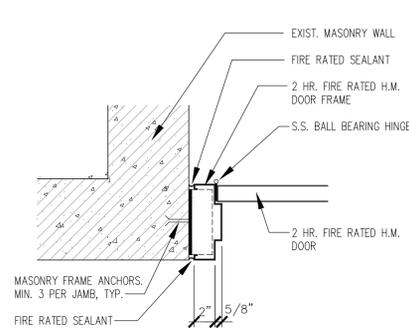
AS BUILT -- CHANGES AS NOTED
 AS BUILT -- NO CHANGES

CONTRACTOR		PROJECT COORDINATOR	
NAME	NAME	NAME	NAME
SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE
TITLE	TITLE	TITLE	TITLE
DATE	DATE	DATE	DATE

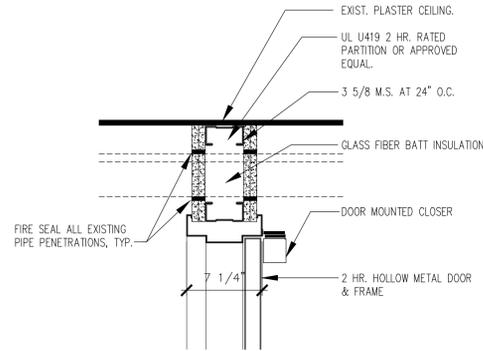
WESTCHESTER COUNTY, NEW YORK
 DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
 DIVISION OF ENGINEERING

BOILER REPLACEMENT AND ASSOCIATED WORK
 VERNON PLAZA FAMILY CENTER
 17 SOUTH SECOND AVENUE, VALHALLA CAMPUS, VALHALLA, NEW YORK

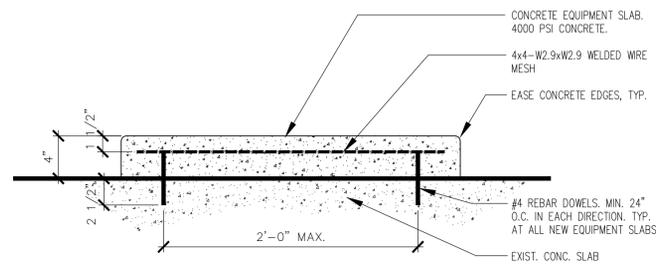
CONTRACT NUMBER 21-514 SHEET NUMBER T-1
 SHEET NO. 1 OF 9
 SCALE: AS SHOWN
 DATE: 06/04/21
 DPW FILE NO. 54-29-T-47 REV. NO. 0



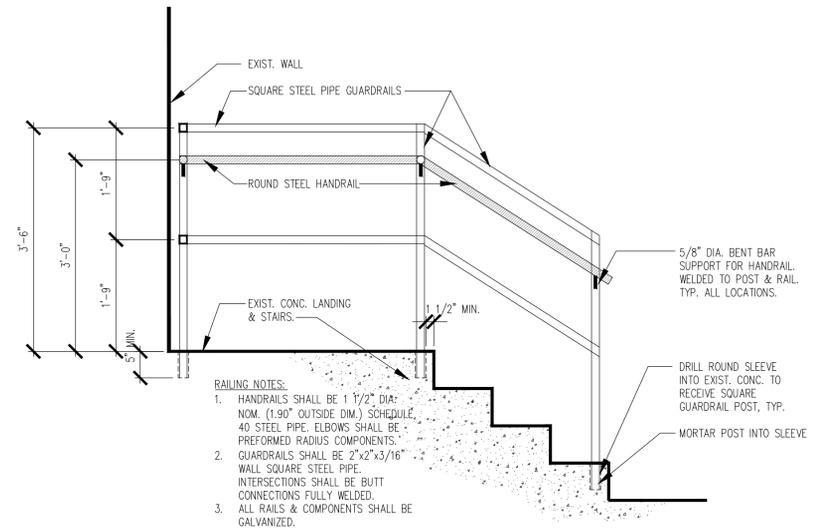
3 DOOR JAMB DETAIL
A-1 1 1/2" = 1'-0"



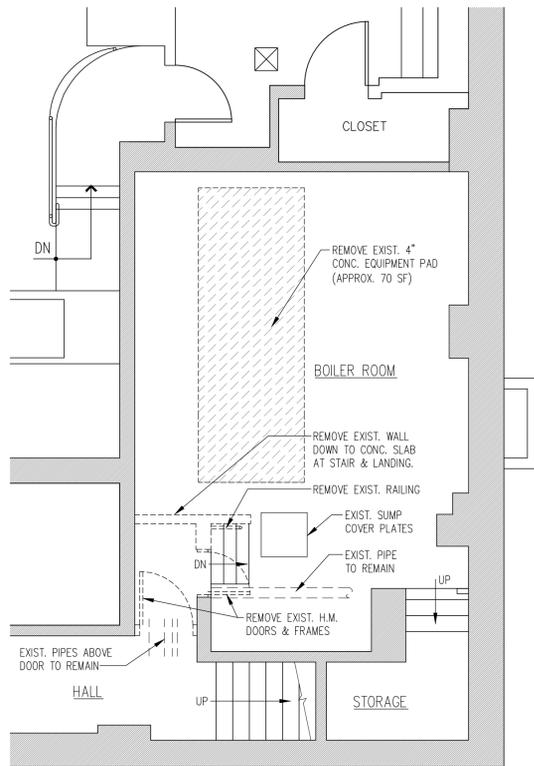
4 DOOR HEAD DETAIL
A-1 1 1/2" = 1'-0"



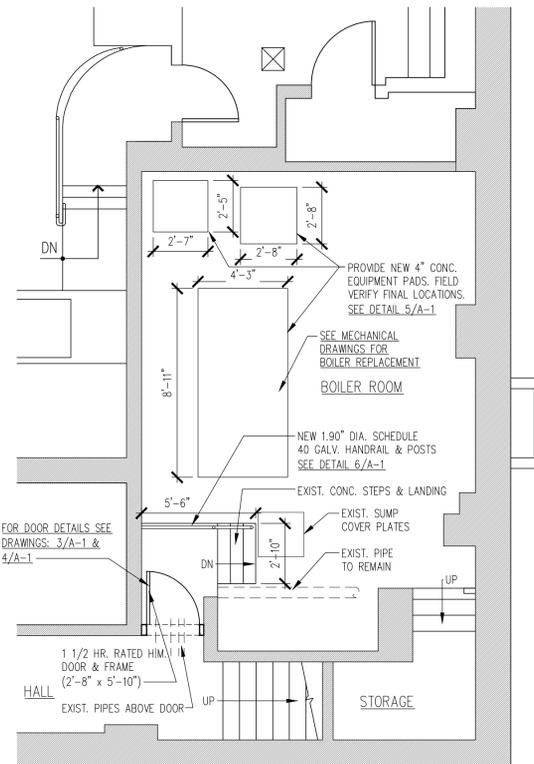
5 CONCRETE EQUIPMENT PAD DETAIL
A-1 1 1/2" = 1'-0"



6 RAILING DETAIL ELEVATION
A-1 3/4" = 1'-0"



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



2 BOILER ROOM PLAN
A-1 1/4" = 1'-0"

ARCHITECTURAL LEGEND

- EXISTING BUILDING WALLS
- AREA OF NEW WORK
- WALL TO BE REMOVED
- EXISTING WINDOW
- NEW DOOR & FRAME
- EXISTING DOOR & FRAME TO BE REMOVED
- SMOKE / CARBON MONOXIDE DETECTOR

DOOR NOTES

1. DOOR LOCK: SCHLAGE L9080 STOREROOM LOCK; M82 LEVER & ROSE; 626 SATIN CHROME FINISH; KEYED AS DIRECTED BY COUNTY.
2. DOOR CLOSER: LCN 4040XP SERIES CLOSER

PAINTING NOTES

1. PREPARE & PAINT MECHANICAL ROOM WALLS & FLOORS INCLUDING EQUIPMENT PADS WITH PRIMER AND EPOXY COATING, COLORS TO BE SELECTED. FLOOR: 340 SF; WALLS: 640 SF
2. PAINT NEW DOOR & FRAME WITH EPOXY PAINT.
3. USE BENJAMIN MOORE COROTECH FAST DRY POLYAMIDE EPOXY COATINGS OR APPROVED EQUAL. APPLY PER MANUFACTURERS INSTRUCTIONS.

GENERAL NOTES

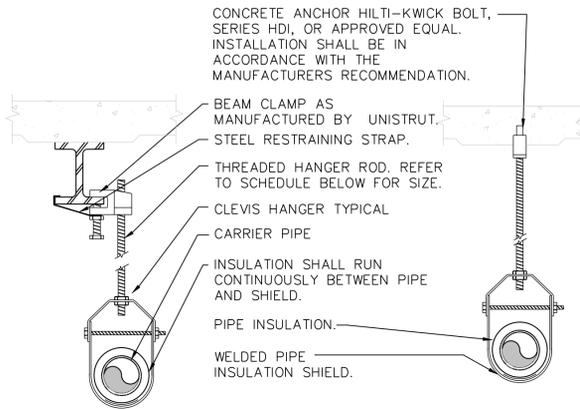
1. THE INFORMATION GIVEN ON THIS PLAN IS FOR BID PURPOSES ONLY. THE SUCCESSFUL CONTRACTOR SHALL MAKE HIS OWN FIELD MEASUREMENTS AND FIELD VERIFY ALL GIVEN INFORMATION BEFORE ORDERING MATERIALS.
2. ALL REGULATIONS, RULES, ETC., OF ALL STATE, COUNTY AND LOCAL GOVERNMENTS, AND ALL UTILITY AGENCIES SHALL BE FOLLOWED BY THE CONTRACTOR.
3. DO NOT SCALE THE DRAWINGS. USE WRITTEN DIMENSIONS ONLY.
4. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING SHOP DRAWINGS OR COMMENCING ANY WORK.
5. ALL QUESTIONS AND/OR DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT. CONTRACTOR SHALL NOT COMMENCE WORK WITHOUT THE ARCHITECT'S DIRECTION.
6. CONTRACTOR IS RESPONSIBLE TO PROVIDE FOR THE SAFETY OF ITS WORKERS, AND THE PUBLIC AS PER ALL LOCAL, STATE, AND NATIONAL CODES AND REGULATIONS.
7. ALL DEMOLITION AND CONSTRUCTION MATERIAL DISPOSAL MUST BE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
8. ALL DEMO AND CONSTRUCTION DEBRIS SHALL BE LEGALLY DISPOSED OF OFF THE PROPERTY.
9. THE DEMOLITION AND DISPOSAL OF ANY HAZARDOUS MATERIALS IF ANY MUST BE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
10. PATCH ALL ALTERED SURFACES. RESTORE ALL EXISTING AREAS DISTURBED BY CONSTRUCTION TO MATCH EXISTING SURFACES WITHOUT NOTICEABLE CRACKS, JOINTS OR BULGES.
11. GENERAL CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES AS REQUIRED.

IN CHARGE OF ADAM KAPLINSKI, RA
 CHECKED BY KENT JOHNSON, RA
 MADE BY KENT JOHNSON, RA

WESTCHESTER COUNTY, NEW YORK
 DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
 DIVISION OF ENGINEERING

BOILER REPLACEMENT AND ASSOCIATED WORK
 VERNON PLAZA FAMILY CENTER
 17 SOUTH SECOND AVENUE, MOUNT VERNON, NEW YORK
 DEMOLITION AND NEW WORK PLAN, CELLAR LEVEL

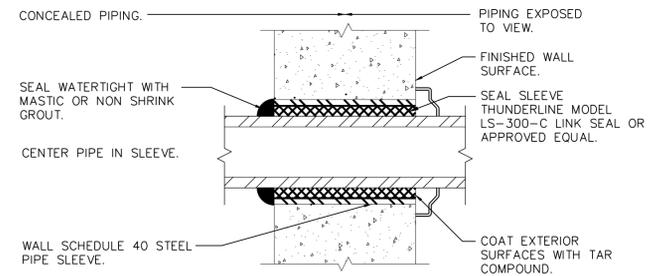
CONTRACT NUMBER 21-514	SHEET NUMBER A-1
SHEET NO. 2 OF 5	
SCALE: AS SHOWN DATE: 06/18/21	
DPW FILE NO. 54-29-A-48-0	REV. NO. 0



PIPE HANGER SCHEDULE					
PIPE DIA.	3/4"-2"	2 1/2"-3"	4"-5"	6"	8"-12"
HANGER DIA.	3/8"	1/2"	5/8"	3/4"	7/8"

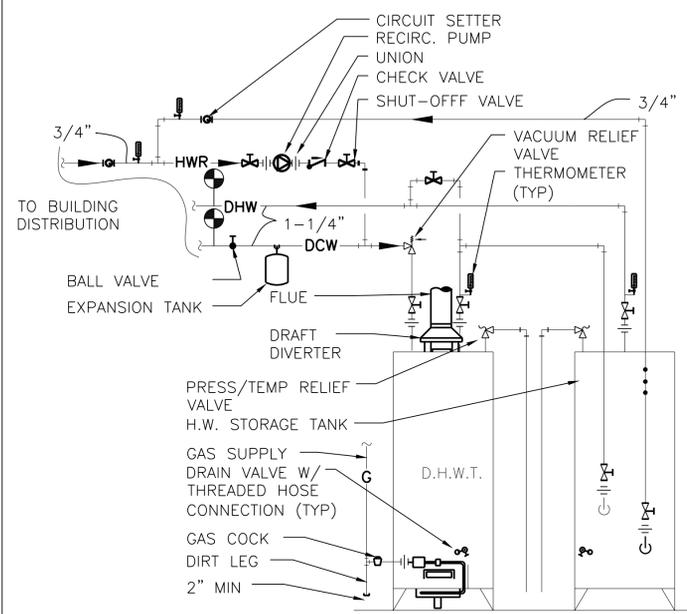
- NOTES:**
- CLEVIS HANGERS WITH WELDED INSULATION SHEILDS SIMILAR TO RAUCH FIG. 100SH ON ALL PIPES LARGER THAN 1".
 - FOR PIPES 1" OR SMALLER, A BAND HANGER WITH INSULATION SHEILD MAY BE USED SIMILAR TO RAUCH FIG. NO. 1ASH.
 - FOR NONINSULATED PIPE, INSULATION SHEILDS MAY BE OMITTED.
 - ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
 - FOR NON FERROUS PIPING WITHOUT INSULATION, ALL HANGERS SHALL BE COPPER PLATED OR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS.

1 PIPE HANGER DETAIL
P-1 SCALE: NONE



1 WALL PENETRATION DETAIL
P-1 SCALE: NONE

- NOTES:**
- PIPE SLEEVE FOR EXTERIOR WALL ABOVE OR BELOW GRADE.
 - FOR GAS SERVICE EXTEND SLEEVE 1" PAST INSIDE FACE OF WALL & 4" PAST OUTSIDE FACE OF WALL.



- NOTES:**
- PROVIDE ALL NEW PIPING & PIPING SPECIALTIES AS REQUIRED.

1 DOMESTIC H.W. & STORAGE TANK DETAIL
P-2 SCALE: NONE

GAS SERVICE INSTALLATION GENERAL NOTES

- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND PAYING FEE ASSOCIATED WITH THIS WORK.
- ALL GAS PIPING WORK SHALL BE PERFORMED BY WESTCHESTER COUNTY LICENSED MASTER PLUMBER, AUTHORIZED FOR CON-EDISON WORK.

TEST PRESSURE AND DURATION:
THE TEST PRESSURE AND DURATION SHALL BE AS FOLLOWS: (FOR NEW PIPING ONLY)
ISOLATE NEW PIPING SECTION AS REQUIRED.

MAXIMUM PRESSURE UTILIZATION	TEST PRESSURE	TEST DURATION
LESS THAN 125 PSIG	90 PSIG OR ONE AND A HALF TIMES THE MAXIMUM OPERATING PRESSURE OR WHICHEVER IS GREATER	2-INCHES AND SMALLER: 15 MINUTES > 2" - 30 MINUTES.
GREATER THAN 125 PSIG	90 PSIG OR ONE AND A HALF TIMES OPERATING PRESSURE, WHICHEVER IS GREATER	2-INCHES AND SMALLER: 2 HOURS

NOTE: THE ABOVE CHARTS DO NOT REPRESENT TEST PRESSURE FOR DISTRIBUTION PIPING AFTER THE METER, WHICH IS NOT UNDER OUR JURISDICTION BUT THAT OF THE GOVERNING AUTHORITIES/CODES.
(**** DO NOT INCLUDE PRESSURE REGULATOR IN PIPE PRESSURE TEST ****)

- CONNECTION BETWEEN THE NEW PIPING AND THE EXISTING PIPING SHALL BE TESTED WITH A NONCORROSIVE LEAK-DETECTING FLUID OR APPROVED LEAK DETECTING METHODS.
- EXISTING PIPING AFFECTED BY NEW INSTALLATION SHALL BE PRESSURE TESTED BY A TEST PRESSURE 1-1/2 TIMES THE PROPOSED MAXIMUM WORKING PRESSURE, BUT NOT LESS THAN 3 PSI, IRRESPECTIVE OF DESIGN PRESSURE.

- WELDING:**
- ALL WELDERS WORKING ON GAS SERVICE, METER, AND DISTRIBUTION PIPING MUST BE QUALIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL AUTHORITIES AND CONED PROCEDURES.
 - WELDERS ARE REQUIRED TO FOLLOW THE NEW YORK STATE FUEL AND GAS CODE FOR WELDING DISTRIBUTION PIPING.
 - LICENSED PLUMBING CONTRACTOR MUST SUBMIT A "WELDING AFFIDAVIT" SHOWING COMPLIANCE WITH THE LOCAL BUILDING CODES IN THE MUNICIPALITY WHERE WORK WAS PERFORMED:

EQUIPMENT NOTES

- DOMESTIC HOT WATER STORAGE TANK:** BASED ON AO SMITH MODEL T-200 STD OR APPROVED EQUAL 200 GALLON CAPACITY, 30"x72", WITH 2-1/2" THREADED CONNECTIONS. VERTICAL INSTALLATION USING 2-1/2" THREADED LEG SOCKETS.
- DOMESTIC HOT WATER CIRCULATOR PUMP:** BASED ON BELL & GOSSETT MODEL ECOCIRC XL 20-35, LEAD FREE BRONZE BODY PUMP OR APPROVED EQUAL. ELECTRICAL CHARACTERISTICS SHALL BE 115/1/60, 1/12 HP, HIGH EFFICIENT, WET ROTOR PUMP WITH ELECTRONICALLY COMMUTATED MOTOR (ECM).
- DOMESTIC HOT WATER EXPANSION TANK:** BASED ON BELL & GOSSETT MODEL HFT-60 DIAPHRAGM-TYPE EXPANSION TANK OR EQUAL. EXPANSION TANK SHALL BE CARBON STEEL SHELL AND HD BUTYL RUBBER DIAPHRAGM; 7.6 GAL TANK VOLUME, 2.5 GAL ACCEPTANCE. MAXIMUM DESIGN PRESSURE /TEMP: 100 PSI / 240F
- BACKFLOW PREVENTER:** BASED ON 3/4" WATTS MODEL LF9090T BONZE RPZ ASSEMBLY OR APPROVED EQUAL.
- WATER METER:** BASED ON 3/4" SENSUS MODEL SR II OR APPROVED EQUAL, TIE INTO BMS FOR EMERGENCY ALARM. PROVIDE CONNECTIONS TO BMS FOR STATUS/GPM READING.
- PRESSURE REDUCING VALVE (PRV):** BASED ON 3/4" WATTS MODEL-LF223 OR APPROVED EQUAL. ALL WETTED PARTS SHALL BE LEAD FREE BRASS.
- ANGLE SILLCOCK VALVE:** BASED ON NIBCO MODEL# 763-CL-LS OR APPROVED EQUAL.

PLUMBING PIPING MATERIAL

- WATER PIPING:** TYPE "K" COPPER AND WROUGHT COPPER FITTINGS, 95-5 LEADLESS SOLDER.
- WASTE AND VENT:** SERVICE WT. CAST IRON OR COPPER DWV WITH PUSH-ON RUBBER GASKETS OR NO-HUB PIPE WITH HUSKY HEAVY COUPLINGS FOR ABOVE GRADE PIPING.

GAS PIPING MATERIALS

SERVICE	SIZE (IN.)	MATERIAL	TYPE/WEIGHT	STANDARD
GAS	ALL	BLACK	ERW/SCH. 40 THREADED	ASTM A53

GAS PIPE FITTINGS

SERVICE	SIZE (IN.)	MATERIAL	TYPE/WEIGHT	STANDARD
GAS ABOVEGROUND AND PIPE CHASE	THRU 4	MALLEABLE IRON	SCREWED/150 PSI	ANSI B16.3

GAS VALVE SCHEDULE

MISCELLANEOUS SERVICE	MANUFACTURER
GAS VALVES/ PLUG VALVES	ROCKWELL CO./FLOWSERVE NORDSTROM #142

PROVIDE LUBRICANT AND WRENCH FOR EACH GAS VALVE

VALVE SCHEDULE

GATE VALVES	2-1/2" AND SMALLER	STOCKHAM B-105 THREADED, RISING STEM
BALL VALVES	3" AND SMALLER	STOCKHAM S-206-BRI-R-T WITH EXTENSION STEM FOR INSULATED PIPE
HOSE END DRAIN VALVES	1" AND SMALLER	WOODFORD COMPANY, MODEL #24P, POLISHED CHROME IN FINISHED AREAS

EXCEPT WHERE SPECIFICALLY STATED TO CONTRARY, ALTERNATE MANUFACTURERS FOR VALVES ARE AS FOLLOWS:
 - CRANE COMPANY - HAMMOND VALVE CORP. (SERIES IB,IR)
 - JENKINS BROTHERS - KENNEDY VALVE MFG. CO., INC.
 - NIBCO, INC. - STOCKHAM VALVE AND FITTINGS
 - LUNKENHEIMER CO.
 THE CONTRACTOR SHALL PROVIDE THE VALVES SPECIFIED, OR THE EQUIVALENT AS PRODUCED BY ONE OF THE ABOVE LISTED MANUFACTURERS.

SYMBOL & ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
-	AFF	ABOVE FINISHED FLOOR
-	GPM	GALLONS PER MINUTE
-	HWS	HOT WATER SUPPLY
-	HWR	HOT WATER RETURN
-	CW	DOMESTIC WATER
-	PHWS/R	PRIMARY HOT WATER SUPPLY/RTEURN
-	SHWS/R	SECONDARY HOT WATER SUPPLY/RETURN
-	DCWS	DOMESTIC COLD WATER SUPPLY
-	DHWS	DOMESTIC HOT WATER SUPPLY
⌋	-	TRIPLE DUTY VALVE
⌋	-	FLOW CONTROL VALVE
⌋	-	2-WAY VALVE
⌋	-	GATE VALVE
⌋	-	GLOBE VALVE
⌋	-	OS&Y GATE VALVE
⌋	-	BUTTERFLY VALVE
⌋	-	STRAINER
⌋	-	CIRCUIT SETTER
⌋	-	MANUAL AIR VENT
⌋	-	AUTO AIR VENT
⌋	-	BALL VALVE
⌋	-	PRESSURE GAGE
⌋	-	THERMOMETER
⌋	-	CHECK VALVE
⌋	-	UNION
⌋	-	WATER METER
⌋	-	MOTORIZED DAMPER
⌋	-	POINT OF CONNECTION OR DISCONNECTION
⌋	-	FLOW DIRECTION
---	EX.	EXISTING TO REMAIN
---	NEW	NEW WORK
- - - - -	DEM.	EXISTING TO BE REMOVED
⌋	-	T&P RELIEF VALVE
⌋	-	VACUUM BREAKER

PLUMBING NOTES

- THE INFORMATION GIVEN ON THIS PLAN IS FOR BID PURPOSES ONLY. THE SUCCESSFUL CONTRACTOR SHALL MAKE HIS OWN FIELD MEASUREMENTS AND VERIFY ALL GIVEN INFORMATION BEFORE ORDERING MATERIALS.
- THE CONTRACTOR SHALL PROVIDE ALL PLUMBING EQUIPMENT, PIPING, VALVES, AND ACCESSORY ITEMS AS SPECIFIED AND AS REQUIRED FOR A COMPLETE INSTALLATION, INCLUDING HOT WATER AND COLD WATER ISOLATION VALVES FOR ALL EQUIPMENT.
- REMOVE ABANDONED PIPING BACK TO MAIN OR RISER AND CAP. CAPPING AND PLUGGING OF PIPING SHALL BE DONE USING THE SAME MATERIAL AS THE PIPING.
- EXACT LOCATIONS OF PIPING IN FLOORS, WALLS, CEILINGS, AND CHASES SHALL BE COORDINATED WITH THE EXISTING CONDITIONS IN THE FIELD. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING SIZE AND LOCATION OF ALL EXISTING PIPING IN FIELD.
- ALL WORK SHALL BE DONE IN COMPLIANCE WITH NFPA, THE N.Y. STATE AND THE LOCAL PLUMBING CODES.
- ALL PLUMBING WORK SHALL BE PERFORMED BY A PLUMBER LICENSED BY THE COUNTY OF WESTCHESTER. A COPY OF THE LICENSE SHALL BE SUBMITTED TO OWNER AND ALL FEES PAID.
- PROVIDE SUFFICIENT CLEVIS TYPE HANGERS, SUPPORTS, RODS, BRACES, ETC. TO PROPERLY SUPPORT PIPING. INSTALL HANGERS OVER INSULATION.
- ALL WORK SHALL BE PROPERLY TESTED, BALANCED, AND CLEANED. DISINFECT ALL WATER PIPING WITH HTL TABLETS FOR 24 HOURS, FLUSH AFTERWARDS.
- COORDINATE ROUTING OF PIPING WITH WORK OF OTHER TRADES. VERIFY ELEVATIONS OF NEW PIPING PRIOR TO INSTALLATION. NOTIFY ENGINEER IMMEDIATELY IF ANY POSSIBLE CONFLICTS WITH LIGHTS, DUCTWORK, ETC. COULD OCCUR.
- PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH FIRE STOPPING MATERIAL.
- CONTRACTOR SHALL COORDINATE NEW FIXTURES LOCATIONS WITH DRAWINGS.
- ALL CORE DRILLING, SAW CUTTING AND PATCHING BY THIS CONTRACTOR. ALL PIPING SHALL BE NEW UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR SHALL PRESSURE TEST ALL NEW PIPING AFTER THE METER ACCORDING TO THE CODES AND REGULATIONS UNDER THE JURISDICTION OF THE GOVERNING AUTHORITIES OR LOCAL MUNICIPALITY.

IN CHARGE OF JAI PUNNOOSE, P.E.
 CHECKED BY _____
 MADE BY VINCENT LEONE, P.E.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

AS BUILT - CHANGES AS NOTED
 AS BUILT - NO CHANGES

CONTRACTOR		PROJECT COORDINATOR	
NAME _____	NAME _____	NAME _____	NAME _____
SIGNATURE _____	SIGNATURE _____	SIGNATURE _____	SIGNATURE _____
TITLE _____	TITLE _____	TITLE _____	TITLE _____
DATE _____	DATE _____	DATE _____	DATE _____

**WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS**
DIVISION OF ENGINEERING

BOILER REPLACEMENT AND ASSOCIATED WORK
VERNON PLAZA FAMILY CENTER
17 SOUTH SECOND AVENUE, MOUNT VERNON, NEW YORK
DETAILS, SYMBOL LEGEND AND NOTES

CONTRACT NUMBER 21-514	SHEET NUMBER P-1
SHEET NO. 3 OF 9	
SCALE: AS SHOWN DATE: 06/04/21	
DPW FILE NO. 54-29-P-49	REV. NO. 0

EXISTING DOMESTIC HOT WATER EXPANSION TANK TO BE REMOVED.

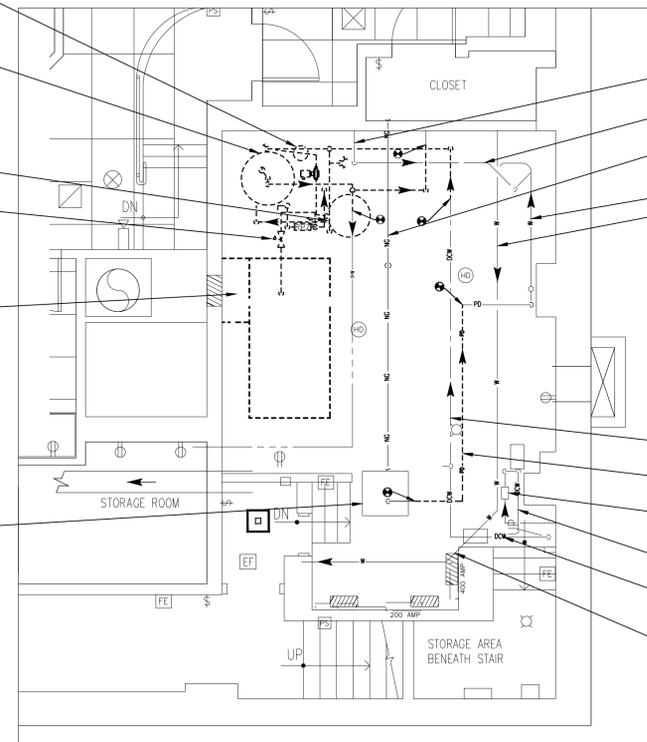
DEMOLISH AND REMOVE EXISTING DOMESTIC HOT WATER STORAGE TANK ON MOUNTING FRAME IN ITS ENTIRETY.

RELOCATE EXISTING DOMESTIC WATER HEATER.

DEMOLISH AND REMOVE EXISTING 1/2" BOILER FEED VALVE.

DISCONNECT 1/2" DOMESTIC WATER PIPING UP TO EXISTING BOILER FEED UNIT TO BE REMOVED IN ITS ENTIRETY.

EXISTING SUMP PUMP SYSTEM TO REMAIN. PIT BOTTOM ELEV. 12" (TYPICAL)



1 PLUMBING ROOM DEMOLITION PLAN
P-2 SCALE: 1/4" = 1'-0"

EXISTING 3" COPPER WASTE PIPE 110" AFF TO REMAIN.
EXISTING 3" COPPER WASTE PIPE 95" AFF TO REMAIN.
EXISTING GAS 109" AFF TO REMAIN.

EXISTING WASTE PIPE 27" AFF
EXISTING WASTE PIPE 24" AFF

EXISTING 1-1/2" WATER PIPE TO REMAIN.
EXISTING 1-1/2" COPPER SUMP DISCHARGE TO BE RE-ROUTED.
EXISTING WATER METER TO REMAIN.

EXISTING 2" DOMESTIC WATER LINE TO REMAIN.
EXISTING 1-1/2" WATER PIPE TO REMAIN.
EXISTING WASTE PIPE 21" AFF TO REMAIN.

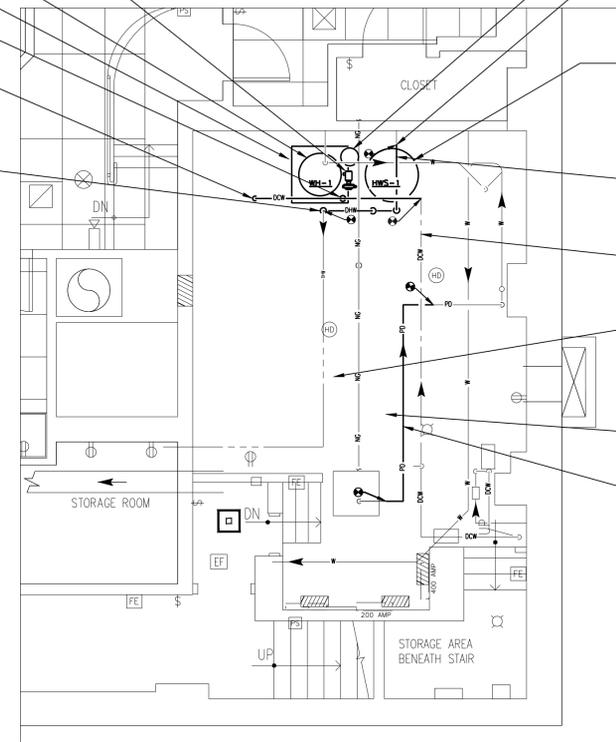
CONTRACTOR SHALL PROVIDE NEW HOT WATER CIRCULATOR PUMP. REFER TO DETAILS FOR PIPE SIZES AND SPECIALTIES.

EXISTING WATER HEATER TO BE RELOCATED AGAINST WALL.
PROVIDE NEW CONCRETE PAD SEE ARCHITECTURAL SHEET.

CONTRACTOR SHALL PROVIDE DOMESTIC WATER CONNECTION TO NEW WATER HEATER.

CONTRACTOR SHALL PROVIDE DOMESTIC WATER CONNECTION TO NEW BOILER FEED UNIT AND INSULATE.

CONTRACTOR SHALL RECONNECT DOMESTIC HOT WATER CONNECTION TO EXISTING BUILDING DISTRIBUTION.



1 PLUMBING ROOM NEW WORK PART PLAN
P-2 SCALE: 1/4" = 1'-0"

PROVIDE NEW HOT WATER EXPANSION TANK.
CONTRACTOR SHALL RECONNECT DOMESTIC HOT WATER CONNECTION TO EXISTING BUILDING DISTRIBUTION.

PROVIDE NEW 30"Øx72" 200 GALLON AO SMITH T200A UNINSULATED STANDARD BARE COMMERCIAL HOT WATER STORAGE TANK VERTICALLY ON NEW PIPE STAND. STRAP TO WALL AND INSULATE.

EXISTING 1-1/2" STEEL WATER PIPE.

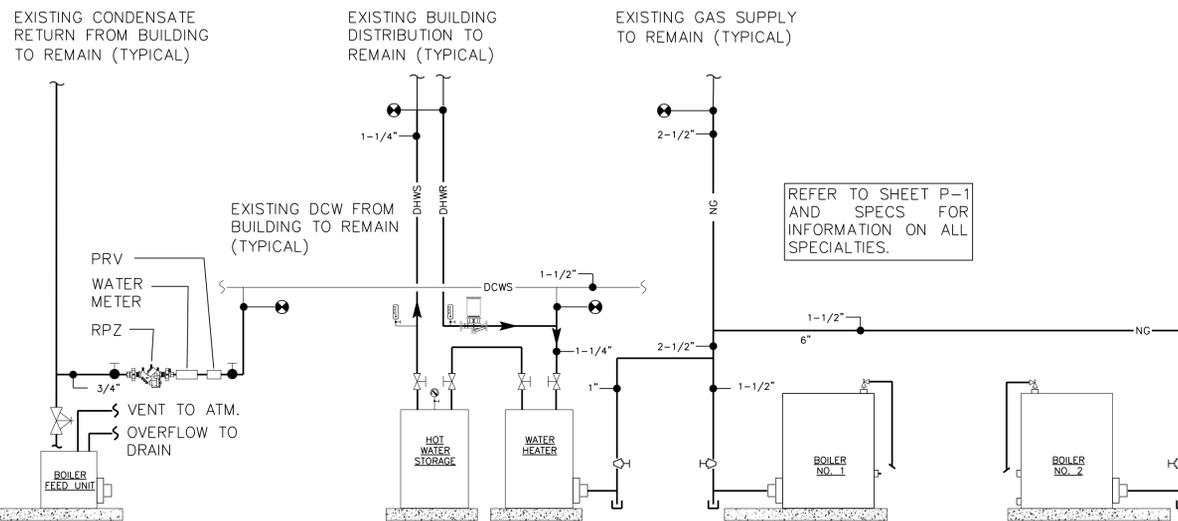
EXISTING 1-1/2" STEEL WATER PIPE.

PROVIDE NEW FUEL GAS CONNECTION TO EXISTING GAS MAIN. PROVIDE SHUTOFF VALVE AND DRIP LEG.

PROVIDE GAS CONNECTION TO NEW MODULATING BURNER SEE SCHEDULE/SCHEMATIC (TYPICAL FOR 2)

EXISTING 1-1/2" COPPER SUMP DISCHARGE TO BE RE-ROUTED AS REQUIRED TO ACCOMMODATE NEW FIELD CONDITIONS.

ALL PIPING SHALL BE ROUTED TIGHT AGAINST WALL AND CEILING TO FACILITATE EASE OF PASSAGE.



3 BOILER ROOM PLUMBING SCHEMATIC
P-2 SCALE: NONE

REFER TO SHEET P-1 AND SPECS FOR INFORMATION ON ALL SPECIALTIES.

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY _____
MADE BY VINCENT LEONE, P.E.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION			
<input type="checkbox"/>	AS BUILT - CHANGES AS NOTED		
<input type="checkbox"/>	AS BUILT - NO CHANGES		
CONTRACTOR		PROJECT COORDINATOR	
NAME _____	NAME _____		
SIGNATURE _____	SIGNATURE _____		
TITLE _____	TITLE _____		
DATE _____	DATE _____		

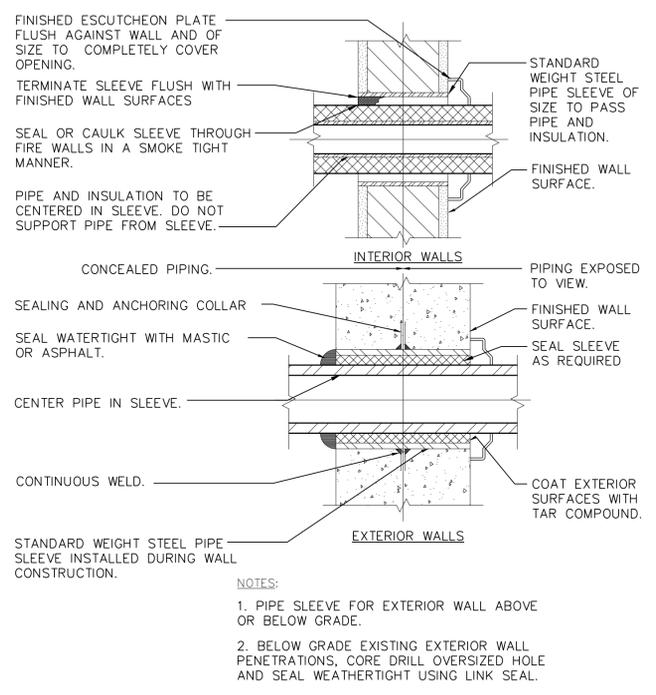
WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

BOILER REPLACEMENT AND ASSOCIATED WORK
VERNON PLAZA FAMILY CENTER
17 SOUTH SECOND AVENUE, MOUNT VERNON, NEW YORK
DEMOLITION AND NEW WORK PLAN, CELLAR LEVEL

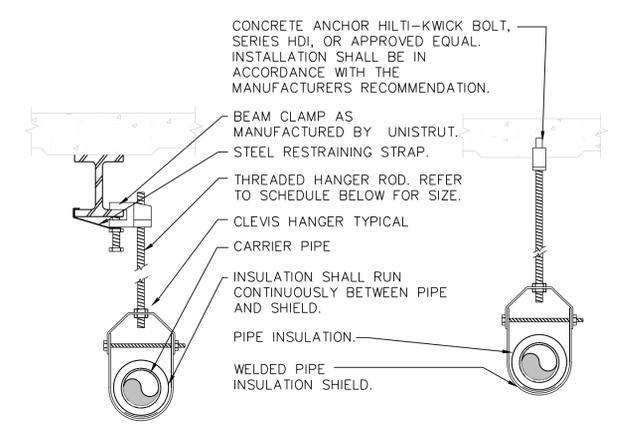
CONTRACT NUMBER 21-514	SHEET NUMBER P-2
SHEET NO. 4 OF 9	
SCALE: AS SHOWN DATE: 06/04/21	
DPW FILE NO. 54-29-P-50	REV. NO. 0

SYMBOL & ABBREVIATIONS			SYMBOL & ABBREVIATIONS		
SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION
-	AD	ACCESS DOOR	⊘	-	ANGLE GLOBE VALVE
-	AFF	ABOVE FINISHED FLOOR	⊘	-	ANGLE GATE VALVE
-	AHC	ABOVE HUNG CEILING	⊘	-	T&P RELIEF VALVE
-	AP	ACCESS PANEL	⊘	-	VACUUM BREAKER
-	BDD	BACKDRAFT DAMPER	⊘	-	FILTER DRYER
-	BHP	BRAKE HORSEPOWER	⊘	-	FILTER
-	BTU	BRITISH THERMAL UNIT	⊘	-	FLOAT AND THERMOSTATIC TRAP
-	CFM	CUBIC FEET PER MINUTE	⊘	-	FLOAT TRAP
-	CL	CENTERLINE	⊘	-	BALL VALVE
-	DIA. OR Ø	DIAMETER	⊘	-	PRESSURE GAGE
-	EL	ELEVATION	⊘	-	TERMOMETER
-	EWT	ENTERING WATER TEMPERATURE	⊘	-	CHECK VALVE
-	FPM	FEET PER MINUTE	⊘	-	UNION
-	FPS	FEET PER SECOND	---	EX.	EXISTING TO REMAIN
-	GPM	GALLONS PER MINUTE	---	REL.	REMOVE AND RELOCATE
-	HP	HORSE POWER	---	NEW	NEW WORK
-	LF	LINEAR FEET	---	DEM.	EXISTING TO BE REMOVED
-	LWT	LEAVING WATER TEMPERATURE	---	CA	COMPRESSED AIR
-	MBH	1000 BRITISH THERMAL UNITS PER HOUR	---	D	DRAIN
-	NC	NORMALLY CLOSED	---	V	VACUUM LINE
-	NIC	NOT IN CONTRACT	---	FOS	FUEL OIL SUPPLY
-	NO	NORMALLY OPEN	---	FOR	FUEL OIL RETURN
-	OAI	OUTSIDE AIR INTAKE	---	FOV	FUEL OIL VENT
-	PSI	POUNDS PER SQUARE INCH	---	HWS	HOT WATER SUPPLY
-	RPM	REVOLUTIONS PER MINUTE	---	HWR	HOT WATER RETURN
-	TDH	TOTAL DYNAMIC HEAD	---	LPS	LOW PRESSURE STEAM
-	TYP.	TYPICAL	---	LPC	LOW PRESSURE CONDENSATE
-	U.O.N.	UNLESS OTHERWISE NOTED	---	PC	PUMPED CONDENSATE
-	WMS	WIRE MESH SCREEN	⊘	M	MOTORIZED DAMPER
-	WG	INCHES OF WATER GAUGE	⊘	S	SMOKE DETECTOR
⊘	-	3-WAY VALVE	⊘	L	DOOR LOUVER
⊘	-	FLEXIBLE CONNECTION	⊘	-	AIR INTO REGISTER
⊘	-	2-WAY VALVE	⊘	-	POINT OF CONNECTION DISCONNECTION
⊘	-	PLUG VALVE	⊘	P-1	PUMP
⊘	-	LOCK SHIELD VALVE	⊘	-	SUPPLY DUCT UP
⊘	-	GATE VALVE	⊘	-	SUPPLY DUCT DOWN
⊘	-	GLOBE VALVE	⊘	-	RETURN DUCT UP
⊘	-	TEE DOWN	⊘	-	RETURN DUCT DOWN
⊘	-	ELBOW DOWN	⊘	-	TRANSITION FROM SQUARE TO ROUND DUCT
⊘	-	TEE UP	⊘	-	TRANSITION
⊘	-	ELBOW UP	⊘	-	DUCT DROP
⊘	-	CONCENTRIC REDUCER	⊘	-	DUCT RISE
⊘	-	ECCENTRIC REDUCER	⊘	-	DUCT RISE
⊘	-	OS&Y GATE VALVE	⊘	-	DUCT DROP
⊘	-	PIPE GUIDE	⊘	-	DUCT TRANSITION
⊘	-	PIPE ANCHOR	⊘	-	DUCT SIZE - 1ST FIGURE IS SIDE SHOWN
⊘	-	STRAINER	⊘	-	SECTION CALLOUT
⊘	-	BASKET STRAINER	⊘	-	LOUVER
⊘	-	PRESSURE REDUCING VALVE	⊘	-	PUMP
⊘	-	FLOW ARROW	⊘	-	
⊘	-	BUTTERFLY VALVE	⊘	-	
⊘	-	BALANCING VALVE	⊘	-	
⊘	-	MANUAL AIR VENT	⊘	-	
⊘	-	SOLENOID VALVE	⊘	-	
⊘	-	MOTORIZED VALVE	⊘	-	

IN CHARGE OF JAI PUNNOOSE, P.E.
 CHECKED BY VINCENT LEONE
 MADE BY VINCENT LEONE



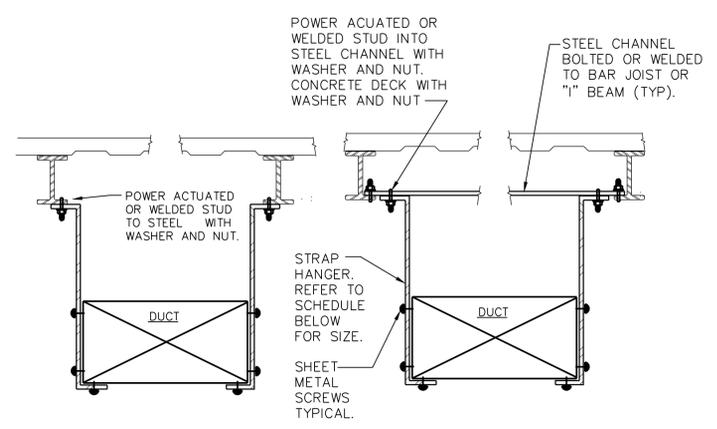
4 PIPE PENETRATION DETAIL
 HV-3 SCALE: NONE



PIPE HANGER SCHEDULE					
PIPE DIA.	3/4"-2"	2 1/2"-3"	4"-5"	6"	8"-12"
HANGER DIA.	3/8"	1/2"	5/8"	3/4"	7/8"

- NOTES:
 1. CLEVIS HANGERS WITH WELDED INSULATION SHIELDS SIMILAR TO RAUCH FIG. 100SH ON ALL PIPES LARGER THAN 1".
 2. FOR PIPES 1" OR SMALLER, A BAND HANGER WITH INSULATION SHIELD MAY BE USED SIMILAR TO RAUCH FIG. NO. 1ASH.
 3. FOR NONINSULATED PIPE, INSULATION SHIELDS MAY BE OMITTED.
 4. ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
 5. FOR NON FERROUS PIPING WITHOUT INSULATION, ALL HANGERS SHALL BE COPPER PLATED OR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS.

1 PIPE HANGER DETAIL
 HV-3 SCALE: NONE



- NOTES:
 1. FOR DUCTS OVER 49" WIDE, THE STRAP HANGER SHALL BE TURNED UNDER THE BOTTOM OF THE DUCT.
 2. CONTRACTOR SHALL SUBMIT DUCT HANGER DETAIL TYPICAL ARRANGEMENT OF TRUSS AND ARRANGEMENT ENCOUNTERED AT JOB SITE.

HANGER STRAP SCHEDULE		
DUCT SIZE	HANGER SIZE	MAXIMUM SPACING
UP TO 2 SQ.FT.	1" X 1/16"	8'-0"
2 SQ. FT. TO 4 SQ.FT.	1" X 1/8"	8'-0"
4 SQ.FT. TO 10 SQ.FT.	1" X 1/8"	6'-0"
OVER 10 SQ.FT.	1" X 1/8"	4'-0"

2 DUCT HANGER DETAIL
 HV-3 SCALE: NONE

EQUIPMENT NOTES

- 1) MOTORIZED BOILER FEED VALVE: BASED ON BELIMO FULL PORT BALL OPEN/CLOSE MOTORIZED WITH AUXILIARY END SWITCH HARD-WIRED BETWEEN BOILER LEVEL CONTROLLER AND BOILER FEED PUMP.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

AS BUILT - CHANGES AS NOTED
 AS BUILT - NO CHANGES

CONTRACTOR		PROJECT COORDINATOR	
NAME _____	DATE _____	NAME _____	DATE _____
SIGNATURE _____	SIGNATURE _____	SIGNATURE _____	SIGNATURE _____
TITLE _____	TITLE _____	TITLE _____	TITLE _____

WESTCHESTER COUNTY, NEW YORK
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF ENGINEERING

CONTRACT NUMBER 21-514 SHEET NUMBER HV-1
 SHEET NO. 5 OF 9

BOILER REPLACEMENT AND ASSOCIATED WORK
 VERNON PLAZA FAMILY CENTER
 17 SOUTH SECOND AVENUE, MOUNT VERNON, NEW YORK
 DETAILS AND SYMBOL LEGEND

SCALE: AS SHOWN
 DATE: 06/04/21
 DPW FILE NO. 54-29-HV-51 REV. NO. 0

BUILDING OCCUPANCY NOTES

1. VERNON PLAZA FAMILY CENTER WILL BE OCCUPIED DURING TRANSITION WORK OF BOILERS.
2. BUILDING INTERRUPTIONS.
 - 2.1. DAYTIME: NO INTERRUPTIONS WILL BE ALLOWED
 - 2.2. NIGHT TIME: WILL BE ALLOWED TO PERFORM TEMPORARY PIPING MODIFICATION ON EXISTING PIPING IN THE BOILER ROOM FOR TIE-IN OF RENTAL BOILER/DOMESTIC HOT WATER HEATER.
3. ALL INTERRUPTIONS SHALL BE COORDINATED WITH THE PROJECT MANAGER A MINIMUM OF ONE (1) WEEK PRIOR TO THE ANTICIPATED INTERRUPTION.
4. ANY WORK THAT REQUIRES INTERRUPTION TO THE DOMESTIC WATER OR SPACE HEATING SYSTEMS FOR MORE THAN 4 HOURS WILL NOT BE ALLOWED.
5. CONTRACTOR SHALL PLAN ALL TEMPORARY PIPING MODIFICATION WORK TO BE PERFORMED IN 4 HOUR WINDOWS DURING NIGHTTIME, AS APPROVED BY CONSTRUCTION MANAGER. EXISTING SPACE HEATING SYSTEM/DOMESTIC HOT WATER SYSTEM SHALL BE PUT BACK IN SERVICE AND FULLY FUNCTIONAL/OPERATIONAL AT THE END OF EACH WORK WINDOW ALLOWED.

PHASING NOTES:

1. VERNON PLAZA FAMILY CENTER WILL BE FULLY OCCUPIED DURING CONSTRUCTION.
2. CURRENTLY, THE BUILDING IS SET UP FOR BUILDING HEAT PROVIDED BY AN ALREADY-INSTALLED TEMPORARY BOILER. CONTRACTOR SHALL COORDINATE WITH BUILDING SERVICE COMPANY FOR CHANGEOVER TO NEW BOILER AFTER WORK IS COMPLETED. ANY WORK REQUIRED TO TEMPORARILY HEAT BUILDING SHALL BE BY BUILDING SERVICE COMPANY. CONTRACTOR SHALL COORDINATE WITH BUILDING SERVICE COMPANY FOR CHANGEOVER TO NEW SYSTEM FROM TEMPORARY.
3. DOMESTIC WATER SYSTEM HAS A SEPARATE GAS SUPPLY FROM, BUT COMMON BREECHING TO, BOILER. CONTRACTOR SHALL COORDINATE WITH BUILDING SERVICE COMPANY TO PROVIDE TEMPORARY DOMESTIC WATER SERVICE DURING PERIOD OF TIME THE OPERATION OF BUILDING BREECHING IS INTERRUPTED. PAYMENT TO BUILDING SERVICE COMPANY SHALL BE THROUGH AN ALLOWANCE INCLUDED IN CONTRACT.
4. CONTRACTOR SHALL PHASE WORK, SO AS NOT TO CREATE ANY INTERRUPTIONS TO BUILDING STEAM/DOMESTIC HOT WATER SUPPLY SYSTEMS OUTSIDE OF THOSE DESCRIBED ELSEWHERE IN THE BID DOCUMENTS. IN CASE OF ANY UNANTICIPATED OR ACCIDENTAL INTERRUPTION TO BUILDING HEATING OR DOMESTIC WATER SERVICE, CONTRACTOR SHALL RESPOND ON 24 HOUR, 7 DAY EMERGENCY RESPONSE TO RESTORE SERVICES.
5. CONTRACTOR SHALL SUBMIT A DETAILED PHASING PLAN TO THE COUNTY, SHOWING METHODS EMPLOYED, ORDER OF WORK TO BE PERFORMED, ETC, THAT ENSURES UNINTERRUPTED SERVICE OF SPACE HEATING AND DOMESTIC HOT WATER SERVICES TO THE BUILDING DURING CONSTRUCTION, FOR APPROVAL BY THE COUNTY, PRIOR TO START OF ANY CONSTRUCTION WORK.

GENERAL MECHANICAL NOTES

1. THE INFORMATION GIVEN ON THIS PLAN IS FOR BID PURPOSES ONLY. THE SUCCESSFUL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE BEGINNING OF WORK AND SHALL PROVIDE COMPOSITE SHOP DRAWINGS FULLY COORDINATED WITH ALL OTHER TRADES FOR REVIEW, MARK-UP AND COORDINATION INDICATING DUCTWORK, PLUMBING, SMOKE DETECTORS, LIGHTS, CONDUITS, SMOKE DETECTORS, DIFFUSERS, GRILLES, ETC. CONTRACTOR SHALL MAKE HIS OWN FIELD MEASUREMENTS AND VERIFY ALL GIVEN INFORMATION BEFORE ORDERING MATERIALS.
2. CONTRACT DRAWINGS, AS FAR AS THEY RELATE TO THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, SHEET METAL, AND PIPING, SHALL BE UNDERSTOOD AS DIAGRAMMATIC. ANY CHANGES TO EQUIPMENT, SHEET METAL, AND PIPING LOCATIONS NECESSARY TO AVOID INTERFERENCE WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST, AND MUST BE APPROVED BY THE ENGINEER.
3. COORDINATE LOCATIONS OF NEW BOILERS, COMBUSTION AIR INTAKE FAN, ETC. WITH OTHER TRADES AND WITH EXISTING CONDITIONS.
4. THIS PROJECT SHALL BE EXECUTED IN AN ORDERLY AND CAREFUL MANNER WITH DUE CONSIDERATION FOR THE PROTECTION OF ADJACENT ACTIVITIES, GENERAL PUBLIC AND THE BUILDING TENANTS. ALL WORK AREA SHALL BE BARRICADED OR FENCED, TO PREVENT ACCESS BY GENERAL PUBLIC OR BUILDING TENANTS. ANY DUST PRODUCING DEMOLITION SHALL BE ISOLATED WITH PROPER PRECAUTIONS.
5. CONTRACTOR SHALL VERIFY ALL DEMOLITION WORK WITHIN THE AREA AND SHALL REMOVE OR RELOCATE ANY EXISTING DUCTWORK, PIPING OR ELECTRICAL WIRING/CONDUIT AS REQUIRED OR AS INSTRUCTED BY THE COUNTY REPRESENTATIVE.
6. CONTRACTOR SHALL FURNISH AND INSTALL NEW EQUIPMENT AS SHOWN ON THE CONTRACT DOCUMENTS INCLUDING ALL REQUIRED RIGGING, FIELD-ASSEMBLY, INSTALLATION ETC. FOR A COMPLETE INSTALLATION OF HEATING SYSTEM. CONTRACTOR SHALL FURNISH AND INSTALL CONTROL PANELS, ELECTRICAL POWER HOOK UP, ETC TO EACH PIECE OF EQUIPMENT AS REQUIRED.
7. CONTRACTOR SHALL PROVIDE COORDINATION SHOP DRAWINGS OF ALL WORK FOR REVIEW, MARK-UP AND COORDINATION WITH OTHER TRADES.
8. ALL WORK, MATERIALS, REGULATIONS, RULES, PERMITS, ETC., OF ALL STATE, COUNTY AND LOCAL GOVERNMENTS, AND ALL UTILITY AGENCIES SHALL BE FOLLOWED BY THE CONTRACTOR.
9. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT THE CONTRACTOR SHALL PROVIDE COUNTY REPRESENTATIVE (6) SIX COMPLETE SET OF MANUFACTURER'S DATA OR SHOP DRAWINGS OF THE FOLLOWING APPARATUS GIVING FULL INFORMATION AS TO DIMENSIONS, MATERIALS, PERFORMANCE, AND SEQUENCE OF OPERATION FOR REVIEW:
 - A) BOILER/BURNER CONTROLS INSTALLATION DETAIL
 - B) BOILER FEED UNIT
 - D) PIPING, VALVES, FITTINGS, ACCESSORIES, AND ROUTING LAYOUT
 - E) COMBUSTION AIR INTAKE SYSTEM
 - F) SUPPORT & HANGER DETAILS
 - G) TEMPERATURE CONTROLS, SENSORS, RELAYS, ETC.
 - H) CHIMNEY LINER AND BREECHING
10. ALL WORK DESIGNATED FOR DEMOLITION SHALL BE REMOVED OF SITE AND DISPOSED OF LEGALLY.
11. CONTRACTOR SHALL PROVIDE ALL POWER, CONTROL WIRING, AND CONDUIT AS PART OF A COMPLETE BOILER CONTROL SYSTEM.
12. CONTRACTOR SHALL PROVIDE ALL CONDUIT AND WIRE AS REQUIRED BETWEEN BURNER, BOILER CONTROLS, SAFETY INTERLOCKS, LIMITS, ETC.
13. CONTRACTOR SHALL ONLY BE PERMITTED TO WORK IN AREAS AS AUTHORIZED.
14. PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH FIRE STOPPING MATERIAL. PENETRATIONS FOR PIPING SHALL BE MADE BY CORE DRILLING WHENEVER POSSIBLE.
15. ALL VSDs, MOTOR STARTERS, AND DISCONNECT SWITCHES FOR HVAC EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED. DISCONNECT SWITCHES FURNISHED BY THE CONTRACTOR FOR HVAC EQUIPMENT SHALL BE HEAVY DUTY TYPE.
16. DUCT DIMENSIONS SHOWN ON MECHANICAL DRAWINGS REFER TO INSIDE CLEAR DUCT DIMENSIONS.
17. ALL WORK SHALL COMPLY WITH NEW YORK STATE BUILDING CODE, LOCAL BUILDING CODE, AND ENERGY CODE REQUIREMENTS. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE, THE MORE STRINGENT STANDARD SHALL APPLY.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY VENTILATION AND EXHAUST AIR WHEN WELDING OR SOLDERING OPERATIONS ARE PERFORMED, AS REQUIRED BY OSHA.

GENERAL MECHANICAL NOTES (CONT.)

19. WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF MECHANICAL WORK, INCLUDING THE INSTALLATION OF HANGERS FOR PIPING, DUCTWORK, OR EQUIPMENT, SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING.
20. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL CUTTING, PATCHING, CORE DRILLING, ACCESS PANELS, PAINTING, AND FINAL RESTORATION REQUIRED TO FACILITATE THE INSTALLATION OF DUCTWORK, CONTROL CONDUITS, AND PIPING, INCLUDING ABOVE CEILINGS AND IN SHAFTS THAT WILL NOT BE REPLACED OR OPENED UNDER ANY OTHER SCOPE OF WORK RELATED TO THIS PROJECT. CONTRACTOR TO REMOVE AND REPLACE CEILINGS, AND OPEN AND PATCH SHAFTS AND WALLS, AS REQUIRED TO EXECUTE THE MECHANICAL WORK.

PAYMENT ITEM B

THIS CONTRACTOR SHALL BE ENTITLED TO THE BUILDING SERVICE COMPANY'S (JCI) COST PLUS 10 PERCENT. BEFORE ANY PAYMENT WILL BE MADE, THIS CONTRACTOR MUST PROVIDE THE BUILDING SERVICE COMPANY'S ITEMIZED INVOICE.

BUILDING SERVICE COMPANY INFORMATION
 SCOTT BENNETT
 (914)589-4339
 SCOTT.BENNETT@JCI.COM
 JOHNSON CONTROLS, INC.
 8 SKYLINE DRIVE
 HAWTHORNE, NY 10532

IN CHARGE OF JAI PUNNOOSE, P.E.
 CHECKED BY _____
 MADE BY VINCENT LEONE, P.E.

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS
 DIVISION OF ENGINEERING

CONTRACT NUMBER 21-514	SHEET NUMBER HV-2
---------------------------	----------------------

SHEET NO. 6 OF 9

BOILER REPLACEMENT AND ASSOCIATED WORK
 VERNON PLAZA FAMILY CENTER
 17 SOUTH SECOND AVENUE, MOUNT VERNON, NEW YORK
NOTES

SCALE: AS SHOWN DATE: 06/04/21	REV. NO.: 0
DPW FILE NO. 54-29-HV-52	

EXISTING FLUE CONNECTOR TO BE DEMOLISHED (TYPICAL FOR 5)
EXISTING 2" LPC 16" AFF TO REMAIN

EXISTING CHIMNEY. TERMINATES APPROX. 10'-0" ABOVE BUILDING ROOF.

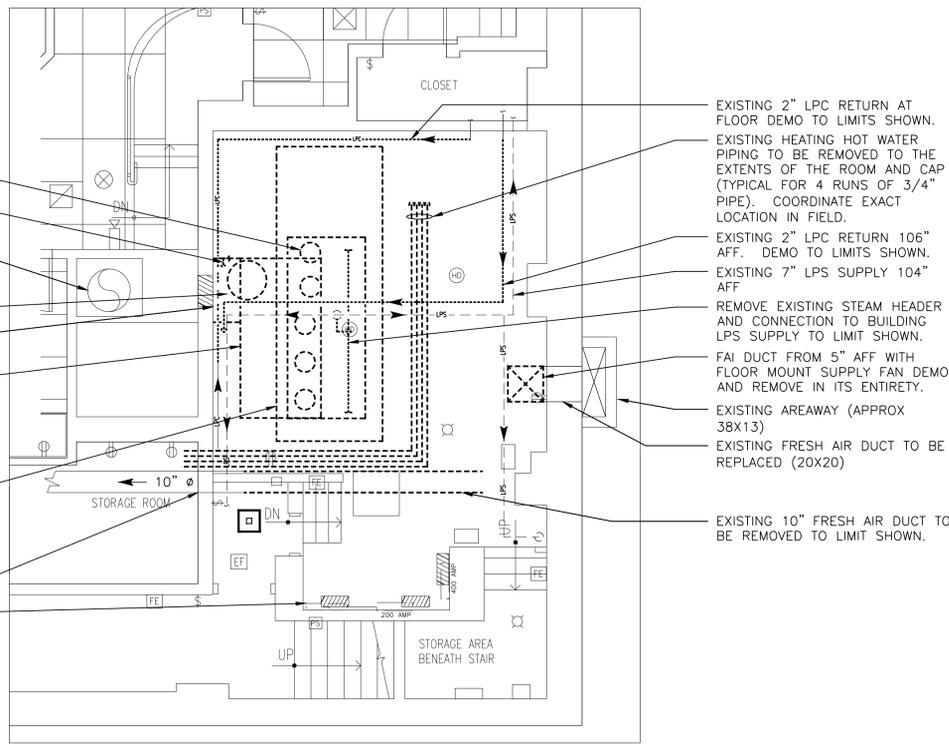
EXISTING BOILER FEED UNIT TO BE REMOVED IN ITS ENTIRETY.
EXISTING CHIMNEY ACCESS DOOR & CLEANOUT BELOW TO REMAIN.

DEMOLISH AND REMOVE EXISTING 36x17 BREECHING IN ITS ENTIRETY UP TO BRICK (84" AFF T.B.O.D.). VERIFY EXISTING DIMENSIONS OF CHIMNEY BEYOND BRICK IN FIELD. REPORT TO ENGINEER.

EXISTING 4" CONCRETE BOILER PAD TO BE REMOVED. SEE ARCHITECTURAL SHEETS.

EXISTING FRESH AIR DUCTWORK TO REMAIN.

DEMOLISH AND REMOVE QTY(2) BOILER CONTROL PANELS IN THEIR ENTIRETY (ONE ABOVE THE OTHER). NOTE: ONLY ONE IS CURRENTLY IN OPERATION. PANELS CONNECT TO HEAT COMPUTER IN CORRIDOR APPROX. 50' AWAY.



1 DEMOLITION PLAN, BOILER ROOM
HV-3 SCALE: 1/4" = 1'-0"

CONTRACTOR SHALL PROVIDE NEW CONCRETE EQUIPMENT PAD FOR B.F. & BOILERS (SEE ARCHITECTURAL SHEET)
CONTRACTOR SHALL PROVIDE NEW BOILER FEED UNIT AND INSULATE.
PROVIDE F&T TRAP.

CONTRACTOR SHALL CONNECT EXISTING BUILDING LPC PIPING TO BOILER FEED UNIT (BF-1)
PROVIDE 8" DOUBLE WALL TYPE B VENT.

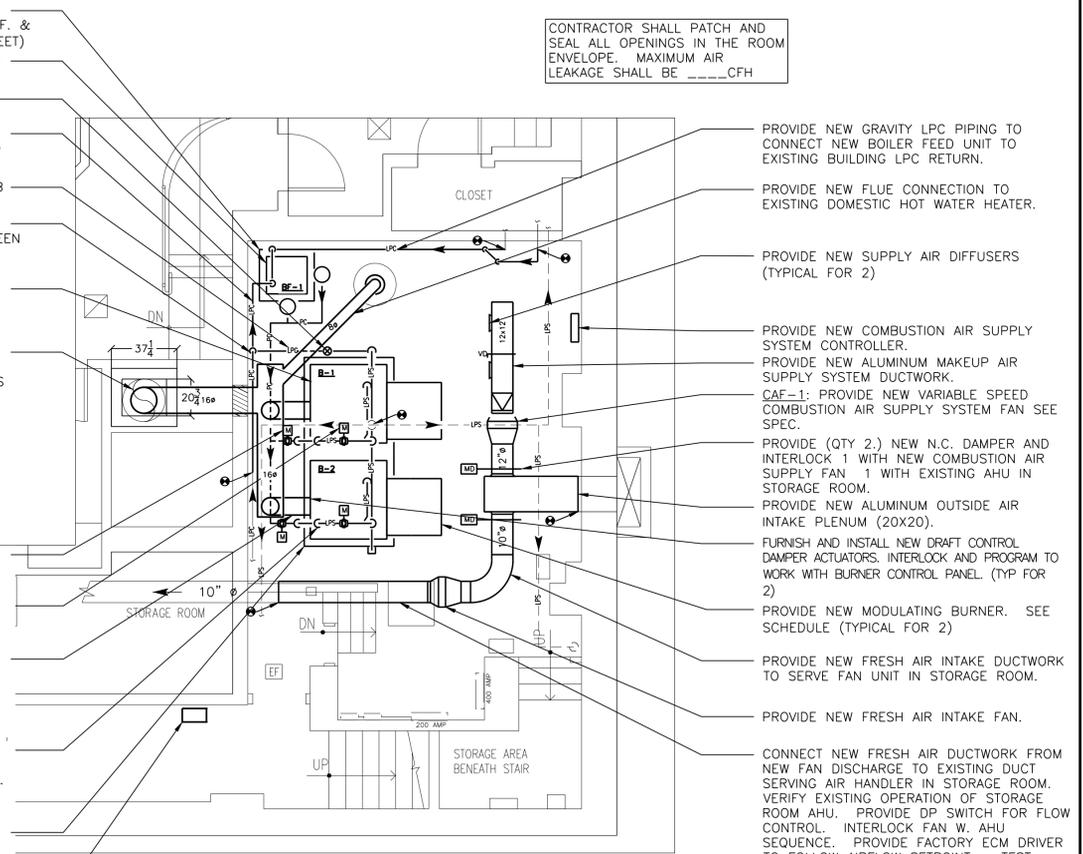
CONTRACTOR SHALL PROVIDE PUMPED DISCHARGE PIPING BETWEEN BOILER FEED UNIT AND BOILERS (SEE SCHEMATIC ON HV-4)
CONTRACTOR SHALL PROVIDE NEW GAS FIRED STEAM BOILER. COORDINATE EXACT LOCATION IN FIELD (TYPICAL FOR 2)
PROVIDE 16" DOUBLE WALL B-VENT CHIMNEY AS REQUIRED. FIELD VERIFY EXISTING CONDITIONS (SEE SCHEDULE SHEET).

CONTRACTOR SHALL PROVIDE NEW BOILER RETURN ZONE CONTROL VALVE (TYPICAL FOR 2)
CONTRACTOR SHALL PROVIDE NEW STEAM SUPPLY ZONE CONTROL VALVES (TYPICAL FOR 2)
PROVIDE TRANSITION FROM 10" FLUE COLLAR TO 12" DOUBLE WALL B-VENT CONNECTOR. (SEE SCHEDULE SHEET FOR RATINGS) [TYPICAL FOR 2 BOILERS]

CONTRACTOR SHALL PROVIDE NEW STEAM SUPPLY PIPING AND TIE INTO NEW STEAM SUPPLY HEADER. CONNECT NEW HEADER INTO EXISTING BUILDING SUPPLY.

PROVIDE NEW CONCRETE EQUIPMENT PAD (SEE ARCHITECTURAL SHEET)
PROVIDE NEW BOILER CONTROL PANEL.

1 NEW WORK PLAN, CELLAR LEVEL
HV-3 SCALE: 1/4" = 1'-0"



CONTRACTOR SHALL PATCH AND SEAL ALL OPENINGS IN THE ROOM ENVELOPE. MAXIMUM AIR LEAKAGE SHALL BE ____ CFH

PROVIDE NEW GRAVITY LPC PIPING TO CONNECT NEW BOILER FEED UNIT TO EXISTING BUILDING LPC RETURN.

PROVIDE NEW FLUE CONNECTION TO EXISTING DOMESTIC HOT WATER HEATER.

PROVIDE NEW SUPPLY AIR DIFFUSERS (TYPICAL FOR 2)

PROVIDE NEW COMBUSTION AIR SUPPLY SYSTEM CONTROLLER.

PROVIDE NEW ALUMINUM MAKEUP AIR SUPPLY SYSTEM DUCTWORK.

CAF-1: PROVIDE NEW VARIABLE SPEED COMBUSTION AIR SUPPLY SYSTEM FAN SEE SPEC.

PROVIDE (QTY 2) NEW N.C. DAMPER AND INTERLOCK 1 WITH NEW COMBUSTION AIR SUPPLY FAN 1 WITH EXISTING AHU IN STORAGE ROOM.

PROVIDE NEW ALUMINUM OUTSIDE AIR INTAKE PLENUM (20X20).

FURNISH AND INSTALL NEW DRAFT CONTROL DAMPER ACTUATORS. INTERLOCK AND PROGRAM TO WORK WITH BURNER CONTROL PANEL. (TYP FOR 2)

PROVIDE NEW MODULATING BURNER. SEE SCHEDULE (TYPICAL FOR 2)

PROVIDE NEW FRESH AIR INTAKE DUCTWORK TO SERVE FAN UNIT IN STORAGE ROOM.

PROVIDE NEW FRESH AIR INTAKE FAN.

CONNECT NEW FRESH AIR DUCTWORK FROM NEW FAN DISCHARGE TO EXISTING DUCT SERVING AIR HANDLER IN STORAGE ROOM. VERIFY EXISTING OPERATION OF STORAGE ROOM AHU. PROVIDE DP SWITCH FOR FLOW CONTROL. INTERLOCK FAN W. AHU SEQUENCE. PROVIDE FACTORY ECM DRIVER TO FOLLOW AIRFLOW SETPOINT. TEST, ADJUST AND BALANCE ENTIRE UNIT. PROVIDE TAB REPORTS FOR BOILER CAF-1 AND AHU IN STORAGE ROOM.

ENSURE PROPER SUPPORT OF ALL EXISTING PIPING DESIGNATED TO REMAIN FROM CEILING. REMOVE LALLY COLUMNS.

FURNISH AND INSTALL NEW FACTORY STAINLESS TERMINATION/RAIN CAP.

FURNISH AND INSTALL NEW FACTORY STAINLESS STEEL STORM COLLAR.

FURNISH AND INSTALL NEW FACTORY STAINLESS STEEL PREFABRICATED FLAT FLASHING, TO ENCLOSE THE EXISTING BRICK CHIMNEY OPENING ON THE ROOF. CONTRACTOR IS RESPONSIBLE FOR FIELD MEASUREMENTS.

FURNISH AND INSTALL NEW FACTORY ROOF SUPPORT.

FURNISH AND INSTALL NEW FIRE STOP TO CLOSE EXISTING MASONRY CHIMNEY INLET OPENING. CONTRACTOR IS RESPONSIBLE FOR FIELD MEASUREMENTS.

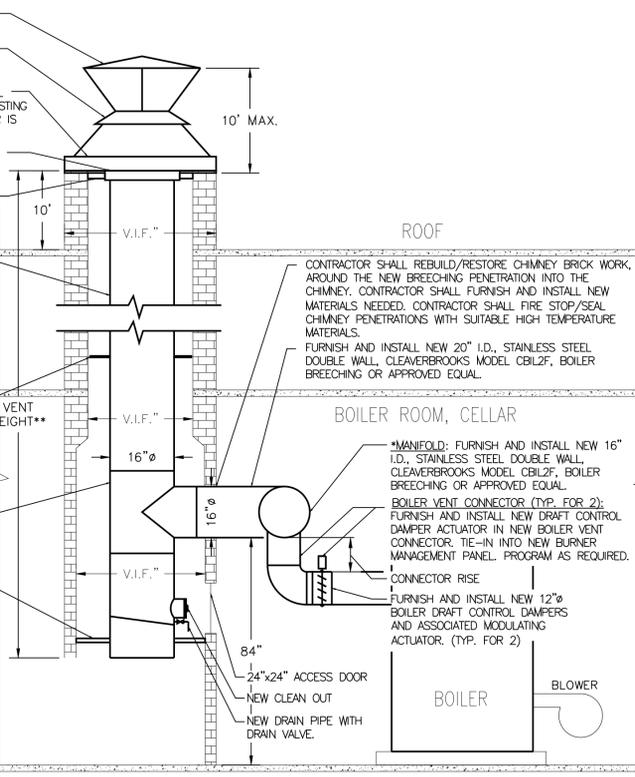
COMMON VENT: FURNISH AND INSTALL NEW 16" I.D., STAINLESS STEEL SINGLE WALL, CLEAVERBROOKS MODEL CB, CHIMNEY LINER OR APPROVED EQUAL.

CHIMNEY LINER NOTE: CONTRACTOR IS RESPONSIBLE FOR FIELD MEASUREMENTS. CONTRACTOR IS RESPONSIBLE FOR DETERMINATION OF ORDERING LENGTHS FOR SECTIONS OF CHIMNEY LINER NEEDED, BASED ON FIELD MEASUREMENTS

FURNISH AND INSTALL NEW STAINLESS STEEL GUIDING SPACERS AS NEEDED. NOT ALL GUIDING SPACERS ARE SHOWN.

FURNISH AND INSTALL NEW STAINLESS STEEL TRANSITION FITTINGS AS NEEDED. NOT ALL TRANSITION FITTINGS ARE SHOWN.

FURNISH AND INSTALL NEW STAINLESS STEEL FULL RING PLATE SUPPORT FOR ADDITIONAL CHIMNEY LINER SUPPORT.



2 BOILER ROOM/ROOF MECHANICAL NEW WORK VENTING SKETCH
HV-3 SCALE: N.T.S. REFER. TABLE 504.3 2018 IFGC

*MANIFOLD LENGTH FROM THE BASE OF THE VERTICAL VENT TO THE NEAREST APPLIANCE SHOULD NOT EXCEED 10 FEET OR 50% OF THE TOTAL VENT HEIGHT, WHICHEVER IS GREATEST.
**APPROX 50' (VERIFY IN FIELD)

NOTE: EXISTING WATER HEATER IS IN AFT GROUND AND NOT SHOWN HERE FOR CLARITY. CONNECT NATURAL DRAFT HOOD TO END OF MANIFOLD WITH 8" VENT DOUBLE WALL VENT CONNECTOR (SEE PLAN VIEW).

WATER HEATER	
VENT CONNECTOR PARAMETER	VALUE
VENT HEIGHT	50
CONNECTOR RISE (FT)	3
TYPE B DOUBLE WALL VENT Ø(INCHES)	8
APPLIANCE INPUT RATING LIMIT (MBH) FAN _{min} / FAN _{max} / NAT _{max}	103 / 661 / 34.3
BOILER	
VENT CONNECTOR PARAMETER	VALUE
VENT HEIGHT	50
CONNECTOR RISE (FT)	2
TYPE B DOUBLE WALL VENT Ø(INCHES)	12
APPLIANCE INPUT RATING LIMIT (MBH) FAN _{min} / FAN _{max} / NAT _{max}	206 / 1479 / 689
COMMON VENT PARAMETER	
VENT HEIGHT	50
TYPE B DOUBLE WALL VENT Ø(INCHES)	16
COMBINED APPLIANCE INPUT RATING (MBH) FAN + NAT	3,183

CHIMNEY NOTES:
CONTRACTOR TO VERIFY THE FOLLOWING AND REPORT BACK TO ENGINEER:
1. ACTUAL VENT HEIGHT OF EXISTING CHIMNEY.
2. ACTUAL VENT DIAMETER OF EXISTING CHIMNEY/LINER AND CONDITION.

BOILER 1:	FAN MBH (MIN/MAX) (450/1,356)
BOILER 2(NOT SHOWN):	FAN MBH (MIN/MAX) (450/1,356)
WATER HEATER(NOT SHOWN):	NATURAL DRAFT (300MBH)

EXISTING BRICK CHIMNEY NOTES:

- CONTRACTOR SHALL CHECK FOR CRACKS, MISSING BRICKS/MORTAR OR ANY OTHER LOOSE MATERIALS THAT COULD INHIBIT NEW LINER INSTALLATION AND CORRECTING PROBLEMS, PRIOR TO INSTALLATION.
- CONTRACTOR SHALL PERFORM VIDEO INSPECTION, THE ENTIRE LENGTH OF EXISTING CHIMNEY. SUBMIT REPORT TO COUNTY.
- CONTRACTOR IS RESPONSIBLE FOR INTERIOR CLEANING AND NEUTRALIZATION OF EXISTING MASONRY CHIMNEY.
- CONTRACTOR SHALL CLEAN WITH A WATER JET ALL INTERIOR SURFACES OF EXISTING MASONRY CHIMNEY TO REMOVE ANY COMBUSTION RESIDUE.
- CONTRACTOR SHALL WASH WITH CLEAN WATER ON AIR PRESSURE WITH A MIXTURE OF 10% POTASSIUM CARBONATE TO NEUTRALIZE ACCUMULATED AOD INSIDE THE CHIMNEY, AND LET IT ACT FOR A MINIMUM OF 12 HOURS PRIOR TO RINSING WITH CLEAN WATER ON AIR PRESSURE.
- CONTRACTOR SHALL OPEN UP THE EXISTING BRICK CHIMNEY, AT THE BASE, AS NEEDED, INSIDE THE BOILER ROOM TO PERFORM CHIMNEY LINER COMPONENTS ASSEMBLY WORK OR STRUCTURAL SUPPORT WORK ETC. CONTRACTOR SHALL PROVIDE TEMPORARY STRUCTURAL SUPPORTS TO EXISTING BRICK CHIMNEY DURING LINER INSTALLATION WORK. CONTRACTOR SHALL REBUILD/ RESTORE CHIMNEY BRICK WORK AFTER LINER WORK IS COMPLETED. CONTRACTOR IS RESPONSIBLE FOR MATERIALS AND LABOR NEEDED FOR REBUILDING CHIMNEY. CONTRACTOR SHALL FIRE STOP, FIRE/WATER SEAL CHIMNEY.

BREECHING DEMOLITION NOTES:

- AS PART OF DEMOLITION WORK, CONTRACTOR SHALL DISCONNECT EXISTING BREECHING FROM THE BOILERS AND CHIMNEY, PRIOR TO CUTTING INTO SMALLER SECTIONS AND REMOVAL FROM THE BOILER ROOM.
- CONTRACTOR SHALL CLEAN EXISTING BREECHING INSIDE FOR SOOT REMOVAL, PRIOR TO CUTTING INTO SMALLER PIECES FOR DISPOSAL OFFSITE.
- CONTRACTOR IS RESPONSIBLE FOR LEGAL OFFSITE DISPOSAL OF EXISTING BOILER BREECHING.
- CONTRACTOR IS RESPONSIBLE FOR CUTTING AND PATCHING.
- CONTRACTOR IS RESPONSIBLE FOR ANY REPAIR WORK NEEDED TO EXISTING BRICK CHIMNEY.
- ANY CUTTING, GRINDING, TORCH WORK SHALL FOLLOW HOT WORK SAFETY PROCEDURES.
- ALL WORK AREAS SHALL BE EXHAUST VENTILATED TO THE OUTDOORS OR CHIMNEY TO PREVENT ODOORS/FUMES WITH-IN THE BUILDING.

NEW CHIMNEY LINER INSTALLATION NOTES:

- CONTRACTOR SHALL FURNISH AND INSTALL NEW 20" I.D., 20 GAGE, STAINLESS STEEL, CLEAVERBROOKS MODEL CB CHIMNEY LINER OR APPROVED EQUAL.
- CONTRACTOR SHALL FURNISH AND INSTALL NEW STAINLESS STEEL PREFABRICATED FLAT FLASHING, TO ENCLOSE THE EXISTING BRICK CHIMNEY OPENING ON THE ROOF. CONTRACTOR IS RESPONSIBLE FOR FIELD MEASUREMENTS.
- CONTRACTOR IS RESPONSIBLE FOR FIELD MEASUREMENTS PRIOR TO FINALIZING LINER LENGTHS NEEDED AND ORDERING NEW LINER MATERIALS.
- CONTRACTOR IS RESPONSIBLE FOR ALL LABOR REQUIRED FOR TRANSPORTING/ DELIVERING SECTIONS OF THE NEW LINER MATERIAL TO 8TH FLOOR ROOF OF THE BUILDING.
- CONTRACTOR IS RESPONSIBLE FOR ALL HOISTING, LIFTING, GUIDING, RIGGING PERMITS AND SAFE OPERATION REQUIREMENTS ETC. NEEDED AND ALL COSTS, LICENSES ASSOCIATED.
- CONTRACTOR IS RESPONSIBLE FOR STRUCTURAL SUPPORTS, FIRE/WATER STOPPING OF EXISTING BRICK CHIMNEY/NEW CHIMNEY LINER.
- CONTRACTOR IS RESPONSIBLE FOR CUTTING AND PATCHING.
- CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS NEEDED ON EXISTING BRICK CHIMNEY TO ACCOMMODATE INSTALLATION OF NEW CHIMNEY LINER.
- CONTRACTOR IS RESPONSIBLE FOR COMPLETE ASSEMBLY NEW CHIMNEY LINER SECTIONS FOR SUCCESSFUL INSTALLATION.
- CONTRACTOR IS RESPONSIBLE FOR TESTING FOR LEAKS, FIXING LEAKS AND PUTTING NEW CHIMNEY IN OPERATION.

DEMOLITION NOTES:

- CONTRACTOR IS RESPONSIBLE FOR ALL PIPING/WIRING DISCONNECTIONS NEEDED, PRIOR TO DEMOLITION OF EXISTING BOILER AND ASSOCIATED FLOOR MOUNTED CONTROL PANELS.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF EXISTING PIPING CONNECTIONS/ROUTING AND WIRING CONNECTIONS THROUGHOUT BOILER/CONTROL PANELS.
- CONTRACTOR IS RESPONSIBLE TO DEMOLISH AND REMOVE EXISTING NATURAL GAS PIPING, NG PIPING SHOWN ON THE DRAWING IS FOR BID PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF PIPING LENGTHS, ROUTING, ETC.
- CONTRACTOR IS RESPONSIBLE FOR TRANSPORTATION AND LEGAL OFFSITE DISPOSAL OF ALL MATERIAL CALLED OUT TO BE DEMOLISHED AND REMOVED.
- CONTRACTOR IS RESPONSIBLE FOR CUTTING AND PATCHING. CONTRACTOR IS RESPONSIBLE FOR RESTORING ANY BUILDING SURFACES DAMAGED DURING DEMOLITION WORK.
- CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS NEEDED TO EXISTING CONCRETE FLOORS, BRICK WALLS AND BUILDING STRUCTURE DAMAGED DURING DEMOLITION PROCESS.
- DEMOLISH EXISTING BOILER COMPLETE. CUT 6" LPS PIPING TO LPS HEADER, 2" LPC PIPING TO LPC HEADER, AND BREECHING AS INDICATED ON DEMOLITION FLOOR PLAN.
- DEMOLISH EXISTING STEEL FLOOR SUPPORTS, BURNER, BURNER CONTROLS, CONTROL CABINET, CONDUITS, WIRING, PIPE VALVES, & SPECIALTIES COMPLETE.

NEW WORK NOTES:

- CONTRACTOR IS RESPONSIBLE FOR COMPLETE INSTALLATION OF NEW MODULATING GAS BURNERS AND ALL ASSOCIATED EQUIPMENT.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF CONTROLS PANEL AND ASSOCIATED EQUIPMENT.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF DRAFT CONTROL ACTUATORS AND ASSOCIATED CONTROLS DISPLAY PANELS.
- CONTRACTOR IS RESPONSIBLE FOR COMPLETE INSTALLATIONS OF ALL EQUIPMENT.
- CONTRACTOR IS RESPONSIBLE FOR NEW ELECTRICAL/CONTROLS WIRING AND CONDUIT NEEDED. CONTRACTOR IS RESPONSIBLE FOR WIRING TERMINATIONS.
- NEW GAS BURNERS ASSOCIATED FIELD DEVICES OR ELECTRICAL/CONTROLS WIRING DETAILS NOT SHOWN ON THE DRAWINGS.
- CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH VENDORS TO OBTAIN ADDITIONAL INFO OR DRAWINGS.
- CONTRACTOR SHALL PROVIDE NEW MOUNTING HARDWARE NEEDED FOR MOUNTING THE NEW CONTROL PANELS AND ASSOCIATED FIELD DEVICES.
- CONTRACTOR IS RESPONSIBLE FOR CUTTING/PATCHING.
- CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS, REPAIRS, RESTORATION, ETC NEEDED ON EXISTING CONCRETE FLOORS, BRICK WALLS, ETC INSIDE THE BOILER ROOM AS NEEDED FOR NEW INSTALLATION WORK.
- CONTRACTOR IS RESPONSIBLE FOR ALL WORK RELATED TO SWITCHING OVER THE BUILDING FROM RENTAL BOILERS TO NEW MODULATING GAS FIRED BURNERS. SEE BID ITEM B ON HV-2.
- CONTRACTOR IS RESPONSIBLE FOR TESTING AND PUTTING NEW MODULATING GAS FIRED BOILERS IN SERVICE.
- CONTRACTOR IS RESPONSIBLE FOR TROUBLE SHOOTING NEW GAS BOILERS AND ASSOCIATED EQUIPMENT FOR PROPER OPERATION. ANY BOILER PROBLEMS SHALL BE BOUGHT TO THE ATTENTION OF THE ENGINEERS.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING FACTORY AUTHORIZED TRAINING PERSONNEL FOR A MINIMUM OF 20 HRS. TO TRAIN BUILDING OPERATIONS PERSONNEL, ON NEW SYSTEMS.

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY _____
MADE BY VINCENT LEONE, P.E.

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

BOILER REPLACEMENT AND ASSOCIATED WORK
VERNON PLAZA FAMILY CENTER
17 SOUTH SECOND AVENUE, MOUNT VERNON, NEW YORK
DEMOLITION AND NEW WORK PLAN, CELLAR LEVEL

CONTRACT NUMBER
21-514

SHEET NUMBER
HV-3

SHEET NO. 7 OF 9

SCALE: AS SHOWN
DATE: 06/04/21

DPW FILE NO.
54-29-HV-53

REV. NO.
0

BOILER SCHEDULE

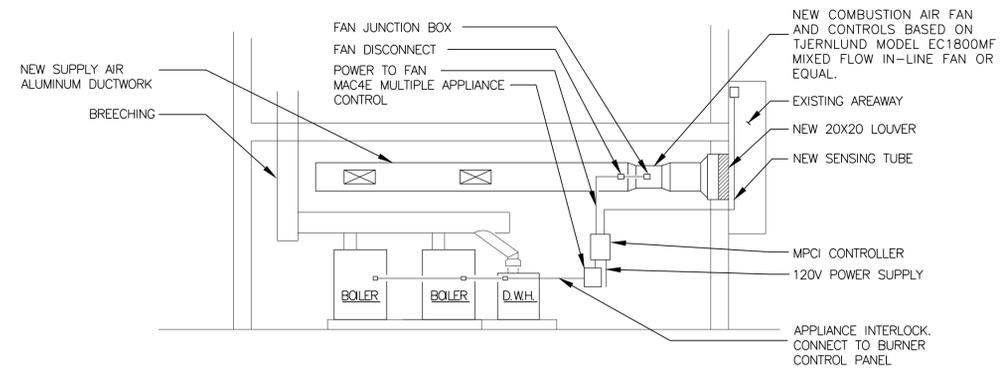
- BOILER(B-1 & B-2) SHALL BE WEIL MCLAIN BG-588-S CAST IRON SECTIONAL OR APPROVED EQUAL. BOILER SHALL BE GAS FIRED, 33.6 BHP, .1356INPUT / 1,126OUTPUT MBH WITH THERMAL EFFICIENCY OF 83.1%, FORCED DRAFT TYPE, WITH 10" FLUE OUTLET; 44-1/4"W x 65"H x 42-3/4" L; DRY WEIGHT OF 3210 LBS. BOILER CONNECTIONS:
- BURNER SHALL BE POWER FLAME CR1-G-12 ATI OR EQUAL. BURNER INPUT SHALL BE 1356 MBH (845 MBH I=B=R RATING), 1/3HP BLOWER, 1-1/4" GAS TRAIN SIZE, 4" WC MIN, 14" WC MAX GAS INLET PRESSURE; 10-1 MODULATING; 115V/1/60.
- PROVIDE INTERLOCKS FOR THE BREAK GLASS STATIONS, FRESH AIR DAMPERS, GAS DETECTION.
- INCLUDE BURNER MOUNTED BURNER PANELS, AND FSG CONTROL.
- INCLUDE GAS TRAIN - FIELD PIPED AND WIRED.
- THE CONTRACTOR SHALL FURNISH AND INSTALL UL APPROVED POWER FLAME MODEL SYNC-MATIC HMI PROGRAMMABLE CONTROLLER BASED LEAD-LAG SYSTEM. SEE BOILER CONTROLS SYSTEM DETAILS ON THIS SHEET.

BOILER FEED UNIT SCHEDULE

- BOILER FEED UNIT SHALL BE BELL & GOSSETT DOMESTIC PUMP MODEL 61.5CM DUPLEX OR APPROVED EQUAL. UNIT SHALL INCORPORATE 2 PUMPS OPERATING AT 1/2 HP 115/1/60HZ & 7.9 FLA EACH @ 1750 RPM; 6 GPM @ 15PSI WITH 2" INLET, 3/4" OUTLET, 6-3/16" IMPELLER; 632 LBS., 21"W x 13" H x 23" L AND 2" OVERFLOW AND VENT CONNECTIONS.
- NEMA 2 TYPE CONTROL PANEL, UNIT MOUNTED & WIRED; LIQUID TIGHT CONDUIT; MAGNETIC STARTERS WITH FUSED DISCONNECT W/ FUSES; SELECTOR SWITCHES - BOILER/PUMP; POWER CONTROL SWITCHING RELAY; SINGLE POWER POINT CONNECTION; UL LISTING.
- 3-VALVE BYPASS AROUND MAKEUP VALVE; AIR GAP FITTING ON MAKEUP ASSEMBLY; LOW LEVEL FLOAT AND LOW WATER CUTOFF - WIRED TO TERMINAL FOR REMOTE ANNUNCIATION; GAUGE GLASS; DIAL THERMOMETER; DISCHARGE PRESSURE GAUGE; LIFTING EYES; BUTTERFLY SUCTION VALVE; 1-CONTROL RELAY

BOILER FEED UNIT CONTROL NOTES:

- BOILER FEED UNIT CONTROL SHALL CONSIST OF THE FOLLOWING:
 - 2 COMBINATION MAGNETIC STARTERS (3 OVERLOAD RELAYS) WITH FUSED DISCONNECTS AND COVER INTERLOCKS.
 - 2 "OFF-HAND-LEAD-LAG" PUMP SELECTOR SWITCHES
 - 2 PUMP RUNNING PILOT LIGHTS.
 - 1 NUMBERED TERMINAL BLOCK
 - 1 FUSED CONTROL CIRCUIT TRANSFORMER WHEN THE MOTOR EXCEEDS 130 V
 - 1 CONTROL CIRCUIT RELAY
 - 1 CONTROL POWER RELAY.
- CONTROL CABINET SHALL CONTAIN U.L. LISTED OR RECOGNIZED COMPONENTS.
- CONTROL COMPONENTS SHALL BE PROVIDED BY THE UNIT MANUFACTURER, FOR OPERATION AS FOLLOWS:
 - AS THE LEVEL IN THE BOILER RECEDES, THE PUMP CONTROL SWITCH WILL CLOSE OPENING THE FEED VALVE AND STARTING ONE PUMP (THROUGH THE END SWITCH). AS THE LEVEL IS RESTORED, THE SWITCH WILL OPEN, CLOSE THE VALVE, AND STOP THE PUMP. SHOULD THE LEVEL CONTINUE TO RISE, THE LOWER CONTACTS WILL CLOSE AND START THE REMAINING PUMP. EACH PUMP SELECTOR SWITCH SHALL PROVIDE "OFF-HAND-LEAD-LAG" POSITIONS.
- MANUAL SEQUENCE CONTROL SHALL PROVIDE FOR MANUAL SELECTION OF THE ACTIVE OR LEAD PUMP, SIMULTANEOUS OPERATION OF BOTH PUMPS UNDER ABNORMAL LOAD CONDITIONS AND AUTOMATIC OPERATION OF THE LAG PUMP IF THE LEAD PUMP OR ITS CONTROL FAILS.
- THE UNIT MANUFACTURER SHALL FURNISH (1) MCDONALD MILLER PUMP CONTROL: NO.150S RATED TO 150 PSI FOR BOILERS WITH SEPARATE WATER COLUMNS
- THE INSTALLING CONTRACTOR, IN ADDITION TO THE ABOVE NOTED PUMP CONTROL, SHALL PROVIDE AND INSTALL A LOW WATER CUTOFF SWITCH, A LOW WATER BOILER ALARM SWITCH AND ASSOCIATED CIRCUITS IN ACCORDANCE WITH LOCAL CODES.
- THE UNIT SHALL BE FACTORY TESTED AS A COMPLETE UNIT WITH A CERTIFIED TEST REPORT OF PUMP CHARACTERISTICS SHALL BE SUBMITTED PRIOR TO SHIPMENT. THE UNIT MANUFACTURER SHALL FURNISH COMPLETE ELEMENTARY AND CONNECTION WIRING DIAGRAMS (2dw408), PIPING DIAGRAMS (1 DP08-A), INSTALLATION AND OPERATION INSTRUCTIONS.
- MANUFACTURER SHALL BE BELL & GOSSETT DOMESTIC PUMP, MORTON GROVE, IL OR EQUAL.



COMBUSTION AIR INTAKE FAN DETAIL

SCALE: NONE

CONTRACTOR SHALL PROVIDE MPC1 MODULATING PRESSURE CONTROLLER WITH UC1 BURNER CIRCUIT INTERLOCK BY TJERNLUND OR EQUAL FOR BOILER BURNER CONTROL AND COMBUSTION AIR FAN SPEED CONTROL.

PROGRAM OPTION	FACTORY PRESETS	ADJUSTMENT RANGE
EXHAUST PRESSURE	-0.10" W.C.	-0.01" TO -0.40" W.C.
SUPPLY PRESSURE	+0.00" W.C.	+0.01" TO +0.40" W.C.
ALARM CIRCUIT TIME	10 SEC.	1 SEC. TO 15 MIN
ACCELERATION RATE	50	SCALEE OF 1 TO 999
POWER REQUIREMENTS	120 VAC, 7AMPS	

ELECTRICAL ENCLOSURE SHALL BE 18-GAUGE GALVANIZED STEEL WITH HINGED ACCESS DOOR.

ETL C/US TO UL508 AND CSA C22.2 LISTINGS

WARRANTY: 1 YEAR

REQUIRED OPTIONS: MAC4E MULTIPLE APPLIANCE CONTROL; IPS=1 INDOOR PRESSURE SENSOR WITH DECORATIVE COVER TO BE MOUNTED IN CORRIDOR.

MAINTAINS PRESSURE IN BOILER ROOM EQUAL TO PRESSURE IN REFERENCE SPACE.

COMBUSTION AIR FAN

CONTRACTOR SHALL PROVIDE EC1800MF MIXED FLOW IN-LINE FAN BY TJERNLUND OR EQUAL FOR COMBUSTION AIR VOLUME CONTROL. HOUSING SHALL BE GALVANIZED SHEET METAL WITH FOLDED SEAM AIR TIGHT CASING, 1" CONNECTION COLLAR, MIXED FLOW IMPELLER, EXTERNAL ROTOR EC-MOTOR. INPUT SIGNAL SHALL BE 0-10V DC FROM MPC-SERIES. FFP-1 FREEZE AND FIRE PROTECTION SWITCH.

WEIGHT: 39 LBS

MOTOR SHLL BE ECM 120/1/60 VAC, 366 WATTS

UL/ULC LISTINGS

IN CHARGE OF JAI PUNNOOSE, P.E.
 CHECKED BY _____
 MADE BY VINCENT LEONE, P.E.

1 COMBUSTION AIR INTAKE SYSTEM

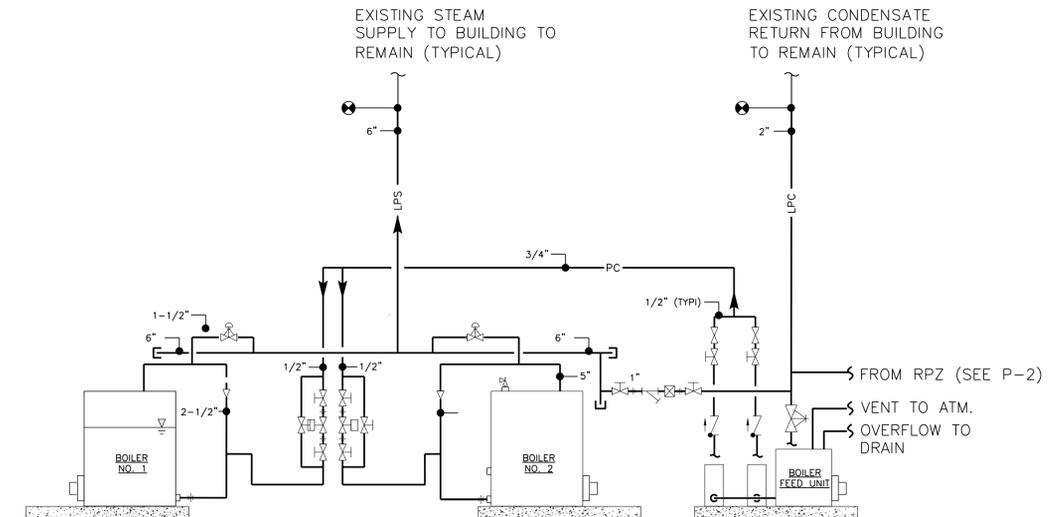
BOILER CONTROL SYSTEM DETAILS

THE CONTRACTOR SHALL FURNISH AND INSTALL A UL APPROVED POWER FLAME MODEL SYNC-MATIC HMI PROGRAMMABLE CONTROLLER BASED LEAD-LAG SYSTEM. THE LEAD-LAG FUNCTION SHALL BE BY THE PROGRAMMABLE CONTROLLER AND SHALL SERVICE 2 BOILER/BURNER UNITS. A 5.7"MINIMUM HMI OPERATOR TOUCH SCREEN SHALL BE STANDARD EQUIPMENT. THE HMI SHALL ALLOW THE OPERATOR TO INPUT SYSTEM OPERATING PARAMETERS AS WELL AS PROVIDE VISUAL INDICATION OF EACH BURNER'S OPERATION STATUS, FIRING RATE, OPERATING SET POINT, AS WELL AS THE PRESSURE OF THE COMMON HEADER. MODBUS COMMUNICATIONS SHALL BE STANDARD.

- THE LEAD-LAG CONTROL PANEL SHALL INCLUDE THE FOLLOWING FEATURES:
 - DIRECT ENTRY OF SYSTEM SET POINT THROUGH THE HMI.
 - PID CONTROLLED AUTOMATIC MODULATION WITH BASELOAD OR PARALLEL MODULATION RESPONSE 4-20 mA SIGNAL).
 - MANUAL MODULATION INPUT FOR SYSTEM TESTING AND ADJUSTMENTS.
 - INDICATING LAMPS TO INDICATE BURNER ONLINE OR BURNER FAILED.
 - LEAD LAG/ BACKUP SELECTOR SWITCH TO ALLOW CONTROL FUNCTION TO BE SWITCHED TO
 - THE PROGRAMMABLE CONTROLLER;
 - THE INDIVIDUAL BOILER-MOUNTED OPERATING AND MODULATION CONTROLLERS.
 - ADJUSTABLE LEAD AND LAG BURNER ON AND OFF DELAY TIMERS, ACCESSIBLE THROUGH THE HMI.
 - BOILER CYCLE AND BOILER HOUR COUNTERS.
 - MULTIPLE LEAD SELECTION MODES: MANUAL, TIME ALTERNATE, TIME EQUALIZE, CYCLE ALTERNATE, CYCLE EQUALIZE, AND DAY OF WEEK.
 - NIGHT AND/OR WEEKEND SETBACK SETTINGS ALLOW FOR REDUCED SET POINTS AT NON- PEAK TIMES TO REDUCE

FUEL USAGE.

- FAILURE TRANSFER AUTOMATICALLY TRANSFERS FAILED BURNER'S SETTINGS TO THE NEXT AVAILABLE BURNER.
- THE SEQUENCE OF OPERATION SHALL BE AS FOLLOWS:
 - UPON START UP, BURNERS SHALL ALWAYS START IN THE LOW FIRE POSITION. UPON RELEASE OF THE COMBUSTION CONTROL SYSTEM, THE BURNERS SHALL MODULATE VIA THE PROGRAMMABLE CONTROLLER.
 - AS THE PRESSURE/TEMPERATURE INCREASES, THE HEADER MOUNTED TRANSDUCER WILL SIGNAL THE PROGRAMMABLE CONTROLLER. IN TURN, THE CONTROLLER SHALL SEQUENCE THE PID FIRING RATE CIRCUITS OF EACH ACTIVE MODULATING BURNER IN AN APPROPRIATE LEAD-LAG SEQUENCE.
 - UPON STILL FURTHER INCREASE IN PRESSURE/TEMPERATURE, THE PROGRAMMABLE CONTROLLER WILL DE-ENERGIZE THE LAG BURNER(S) THEN THE LEAD BURNER IN THE APPROPRIATE SEQUENCE. THIS FUNCTION WILL EITHER TAKE PLACE IMMEDIATELY OR AFTER A TIME DELAY BASED ON THE VARIANCE FROM SETPOINT. THE BURNERS WILL BE IN THE LOW FIRE POSITION BEFORE DE-ENERGIZING.
 - WITH A DROP IN PRESSURE/TEMPERATURE, THE PROGRAMMABLE CONTROLLER WILL REVERSE THE SEQUENCE TO CALL THE BURNERS TO FIRE AND TO MODULATE THE BURNERS IN AN APPROPRIATE LEAD-LAG SEQUENCE.
 - IN THE EVENT THAT ANY BURNER FAILS TO OPERATE, THE PROGRAMMABLE CONTROLLER SHALL AUTOMATICALLY TRANSFER CONTROL TO THE NEXT AVAILABLE BURNER.
 - AN APPROPRIATE PRESSURE/TEMPERATURE TRANSDUCER SHALL BE SUPPLIED WITH EACH SYSTEM. THE TRANSDUCER SHALL BE INSTALLED IN THE MAIN STEAM/WATER HEADER.
- OPTIONS:
 - OUTDOOR RESET: RAISES THE WATER PRESSURE SET POINT AS OUTSIDE TEMPERATURE INCREASES.



2 BOILER ROOM MECHANICAL SCHEMATIC

SCALE: NONE

**WESTCHESTER COUNTY, NEW YORK
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF ENGINEERING**

BOILER REPLACEMENT AND ASSOCIATED WORK
 VERNON PLAZA FAMILY CENTER
 17 SOUTH SECOND AVENUE, MOUNT VERNON, NEW YORK
 SCHEDULE AND SCHEMATICS

CONTRACT NUMBER 21-514	SHEET NUMBER HV-4
SHEET NO. 8 OF 9	
SCALE: AS SHOWN DATE: 06/04/21	
DPW FILE NO. 54-29-HV-54	REV. NO. 0

