Rockland County

FACILITIES MANAGEMENT

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CAPITAL PROJECT 2098
HEALTH CENTER BUILDING IMPROVEMENTS
BUILDING A DOMESTIC WATER BOOSTER PUMP REPLACEMENT

50 SANATORIUM ROAD
POMONA, NY 10970

DRAWING INDEX

DWG #	DRAWING TITLE
COVER	
T0.1	COVER SHEET
PLUMBING	
P0.1	PLUMBING ABBREVIATIONS, SYMBOLS, AND GENERAL NOTES
P1.2	PLUMBING DEMOLITION AND NEW WORK PLANS
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TOTAL: 8	

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PROJECT

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POMONA, NY 10970

DRAWING TITLE

COVER SHEET

SEAL

SCALE	AS NOTED
PROJECT NO.	RCK0019.00
DRAWN BY	JC
CHECKED BY	RS
DATE	2024.04.05
DRAWING NO.	T0.1

SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
1 VIEW TITLE SCALE: NTS	-	PLAN TITLE NO. 1
1 P2.1 TITLE SCALE: NTS	-	TITLE MARK DETAIL VIEW NO. 1 FOUND ON SHEET M-2.1
1 P7.1	-	DETAIL REFERENCE DETAIL NO. 1 FOUND ON SHEET M-7.1
1 P-3.1	-	SECTION MARK SECTION VIEW NO. 1 FOUND ON SHEET M-3.1
1 P4.1	-	ENLARGED VIEW CALLOUT PLAN VIEW NO. 1 FOUND ON SHEET M4.1
1	-	REVISION CLOUD (DELTA 1)
P 1	-	RISER TAG
	EX.	EXISTING TO REMAIN
	REL.	REMOVE AND RELOCATE
	-	NEW WORK
	DEM.	EXISTING TO BE REMOVED / DEMOLISH
	POC	POINT OF CONNECTION
	POD	POINT OF DISCONNECTION
#	-	SHEET KEYNOTE
	CW	COLD WATER
	W	WASTE LINE
	-	TEE DOWN
	-	ELBOW DOWN
	-	TEE UP
	-	ELBOW UP
	-	PIPE CAP
	-	CONCENTRIC REDUCER
	-	ECCENTRIC REDUCER
	-	3-WAY VALVE
	-	BUTTERFLY VALVE
	-	2-WAY VALVE
	-	PLUG VALVE
S	-	SOLENOID VALVE
	-	GATE VALVE
	-	GLOBE VALVE
	-	CHECK VALVE
	-	OS&Y GATE VALVE
	-	BALL VALVE
	-	CIRCUIT SETTER
	-	MANUAL AIR VENT
	T&P	TEMPERATURE & PRESSURE (T&P) RELIEF VALVE
	PRV	PRESSURE REDUCING VALVE
	FLFD	FUNNEL FLOOR DRAIN
	-	STRAINER
	-	FLEXIBLE CONNECTION
	-	FLOW ARROW
	-	PRESSURE GAUGE
	-	PUMP
	-	THERMOMETER
	-	BASKET STRAINER
	HB	HOSE BIBB
	RD / ORD	ROOF DRAIN / OVERFLOW ROOF DRAIN
	FD	FLOOR DRAIN
	-	UNION
	RPZ	REDUCED PRESSURE ZONE - BFP
--	ABV	ABOVE
--	AD	ACCESS DOOR
--	ADA	AMERICAN DISABILITIES ACT

SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
--	ADJ.	ADJUSTABLE
--	AFF	ABOVE FINISHED FLOOR
--	AHC	ABOVE HUNG CEILING
--	AHJ	AUTHORITIES HAVING JURISDICTION
--	AP	ACCESS PANEL
--	APPROX	APPROXIMATE
--	ARCH	ARCHITECTURAL
--	ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
--	ASSE	AMERICAN SOCIETY OF SANITARY ENGINEERS
--	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
--	AUTO	AUTOMATIC
--	AWWA	AMERICAN WATER WORKS ASSOCIATION
--	BEL	BELOW
--	BFP	BACKFLOW PREVENTER
--	BLDG	BUILDING
--	BP	BOOSTER PUMP
--	CD / CNDS	CONDENSATE
--	CP	CONDENSATE PUMP
--	DCV	DOUBLE CHECK VALVE
--	DET	DETAIL
--	DIA, Ø	DIAMETER
--	DN	DOWN
--	DWG	DRAWING
--	EL	ELEVATION
--	ELEC	ELECTRICAL
--	ENT	ENTERING
--	ET	EXPANSION TANK
--	FD	FLOOR DRAIN
--	FFE	FINISH FLOOR ELEVATION
--	FLEX	FLEXIBLE
--	FLR	FLOOR
--	FS	FLOOR SINK
--	FT	FEET
--	°F	DEGREES FAHRENHEIT
--	GAL	GALLON
--	GALV	GALVANIZED
--	GC	GENERAL CONTRACTOR
--	GPM	GALLONS PER MINUTE
--	HD	HUB DRAIN
--	HGT	HEIGHT
--	HORIZ	HORIZONTAL
--	HP	HORSEPOWER, HEAT PUMP
--	HR	HOUR
--	HZ	HERTZ
--	ID	INNER DIAMETER
--	IE	INVERT ELEVATION
--	IN	INCH
--	KW	KILOWATT
--	LB	POUND
--	LF	LINEAR FEET
--	LVG	LEAVING
--	MAX	MAXIMUM
--	MECH	MECHANICAL
--	MER	MECHANICAL EQUIPMENT ROOM
--	MIN	MINIMUM
--	MISC	MISCELLANEOUS
--	NC	NORMALLY CLOSED
--	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
--	NIC	NOT IN CONTRACT

SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
--	NO	NORMALLY OPEN
--	NTS	NOT TO SCALE
--	OS&Y	OPEN STEM & YOKE
--	OSHA	OCCUPATIONAL SAFETY AND HEALTH ACT
--	P	PUMP
--	POS	POSITIVE
--	PSI	POUNDS PER SQUARE INCH
--	PSIA	POUNDS PER SQUARE INCH ABSOLUTE
--	PSIG	POUNDS PER SQUARE INCH GAUGE
--	REQD	REQUIRED
--	RPM	REVOLUTIONS PER MINUTE
--	SOV	SHUT-OFF VALVE
--	SPECS	SPECIFICATIONS
--	SS	STAINLESS STEEL
--	STD	STANDARD
--	STRUCT	STRUCTURAL
--	TDH	TOTAL DYNAMIC HEAD
--	TEMP	TEMPERATURE
--	TYP.	TYPICAL
--	UL	UNDERWRITERS LABORATORY
--	UON	UNLESS OTHERWISE NOTED
--	VFD	VARIABLE FREQUENCY DRIVE
--	VIF	VERIFY IN FIELD
--	WM	WATER METER
--	WS	WATER FLOW SWITCH

NOTE: FOR REFERENCE ONLY. NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED IN THIS PROJECT.

GENERAL NOTES

1. THE CONTRACT DRAWINGS INDICATE THE EXTENT AND GENERAL ARRANGEMENTS OF THE PLUMBING SYSTEMS. IF ANY DEPARTURES FROM THE DRAWINGS ARE DEEMED NECESSARY BY THE PLUMBING CONTRACTOR, DETAILS OF SUCH DEPARTURES AND THE REASONS THEREFORE SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR APPROVAL. NO SUCH DEPARTURES SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE OWNER AND ENGINEER. EQUIPMENT AND PIPING ARRANGEMENTS SHALL PROVIDE ADEQUATE AND ACCEPTABLE CLEARANCES FOR ENTRY, SERVICING, AND MAINTENANCE. ANY CHANGES TO PIPING AND EQUIPMENT LOCATIONS NECESSARY TO AVOID INTERFERENCE WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST.
2. THE PLUMBING WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE PREVAILING NEW YORK STATE PLUMBING AND BUILDING CODES. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE, THE MORE STRINGENT STANDARD SHALL APPLY.
3. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR PAYING RELATED FEES.
4. CONNECTIONS TO EXISTING UTILITIES AND SERVICES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, INVERT ELEVATIONS, AND SIZES OF EXISTING PLUMBING SERVICES IN FIELD, AND SHALL CONNECT NEW PLUMBING SERVICES AS INDICATED ON DRAWINGS.
5. PRIOR TO FABRICATION, THIS CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AND CONDITIONS ON JOB SITE, AND COORDINATE THIS WORK WITH THE WORK OF ALL OTHER TRADES.
6. ALL ACCESS PANELS SHALL BE BY GENERAL CONTRACTOR. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR LOCATION.
7. PROVIDE ALL PLUMBING FIXTURES, PIPING, VALVES AND ACCESSORY ITEMS AS SPECIFIED AND AS REQUIRED FOR A COMPLETE INSTALLATION. ROUGHING DIMENSIONS OF FIXTURES MUST BE COORDINATED WITH THE GENERAL CONTRACTOR.
8. NO PIPING SHALL RUN EXPOSED IN FINISHED AREAS.
9. PROVIDE DIELECTRIC FITTINGS OR COUPLINGS WHEREVER DISSIMILAR METALS ARE JOINED.
10. PROVIDE SHUTOFF VALVES AT ALL FIXTURES AND EQUIPMENT ON COLD WATER.
11. ALL WORK SHALL BE PROPERLY TESTED, BALANCED, AND CLEANED AND DISINFECTED. PROVIDE A ONE YEAR WARRANTY FROM DATE OF FINAL INSPECTION ON ALL PARTS AND LABOR.
12. 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.
13. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL CUTTING, PATCHING, CORE DRILLING, PAINTING, ACCESS PANELS, AND FINAL RESTORATION REQUIRED TO FACILITATE THE INSTALLATION OF PLUMBING 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 PLUMBING WORK.
14. NEW PIPING LAYOUT IS PREDICATED ON RECORD DRAWING DATA OF EXISTING RISERS AND DRAWINGS. MODIFICATIONS TO THE LAYOUT MAY BE REQUIRED DUE TO DIFFERENT ACTUAL CONDITIONS, OBSTRUCTIONS, INTERFERENCES, ETC.
15. ALL MOTOR STARTERS AND DISCONNECT SWITCHES FOR PLUMBING EQUIPMENT SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED. DISCONNECT SWITCHES FURNISHED BY THE PLUMBING CONTRACTOR FOR PLUMBING EQUIPMENT SHALL BE HEAVY DUTY TYPE.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY VENTILATION AND EXHAUST AIR WHEN WELDING OR SOLDERING OPERATIONS ARE PERFORMED, AS REQUIRED BY OSHA.

APPLICABLE CODES AND STANDARDS

THIS PROJECT SHALL COMPLY WITH, BUT NOT LIMITED TO THE FOLLOWING CODES AND STANDARDS:

- 2020 NEW YORK STATE ENERGY CODE
- 2020 NEW YORK STATE PLUMBING CODE
- 2017 NATIONAL ELECTRICAL CODE
- ANY AND ALL LOCAL AMENDMENTS

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50 SANATORIUM ROAD
POMONA, NY 10970

DRAWING TITLE

PLUMBING ABBREVIATIONS, SYMBOLS, AND GENERAL NOTES

SEAL	SCALE	PROJECT NO.
	AS NOTED	RCK0019.00
	DRAWN BY JC	DRAWING NO.
	CHECKED BY RS	P0.1
	DATE 06/16/23	

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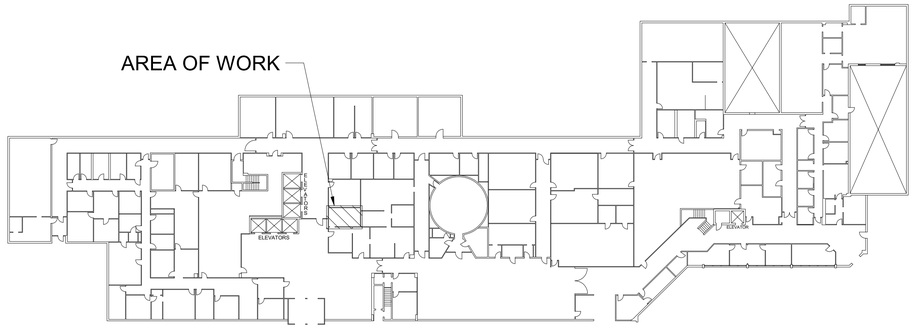
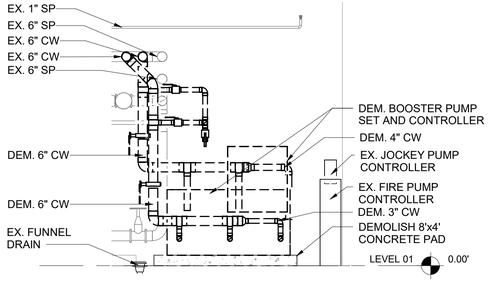
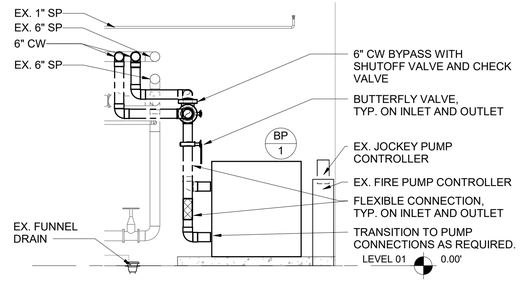


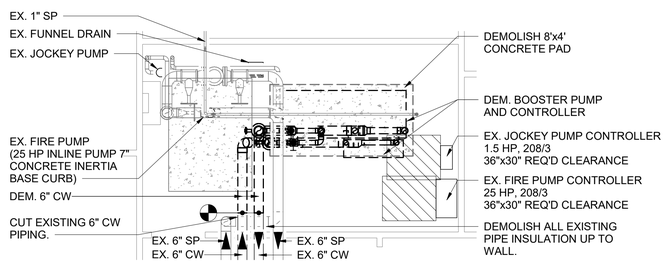
NORTH 5 LEVEL 01 KEY PLAN
SCALE: 1" = 40'-0"



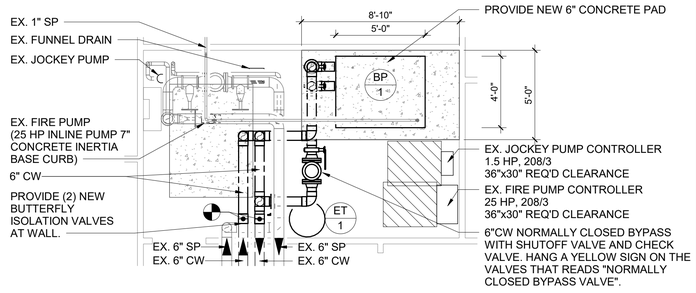
NORTH 4 LEVEL 01 PLUMBING DEMOLITION ELEVATION
SCALE: 1/4" = 1'-0"



NORTH 2 LEVEL 01 PLUMBING NEW WORK ELEVATION
SCALE: 1/4" = 1'-0"



NORTH 3 LEVEL 01 PLUMBING DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



NORTH 1 LEVEL 01 PLUMBING NEW WORK PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. CONDITIONS MAY NOT BE EXACTLY AS INDICATED ON THIS DRAWING. CONTRACTORS SHALL VISIT THE SITE TO UNDERSTAND THE EXISTING FIELD CONDITIONS AND TO VERIFY SCOPE OF WORK PRIOR TO SUBMITTING BID. NO ALLOWANCE WILL BE MADE AFTER THE CONTRACT IS APPROVED.
2. ALL ABANDONED AND UNUSED EQUIPMENT SHALL BE REMOVED.
3. COORDINATE ALL SHUTDOWNS WITH BUILDING FACILITIES, OWNER, AND TENANTS.
4. INSULATE ALL NEW AND EXISTING COLD WATER PIPING. SEE PIPE INSULATION SCHEDULE.
5. JACKET AND LABEL ALL PIPING INSULATION, INCLUDING FLOW ARROWS.
6. POWER WASH AND DEGREASE ALL SURFACES IN THE MECHANICAL ROOM, INCLUDING THE WALLS AND FLOORS. MECHANICALLY CLEAN THE FLOOR OF ALL LOOSE PAINT AND DEBRIES. PAINT THE FLOORS WITH GRAY ARMORSEAL REXTHANE FLOOR PLAIN BY SHERWIN-WILLIAMS OR EQUAL. PAINT NEW AND EXISTING PADS YELLOW.
7. DEMOLISH EXISTING CONCRETE PADS TO FACILITATE THE INSTALLATION OF NEW WORK. PATCH THE CONCRETE FLOOR TO MATCH EXISTING.

EQUIPMENT NOTES

1. CW PIPE MATERIAL: FOR DOMESTIC WATER SYSTEMS, SHALL BE SEAMLESS COPPER TUBING, TYPE L, DRAWN TEMPER, ASTM B88. FITTINGS SHALL BE WROUGHT COPPER, SOULDER-JOINT, ANSI B16.22 OR CAST BRONZE ANSI B16.23, ANSI B16.18.
2. HYDRO-PNEUMATIC TANK (ET-1): SHALL BE WESSELS MODEL FXA-300, WITH 79 GALLON VOLUME, 24" DIAMETER X 55" HIGH. CARBON STEEL SHELL, HEAVY DUTY BUTYL BLADDER, WITH INTEGRAL PRESSURE GAUGE AND BLADDER INTEGRITY MONITOR.

DOMESTIC WATER BOOSTER PUMP SCHEDULE

DESIGNATION	**BP-1**
LOCATION	LEVEL 01
MANUFACTURER	CANARIIS CORPORATION
MODEL	TM-300-48-3VS
FLOW RATE (GPM)	300
MIN SUCTION PRESSURE (PSIG)	35
SYSTEM PRESSURE (PSIG)	78
PUMPS:	
NUMBER OF PUMPS	3
FLOW RATE PER PUMP (GPM)	150
TDH (FT HEAD)	110
HORSEPOWER PER PUMP (HP)	7.5
CONNECTION SIZES:	
INLET (IN.)	4
OUTLET (IN.)	4
EXPANSION TANK	
CAPACITY (GALLONS)	79
PRESSURE (PSIG)	125
ELECTRICAL DATA:	
VOLTAGE / PH / FREQ.	208/3/60
FLA / MCA / MOCP (A)	95 / 102.75 / -

NOTES:
1. PROVIDE THREE SKID-MOUNTED VARIABLE FREQUENCY DRIVES SUITABLE FOR VARIABLE TORQUE APPLICATIONS.
2. VARIABLE FREQUENCY DRIVES SHALL BE SIZED FOR THE MAXIMUM POSSIBLE AMP DRAW THROUGHOUT THE PROGRAMMED SEQUENCE OF PUMP OPERATION.
3. PROVIDE SKID-MOUNTED CONTROL PANEL. PROVIDE BMS CONNECTION.
4. ALL MOTORS USING VARIABLE FREQUENCY DRIVES SHALL BE PREMIUM EFFICIENCY AND RATED FOR "INVERTER DUTY".
5. PUMP STATUS AND ALL ALARM CONDITIONS SHALL BE CONNECTED TO THE BMS THROUGH THE PUMP CONTROL PANEL AUXILIARY CONTACTS.

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PLUMBING DEMOLITION AND NEW WORK PLANS

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DRAWN BY	JC
CHECKED BY	RS
DATE	04/23/24
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DOMESTIC WATER BOOSTER PUMP NOTES

FURNISH AND INSTALL A MODEL **TM-300-48-3VS** TRIPLEX VARIABLE SPEED, VARIABLE FLOW FACTORY ASSEMBLED WATER BOOSTER SYSTEM AS MANUFACTURED BY CANARIIS, LLC, RIVERVIEW, FLORIDA AND SUPPLIED BY CULLEN COMPANY LLC (732-988-9600). THE UNIT SHALL BE RATED FOR A SYSTEM CAPACITY OF **300 GPM**, WITH A SYSTEM PRESSURE OF **78 PSIG**, INCLUDING A MINIMUM SUCTION PRESSURE OF **35 PSIG**. MAXIMUM SUCTION PRESSURE WILL BE **50 PSIG**.

THE COMPLETE PACKAGED PUMPING SYSTEM, INCLUDING PUMPS, MOTORS, CONTROL EQUIPMENT, VARIABLE FREQUENCY DRIVES, TANK, VALVES, FITTINGS AND MANIFOLDS MUST BE UL LISTED UNDER CATEGORY QCZJ (PACKAGED PUMPING SYSTEMS). IN ADDITION TO THE UL LISTING FOR THE COMPLETE SYSTEM THE CONTROL PANEL ASSEMBLY MUST BE SEPARATELY LISTED UNDER UL 508A (INDUSTRIAL CONTROL PANELS). ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS IN ACCORDANCE WITH ASME SECTION IX.

FACTORY ASSEMBLY
THE BOOSTER SYSTEM SHALL BE FACTORY ASSEMBLED ON A STEEL SKID INCLUDING PUMPS, MOTORS, VALVES, **4" SCH10 300 SERIES STAINLESS STEEL** SUCTION AND DISCHARGE MANIFOLDS, AND ALL INTERCONNECTING PIPING, WIRING AND CONTROLS. MANIFOLD CONNECTIONS WILL BE FLANGED AT ONE END. BRANCH PIPING AND TANK PIPING (IF APPLICABLE) SHALL BE THE SAME MATERIAL AS THE SUCTION AND DISCHARGE MANIFOLDS. PROVIDE ISOLATION VALVES ON THE SUCTION AND DISCHARGE OF EACH PUMP. THE VALVES SHALL BE FULL-PORT BALL VALVES. PROVIDE A THERMAL PURGE VALVE ON THE DISCHARGE OF EACH PUMP. PROVIDE TWO 4 1/2" ASME GRADE A, PANEL MOUNTED GAUGES FOR INDICATING SYSTEM SUCTION AND SYSTEM DISCHARGE PRESSURE. ALL SKID MOUNTED COMPONENTS SHALL BE FACTORY FINISHED IN A HIGH QUALITY ENAMEL PAINT.

INDIVIDUAL PUMPS, MOTORS AND PRESSURE REGULATING OR CHECK VALVES MAY BE SERVICED WITH THE BOOSTER SYSTEM IN OPERATION AND ALL COMPONENTS SHALL BE SUITABLE FOR THE MAXIMUM WORKING PRESSURE AND TEMPERATURE IN THE SYSTEM.

PUMPS
SYSTEM SHALL INCLUDE THREE MULTI-STAGE VERTICAL CENTRIFUGAL PUMPS WITH ANSI FLANGED CONNECTIONS. THE PUMP SUCTION/DISCHARGE CHAMBER, MOTOR STOOL AND PUMP SHAFT COUPLING SHALL BE CONSTRUCTED OF CAST IRON. THE IMPELLERS, PUMP SHAFT, DIFFUSER CHAMBERS, OUTER DISCHARGE SLEEVE AND IMPELLER SEAL RINGS OR SEAL RING RETAINERS SHALL BE CONSTRUCTED OF STAINLESS STEEL. INTERMEDIATE AND LOWER SHAFT BEARINGS SHALL BE BRONZE OR TUNGSTEN CARBIDE AND CERAMIC. PUMPS SHALL BE EQUIPPED WITH A MECHANICAL SEAL ASSEMBLY WITH TUNGSTEN CARBIDE SEAL FACES MOUNTED IN STAINLESS STEEL SEAL COMPONENTS. THE PUMP MOTOR SHALL BE NEMA C FACE DESIGN MOUNTED DIRECTLY TO THE TOP OF THE PUMP.

PUMP NO. 1, PUMP NO. 2 AND PUMP NO. 3 SHALL BE RATED **100 GPM** AT **110 FT. HEAD**.

MOTORS
MOTORS SHALL BE **__ VOLT, 3 PHASE, 60 HZ** OPEN DRIP PROOF AND MANUFACTURED IN ACCORDANCE WITH NEMA STANDARDS. PUMP NO. 1, PUMP NO. 2 AND PUMP NO. 3 SHALL BE **5 HP, 3500 RPM**. MOTORS SHALL BE SELECTED SO THAT THEY DO NOT EXCEED NAMEPLATE HP RATING THROUGHOUT THE PROGRAMMED SEQUENCE OF PUMP OPERATION.

SYSTEM VALVES
EACH PUMP DISCHARGE SHALL HAVE A WAFER STYLE SILENT NON-SLAM CHECK VALVE WITH CAST IRON BODY AND SIZED FOR A MAXIMUM LOSS OF 3 PSI AT DESIGN FLOW AND BE SUITABLE FOR THE MAXIMUM WORKING PRESSURE OF THE SYSTEM.

HYDRO-PNEUMATIC TANK
PROVIDE A HYDRO-PNEUMATIC TANK WITH A CARBON STEEL SHELL AND A REPLACEABLE F.D.A. APPROVED HEAVY DUTY BLADDER TO SEPARATE THE AIR AND WATER. NO WATER SHALL COME IN CONTACT WITH THE METAL WALLS OF THE TANK. FEATURES SHALL INCLUDE AN AIR FILL VALVE AND BOTTOM SYSTEM CONNECTION SUITABLE FOR 100% DRAWDOWN.
THE TANK MUST BE CONSTRUCTED IN ACCORDANCE WITH SECTION VIII OF THE ASME CODE AND BE N.B. STAMPED AND SHALL BE RATED (79 GALLON – 125 PSIG).
THE TANK SHALL BE MOUNTED IN A LOCATION AS SHOWN ON THE DRAWINGS, WHERE THE SYSTEM PRESSURE DOES NOT EXCEED THE TANK PRESSURE RATING.

VARIABLE FREQUENCY DRIVESPROVIDE AND MOUNT ON THE SYSTEM SKID THREE VARIABLE FREQUENCY DRIVES OF THE PWM DESIGN SUITABLE FOR VARIABLE TORQUE APPLICATIONS USING ANY STANDARD NEMA DESIGN B SQUIRREL CAGE INDUCTION MOTOR. VARIABLE FREQUENCY DRIVES SHALL SIZED FOR THE MAXIMUM POSSIBLE AMP DRAW THROUGHOUT THE PROGRAMMED SEQUENCE OF PUMP OPERATION.

STANDARD FEATURES
PULSE WIDTH MODULATED
STARTS INTO A ROTATING LOAD
KEYPAD OPERATOR DEVICE INCLUDING THE FOLLOWING:
2 LINE BACKLIT LCD DISPLAY
POWER ON AND ALARM/FAULT DISPLAYS
IN AUTO THE DRIVE FOLLOWS SIGNAL FROM LOGIC SECTION OF CONTROL PANEL
HAND/OFF/AUTO SWITCH AND MANUAL SPEED ADJUSTMENT
AUTO DRIVE SHUTDOWN FOR ELECTRICAL FAULT
AUTOMATIC RESTART AFTER POWER FAILS SHUTDOWN
OPERATIONAL DATA DISPLAYS INCLUDE: DRIVE SPEED (HZ), MOTOR POWER, ENERGY (KWH), CURRENT, ELAPSED TIME, RPM, AND MOTOR VOLTAGE
COMPLETE SERVICE DIAGNOSTICS WITH FAULT HISTORY LOG.

THE EFFICIENCY AT FULL LOAD AND FULL SPEED WILL BE 97% WITH A FUNDAMENTAL POWER FACTOR OF .98.

PRESSURE SENSOR/TRANSMITTER
PROVIDE ONE PRESSURE SENSOR/TRANSMITTER THAT PROVIDES A 4 TO 20 MA DC OUTPUT, COMPATIBLE WITH THE SYSTEM CONTROLS, TEMPERATURE AND PRESSURE REQUIREMENTS. PRESSURE SENSOR/TRANSMITTER SHALL HAVE ZERO, SPAN AND DAMPING DEVICES. THE TRANSMITTER SHALL BE INSTALLED ON THE SYSTEM DISCHARGE HEADER AND FACTORY WIRED TO THE CONTROL PANEL.

SEQUENCE OF OPERATION
THE LEAD PUMP SHALL RUN ONLY AS NECESSARY TO MAINTAIN SYSTEM PRESSURE AND WILL BE CONTROLLED AUTOMATICALLY BY MEANS OF A PRESSURE SENSOR/TRANSMITTER AND PROGRAMMABLE LOGIC CONTROLLER (PLC) PROGRAMMED TO PREVENT SHORT CYCLING. IF THE LEAD PUMP IS UNABLE TO MAINTAIN SYSTEM PRESSURE THE LAG PUMP(S) WILL BE CALLED ON AFTER A TIME DELAY AND WILL OPERATE IN PARALLEL WITH THE LEAD PUMP IN ACCORDANCE WITH THE PLC PROGRAM. WHEN ONE PUMP CAN HANDLE THE SYSTEM DEMAND THE CONTROLS WILL SHUT DOWN THE LAG PUMP(S). WHEN A LOW OR NO FLOW CONDITION IS REACHED, THE CONTROLS WILL ACCELERATE THE LEAD PUMP TO CHARGE THE SYSTEM AND HYDRO-PNEUMATIC TANK THEN SHUT THE LEAD PUMP DOWN AND ALTERNATE.

CONTROL PANEL
LOGIC SECTION
PROVIDE, MOUNT AND WIRE ON THE SKID A PROGRAMMABLE LOGIC CONTROLLER IN AN ENCLOSURE TO INTERFACE THE SIGNAL FROM THE PRESSURE SENSOR TO THE VFD'S AND PROVIDE A STABILIZED RESPONSE TO SPEED UP OR SLOW DOWN THE PUMP OR ADD THE LAG PUMP(S) TO MEET SYSTEM REQUIREMENTS. THE CONTROLLER SHALL PROVIDE SETPOINT ADJUSTMENT, TIMER ADJUSTMENT, PID FUNCTIONS AND BOTH SYSTEM AND CONTROLLER SELF DIAGNOSTICS VIA A 5.7" STN TOUCHSCREEN DISPLAY. ALL USER INTERFACE SETPOINTS ARE EASILY ACCESSIBLE VIA THE PASSWORD PROTECTED DISPLAY SCREEN. NORMAL SYSTEM OPERATION IS TUNED TO ELIMINATE HUNTING. CONTROLLER SHALL HAVE ONE RS 485 COMMUNICATION PORT, REAL TIME CALENDAR/CLOCK AND EEPROM MEMORY TRANSFER CARTRIDGE.

POWER SECTION
EACH SYSTEM SHALL INCLUDE A UL LISTED ENCLOSED INDUSTRIAL CONTROL PANEL IN A NEMA 1 ENCLOSURE, FACTORY MOUNTED AND WIRED ON THE STEEL SKID. THE PANEL SHALL BE FURNISHED WITH INDIVIDUAL PUMP DISCONNECTS WITH THROUGH THE DOOR HANDLES, PUMP RUN LIGHTS, H-O-A SELECTOR SWITCHES AND 115 VOLT FUSED CONTROL TRANSFORMER.

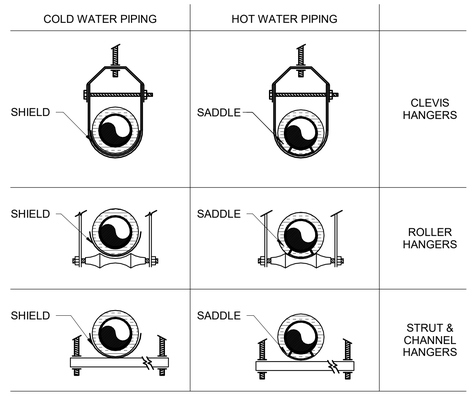
STANDARD CONTROL PANEL FEATURES
- UL LISTED ENCLOSED INDUSTRIAL CONTROL PANEL
- INDIVIDUAL FUSED DISCONNECTS WITH EXTERNAL HANDLE
- PROGRAMMABLE LOGIC CONTROLLER (PLC)
- PUMP RUNNING LIGHTS
- H/O/A SELECTOR SWITCHES
- 115 VOLT FUSED CONTROL CIRCUIT TRANSFORMER
- PUMP MINIMUM RUN TIMERS
- MOUNTED AND WIRED ON SKID
- PUMP OPERATING AND SEQUENCE CONTROLS

CONTROL PANEL OPTIONS
- CONTROL POWER (ON-OFF) SWITCH AND LIGHT
- LOW SUCTION PRESSURE SHUTDOWN CIRCUIT WITH AUTO RESET, DELAY TIMER AND LIGHT
- LOW SYSTEM PRESSURE CIRCUIT TO START STANDBY PUMP(S) WITH MANUAL RESET AND LIGHT
- HIGH SYSTEM PRESSURE SHUTDOWN CIRCUIT WITH MANUAL RESET AND LIGHT
- AUDIBLE ALARM WITH SILENCE PUSH BUTTON
- AUTO ALTERNATE (3) EQUAL PUMPS
- AUXILIARY RELAY CONTACTS

FACTORY TEST
THE BOOSTER SYSTEM SHALL BE HYDROSTATICALLY TESTED AND SHALL UNDERGO A COMPLETE ELECTRIC AND HYDRAULIC TEST FROM 0 TO 100% DESIGN FLOW AT THE FACTORY. ALL CONTROL DEVICES INCLUDING TRANSMITTERS AND ALL SAFETY FEATURES SHALL BE FACTORY CALIBRATED AND TESTED. THE OWNER'S REPRESENTATIVE MAY WITNESS THE TEST.

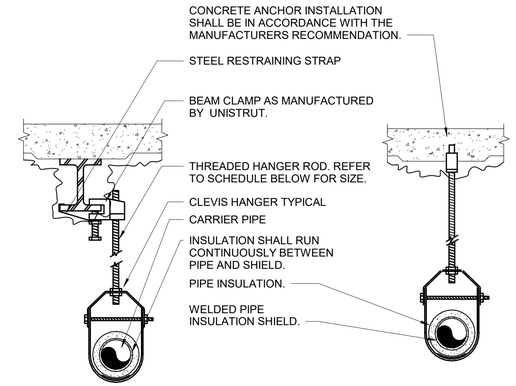
WARRANTY
THE BOOSTER SYSTEM SHALL BE WARRANTED IN WRITING AGAINST DEFECTS IN MATERIALS OR WORKMANSHIP UNDER NORMAL USE AND SERVICE FOR A PERIOD OF ONE YEAR AFTER DATE OF ORIGINAL OPERATION BUT NOT MORE THAN 18 MONTHS FROM DATE OF SHIPMENT FROM THE COMPANY'S FACTORY WHEN INSTALLED AND USED IN ACCORDANCE WITH GOOD STANDARD PRACTICE.

START-UP SERVICE
THE SERVICE OF A FACTORY-TRAINED REPRESENTATIVE SHALL BE MADE AVAILABLE ON THE JOBSITE FOR START-UP AND INSTRUCTING OPERATING PERSONNEL.



NOTES:
1. INSULATION ON ALL COLD SURFACES SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN VAPOR SEAL. HANGERS, SUPPORTS, ANCHORS, ETC., THAT ARE SECURED DIRECTLY TO COLD SURFACES SHALL BE ADEQUATELY INSULATED AND VAPOR SEALED TO PREVENT CONDENSATION.
2. GALVANIZED METAL SHIELDS SHALL BE APPLIED BETWEEN HANGERS OR SUPPORTS AND THE PIPE INSULATION AS SHOWN ABOVE. SHIELDS SHALL BE FORMED TO FIT THE INSULATION AND SHALL EXTEND UP TO THE CENTERLINE OF THE PIPE.
3. RIGID INSULATION INSERTS SHALL BE INSTALLED ON PIPE SIZES 1-1/2" OR LARGER AS SHOWN ABOVE. INSERTS SHALL BE OF EQUAL THICKNESS TO THE ADJOINING INSULATION AND SHALL BE PROVIDED WITH VAPOR RETARDER SEALS.

3 PIPE INSULATION SADDLE/SHIELD SCHEDULE
SCALE: NONE

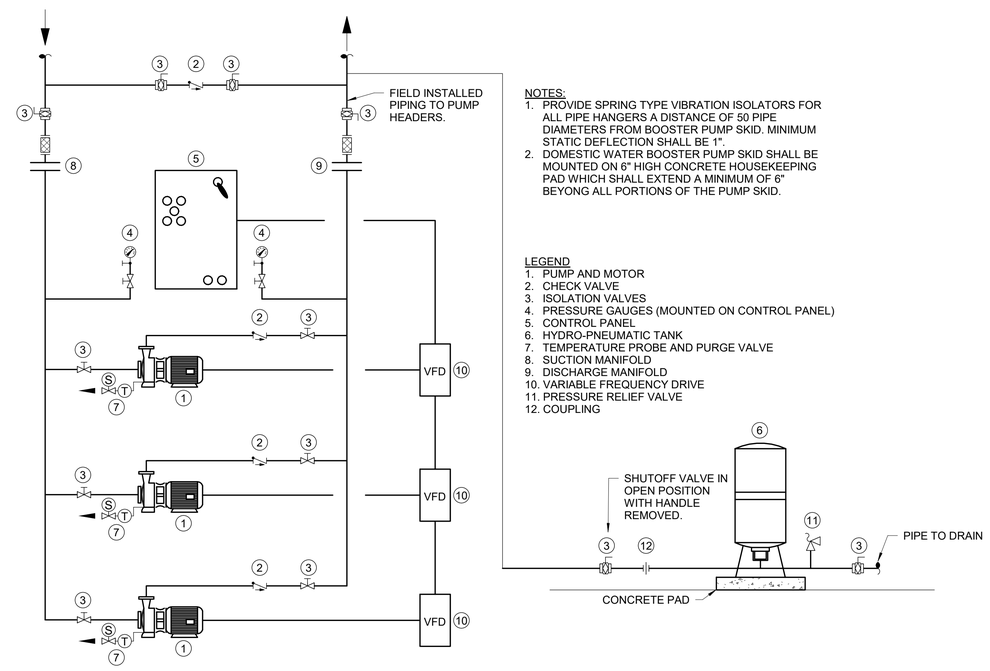


PIPE HANGER SCHEDULE

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 PIPE 1" OR SMALLER, A BAND HANGER WITH INSULATION SHIELD MAY BE USED SIMILAR TO RAUCH FIG. NO. 1ASH.
3. FOR NON-INSULATED 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 FOR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS.
6. WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
7. COPPER PIPE AND TUBE SHALL BE SUPPORTED EVERY 8 FEET HORIZONTALLY AND 10 FEET VERTICALLY.

2 PIPE HANGER DETAIL
SCALE: NONE



NOTES:
1. PROVIDE SPRING TYPE VIBRATION ISOLATORS FOR ALL PIPE HANGERS A DISTANCE OF 50 PIPE DIAMETERS FROM BOOSTER PUMP SKID. MINIMUM STATIC DEFLECTION SHALL BE 1".
2. DOMESTIC WATER BOOSTER PUMP SKID SHALL BE MOUNTED ON 6" HIGH CONCRETE HOUSEKEEPING PAD WHICH SHALL EXTEND A MINIMUM OF 6" BEYONG ALL PORTIONS OF THE PUMP SKID.

LEGEND
1. PUMP AND MOTOR
2. CHECK VALVE
3. ISOLATION VALVES
4. PRESSURE GAUGES (MOUNTED ON CONTROL PANEL)
5. CONTROL PANEL
6. HYDRO-PNEUMATIC TANK
7. TEMPERATURE PROBE AND PURGE VALVE
8. SUCTION MANIFOLD
9. DISCHARGE MANIFOLD
10. VARIABLE FREQUENCY DRIVE
11. PRESSURE RELIEF VALVE
12. COUPLING

1 TRIPLEX DOMESTIC WATER BOOSTER PUMP SYSTEM
SCALE: NONE

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NO.	DESCRIPTION	DATE
2	ISSUED FOR BID	9/9/24
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PROJECT
CAPITAL PROJECT 2098 HEALTH CENTER BUILDING IMPROVEMENTS BUILDING A DOMESTIC WATER BOOSTER PUMP REPLACEMENT
50 SANATORIUM ROAD
POMONA, NY 10970

DRAWING TITLE
PLUMBING DETAILS

SEAL	SCALE	PROJECT NO.
	AS NOTED	RCK0019.00
	DRAWN BY JC	DRAWING NO.
	CHECKED BY RS	P7.1
	DATE 04/23/24	

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SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
	-	CONDUIT AND WIRING
	-	CONDUIT & WIRING TO BE REMOVED UON
—UG—	-	BURIED CONDUIT
—OH—	-	OVERHEAD CONDUCTORS
	-	HOMERUN TO PANEL, ARROWS INDICATE # 1P
	-	MULTI-POLE HOMERUN
	-	ELECTRICAL EQUIPMENT AS INDICATED
	-	ELECTRICAL EQUIPMENT TO BE REMOVED UON
M	-	ELECTRIC METER
J	-	JUNCTION BOX
F	-	FUSED DISCONNECT SWITCH
F	-	UNFUSED DISCONNECT SWITCH
F	-	COMBINATION MOTOR STARTER/FUSED DISC.
	-	MOTOR STARTER
	-	MOTOR
	-	BATTERY PACK EMERGENCY LIGHT FIXTURE
	-	EXIT LIGHT, FACES-SHADED, CHEVRON-ARROW
S_x	-	SINGLE POLE SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)
S_x^3	-	THREE WAY SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)
S_x^4	-	FOUR WAY SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)
S_x^{DM}	-	DIMMER SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)
S_M	-	MOTOR RATED TOGGLE SWITCH
S_K	-	KEY OPERATED SINGLE POLE SWITCH
S_V	-	SPEED CONTROLLER (FB0)
	-	DUPLEX RECEPTACLE
	-	DOUBLE DUPLEX RECEPTACLE
	-	SPECIAL RECEPTACLE
MD	-	SECURITY MOTION DETECTOR
KP	-	KEY PAD
PA	-	PANIC ALARM
	CB	CIRCUIT BREAKER
	-	ENCLOSED CIRCUIT BREAKER
200A 150A	-	FUSED SWITCH
OR	GND	GROUND AS PER LOCAL CODE
	-	GROUND BAR
OR	-	GROUND ROD
	-	TRANSFER SWITCH
OR T	XFMR	TRANSFORMER
	CT	CURRENT TRANSFORMER
	-	UTILITY POLE
WM	WM	WATER MAIN
B	-	BOILER BREAK GLASS STATION
	NC	NORMALLY CLOSED CONTACTS
	NO	NORMALLY OPEN CONTACTS
	CV	CONTROL VALVE
M	MD	MOTORIZED DAMPER
	SD OR CFSD	SMOKE DAMPER
UH	UH	UNIT HEATER
CL	CL	CLOCK
	A	AIR TERMINAL

ABBREVIATION	DESCRIPTION
A	AMPERE(S)
AC	AIR CONDITIONER
ACC	AIR CONDITIONER CONDENSER
AFF	ABOVE FINISHED FLOOR
AF	AMPERAGE OF FUSE
AGL	ABOVE GRADE LEVEL
AHU	AIR HANDLING UNIT
AL	ALUMINIUM
ARC	ARC FAULT INTERRUPTER
AS	AMPERAGE OF SWITCH
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CP	CONTROL PANEL
CKT	CIRCUIT
CLG	CEILING
COL	COLUMN
CU	COPPER
CUH	CABINET UNIT HEATER
DEM.	DEMOLISH AND REMOVE
DISC	DISCONNECT
DIM	DIMMER
DWG	DRAWING
EMT	ELECTRICAL METALLIC TUBING
EM	EMERGENCY
EX.	EXISTING TO REMAIN
F	FLOOR
FBO	FURNISHED BY OTHERS
FC	FAN COIL UNIT
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
HP	HORSEPOWER
HVAC	HEATING VENTILATION AIR CONDITIONING
IMC	INTERMEDIATE METAL CONDUIT
KVA	KILO-VOLT-AMPERE
KW	KILO-WATT
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MLO	MAIN LUG ONLY
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OH	OVERHEAD
P	POLE
PBO	PROVIDED BY OTHERS
PNL	PANEL
PVC	POLY VINYL CHLORIDE
REL.	REMOVE AND RELOCATE
REM.	REMOVE AND REINSTALL.
RTU	ROOF TOP UNIT
SCH	SCHEDULE
SPD	SURGE PROTECTION DEVICE
SW	SWITCH(ES)
TELCO	TELEPHONE COMPANY
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UV	UNIT VENTILATOR
VIF	VERIFY IN FIELD
V	VOLT(S)
VSD	VARIABLE SPEED DRIVE
WG	WIRE GUARD
WH	WATER HEATER
WP	WEATHERPROOF

NOTES:
1.) ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE APPLICABLE FOR THIS PROJECT.
2.) SEE LIGHTING FIXTURE SCHEDULE FOR LIGHT FIXTURE SYMBOLS.

TYPICAL BRANCH CIRCUIT WIRING LEGEND

2-#12 & 1-#12 GND (1-1P-20A OR 1-1P-15A CB)

3-#12 & 1-#12 GND (3P-20A OR 3P-15A CB)

2-#12 & 1-#12 GND (2P-20A OR 2P-15A CB)

13 — CIRCUIT # / RECEPTACLE

15 — A — LIGHT FIXTURE TYPE; a — SWITCH CONTROL; LIGHT FIXTURE CIRCUIT #

NOTES:
1. EACH 120V AND 277V CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR. SHARED NEUTRAL HOMERUNS ARE NOT PERMITTED.
2. CONDUCTORS SHALL BE INCREASED FOR VOLTAGE DROP AND DERATING AS PER APPLICABLE ELECTRICAL CODE. FOR CIRCUITS THAT ARE BETWEEN 100' AND 150' IN LENGTH, PHASE AND NEUTRAL CONDUCTORS SHALL BE #10 AWG. FOR CIRCUITS THAT ARE BETWEEN 150' AND 225' IN LENGTH, PHASE AND NEUTRAL CONDUCTORS SHALL BE #8 AWG. FOR LENGTHS GREATER THAN 225' IN LENGTH, VERIFY CONDUCTOR SIZES WITH ENGINEER.

DEFINITION OF TERMS

1. WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "CLIENT" IS USED, IT MUST BE UNDERSTOOD THAT "ROCKLAND COUNTY" IS INTENDED.
2. WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "ENGINEER" IS USED, IT MUST BE UNDERSTOOD THAT "OLA CONSULTING ENGINEERS" IS INTENDED.
3. "WORK" MUST BE DEEMED TO CONSIST OF ALL LABOR AND OPERATIONS, TRANSPORTATION, HOISTING, MATERIALS, TOOLS, EQUIPMENT, SERVICES, INSPECTIONS, INVESTIGATIONS, COORDINATION AND SUPERVISION REQUIRED AND / OR REASONABLY NECESSARY TO PRODUCE THE CONSTRUCTION REQUIRED BY THE CONTRACT DOCUMENTS.
4. "FURNISH" MEANS THE DESIGN, FABRICATION, PURCHASE AND DELIVERY TO THE JOB SITE.
5. "INSTALL OR INSTALLATION" MEANS THE ACT OF PHYSICALLY PLACING, APPLYING, SETTING, ERECTING, ANCHORING, SECURING, ETC., CONSTRUCTION MATERIALS, EQUIPMENT, FURNISHINGS, APPLIANCES, AND SIMILAR ITEMS SPECIFIED AND FURNISHED AT THE JOB SITE. INSTALLATION OF SPECIFIED ITEMS MUST BE COMPLETE IN ALL RESPECTS.
6. "PROVIDE" MEANS TO FURNISH AND INSTALL CONSTRUCTION MATERIAL, EQUIPMENT, ETC. AS DEFINED ABOVE.
7. THE FOLLOWING ARE DEFINITIONS OF SHOP DRAWING STAMP ACTIONS:

A. "NO EXCEPTIONS TAKEN" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY COMMENCE.

B. "MAKE CORRECTIONS NOTED" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS, SUBJECT TO AND IN COMPLIANCE WITH THE ANNOTATIONS AND/OR CORRECTIONS INDICATED ON THE SHOP DRAWING. FABRICATION AND/OR PURCHASE MAY COMMENCE.

C. "AMEND AND RESUBMIT" MEANS THAT THE COMMENTS AND/OR CORRECTION ARE SO EXTENSIVE AND IMPORTANT THAT THE REVIEWER WANTS TO SEE HOW THE COMMENTS AND/OR CORRECTIONS ARE RESOLVED PRIOR TO RELEASE FOR FABRICATION AND/OR PURCHASE. FABRICATIONS AND/OR PURCHASE MAY NOT COMMENCE.

D. "REJECTED" MEANS THAT THE SHOP DRAWING DOES NOT COMPLY OR CONFORM TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY NOT COMMENCE.

GENERAL NOTES

1. ALL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED (UON) EXISTING TO REMAIN (EX.).
2. THE DRAWINGS ARE TO BE CONSIDERED SCHEMATIC ONLY AND DO NOT NECESSARILY SHOW THE EXACT LOCATIONS AND DETAILS OF THE WORK TO BE INSTALLED.
3. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING OF WORK AND COORDINATE NEW WORK.
4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND PAYING ALL FEES ASSOCIATED WITH THIS WORK INCLUDING FILING WITH THE UTILITY COMPANY (AS REQUIRED), AND WITH LOCAL AUTHORITY HAVING JURISDICTION.
5. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO HIRE A THIRD PARTY ELECTRICAL INSPECTION AGENCY TO PROVIDE UL INSPECTIONS AND SUBMIT A CERTIFICATE OF INSPECTION PRIOR TO FINAL REQUEST FOR PAYMENT.
6. ALL CONDUCTORS SHALL BE COPPER UON "ON DRAWINGS".
7. ELECTRONIC FILES OF THE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS ARE AVAILABLE TO THE CONTRACTOR. THE ENGINEER MAY GRANT THE CONTRACTOR A LIMITED LICENSE TO MAKE A DERIVATIVE WORK OF THE DATABASE FOR THE PURPOSE OF SHOP DRAWINGS, SUBMITTALS AND AS-BUILT DRAWINGS. UPON REQUEST, THE ENGINEER SHALL PROVIDE A RELEASE FORM THAT MUST BE SIGNED AND RETURNED BY THE CONTRACTOR PRIOR TO RELEASE OF THE ELECTRONIC FILES.
8. CIRCUIT NUMBERS ARE FOR INFORMATION PURPOSES ONLY. ACTUAL CIRCUIT NUMBERS SHALL BE DETERMINED IN THE FIELD.
9. UNLESS OTHERWISE NOTED, DISCONNECT SWITCHES, STARTERS, HOAS AND MOTOR RATED TOGGLE SWITCHES FOR MECHANICAL PUMPS, CABINET AND UNIT HEATERS, RETURN FANS, ROOF FANS, VAV BOXES, COMPRESSORS, FAN COIL UNITS, AIR HANDLERS AND CONDENSERS SHALL BEE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE ALL WORK WITH THE MECHANICAL CONTRACTOR.
10. CORE DRILLING OR TRENCHING THROUGH AN EXISTING FLOOR SLAB, WHEN REQUIRED, SHALL BE COORDINATED WITH THE OWNER. FLOOR SLABS SHALL BE RADAR SCANNED PRIOR TO CORE DRILLING OR TRENCHING. ALL WORK, INCLUDING CORE DRILLING, RADAR SCAN, INSTALLATION OF FIRE STOPPING, & CONDUIT/CABLE INSTALLATION SHALL BE PERFORMED DURING NON-BUSINESS HOURS AND INCLUDED IN BASE BID. USE EXTREME CAUTION DURING ANY CUTTING OPERATION TO AVOID DAMAGE TO EXISTING EQUIPMENT/SYSTEMS. ANY ITEMS DAMAGED AS A RESULT OF CORE DRILLING SHALL BE REPAIRED AT NO COST TO THE CLIENT. ALL CORES SHALL BE FIRE SEALED.
11. INSTALL CONDUIT EXPANSION FITTINGS AT ALL LOCATIONS WHERE CONDUITS CROSS BUILDING OR STRUCTURE EXPANSION JOINTS.
12. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CUTTING, PATCHING, PAINTING, AND FINAL RESTORATION REQUIRED TO FACILITATE THE DEMOLITION AND INSTALLATION OF ALL ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO PANELBOARDS, CONDUITS, WIRING, DEVICES, FIXTURES, ETC. INCLUDING ABOVE CEILINGS. CONTRACTOR TO REMOVE AND REPLACE CEILINGS, AND OPEN AND PATCH WALLS, AS REQUIRED TO EXECUTE THE ELECTRICAL WORK.
13. ALL CONDUITS SHALL BE RECESSED IN NEW WALLS. SURFACE MOUNTED CONDUITS WILL ONLY BE ACCEPTED IN EXISTING AREAS WHERE ABSOLUTELY NECESSARY.
14. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING CEILINGS IN AREAS OF WORK WHERE THE CEILINGS ARE DUE TO REMAIN. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING TO REMAIN CEILINGS OR CEILING TILES CAUSE BY THE ELECTRICAL SCOPE OF WORK.
15. ALL CONDUCTORS INSTALLED BETWEEN VFDS AND ASSOCIATED MOTORS SHALL BE XHHW-2, 1000V IN RGS, IMC, EMT FMC OR LFMC.

DEMOLITION NOTES

1. ALL EQUIPMENT SHALL BE DISCONNECTED AND REMOVED BACK TO POWER SOURCE ORIGINATION UNLESS OTHERWISE NOTED (UON) EXISTING TO REMAIN (EX.).
2. CONTRACTOR SHALL VERIFY EXTENT OF DEMOLITION WORK IN THE FIELD PRIOR TO BID AND SHALL INCLUDE ALL LABOR AND MATERIALS IN BASE BID INCLUDING ALL TEMPORARY CONNECTIONS, CONDUIT AND WIRE IN ORDER TO ACCOMMODATE CONSTRUCTION AND PROVIDE CONTINUOUS SERVICE TO DEVICES AND SYSTEMS TO REMAIN, TEMPORARY AND PERMANENTLY. WORK REQUIRING THE SHUT-DOWN OF THE BUILDING POWER SHALL BE PERFORMED DURING OVERTIME AND SHALL BE INCLUDED IN BASE BID.
3. CIRCUIT BREAKER, DISCONNECT SWITCHS, FUSES, CONDUIT AND CONDUCTOR SIZES INDICATED SHALL BE FIELD VERIFIED PRIOR TO BID.
4. ALL EXISTING ELECTRICAL EQUIPMENT NO LONGER IN USE, SUCH AS DISCONNECT SWITCHES, MOTOR CONTROLLERS, MOTOR STARTER PANELS, ETC. SHALL BE REMOVED UON.
5. ALL DISCONNECTED & REMOVED EXISTING ELECTRICAL ITEMS THAT ARE NOT BEING REUSED SHALL BE RETURNED TO THE OWNER OR DISPOSED OF AS DIRECTED.
6. THE CONTRACTOR SHALL INCLUDE IN THE BASE BID FOR ALL MATERIAL & LABOR REQUIRED FOR THE EXTENSIONS, REROUTING & RELOCATION OF EXISTING SYSTEM COMPONENTS, EQUIPMENT, WIRING, CONDUITS & CABLING SO AS TO MAINTAIN OPERATION OF ALL SYSTEMS THROUGHOUT THE BUILDING DURING DEMOLITION & CONSTRUCTION PHASES.

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1	ISSUED FOR 100% REVIEW	5/15/24

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PROJECT

CAPITAL PROJECT 2098 HEALTH CENTER BUILDING IMPROVEMENTS BUILDING A DOMESTIC WATER BOOSTER PUMP REPLACEMENT

50 SANATORIUM ROAD
POMONA, NY 10970

DRAWING TITLE

ELECTRICAL ABBREVIATIONS, SYMBOLS AND NOTES

SEAL	SCALE	PROJECT NO.
	AS NOTED	RCK0019.00
	DRAWN BY GD	DRAWING NO.
	CHECKED BY RS	E0.1
	DATE 04/23/24	

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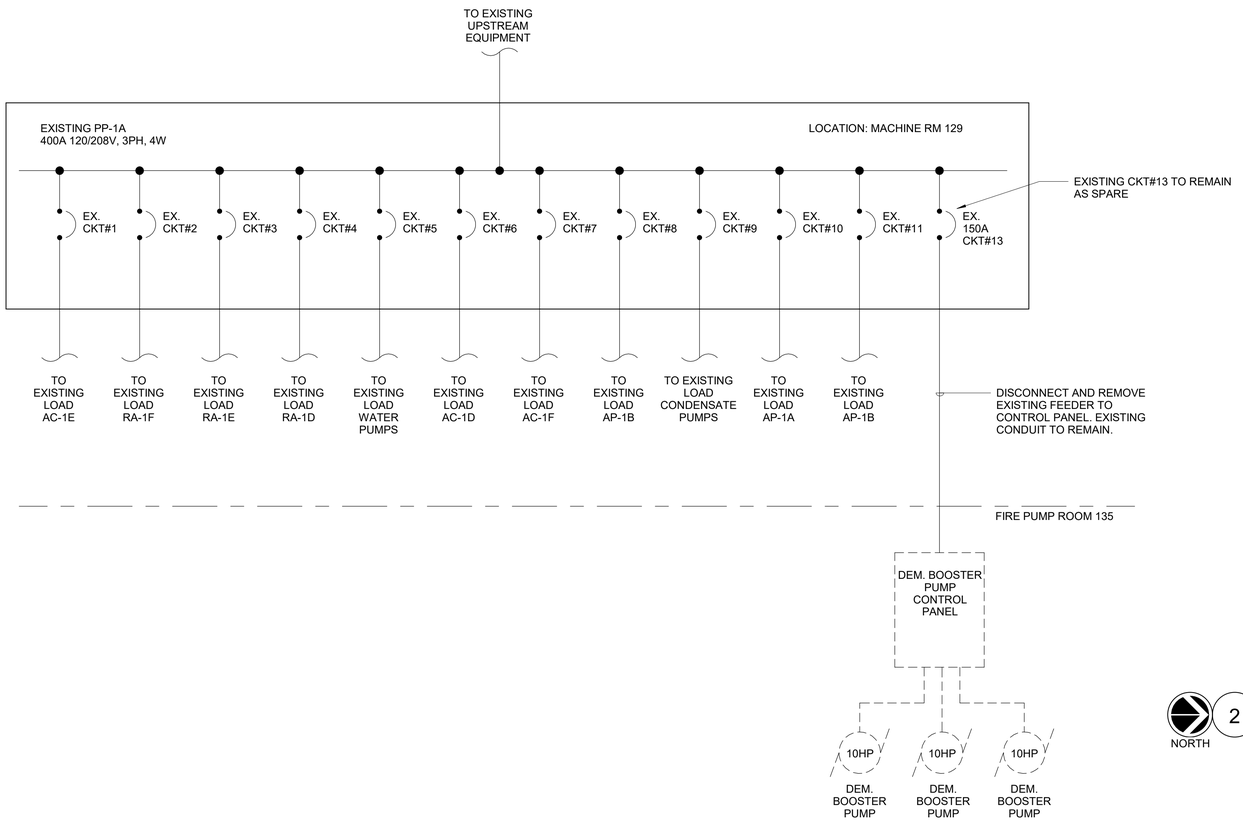
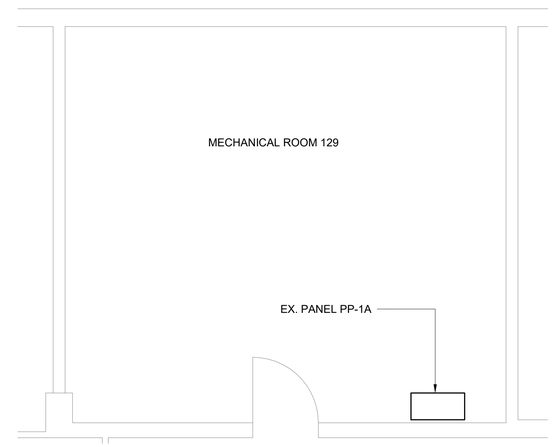


4 PP-1 SINGLE LINE DEMOLITION

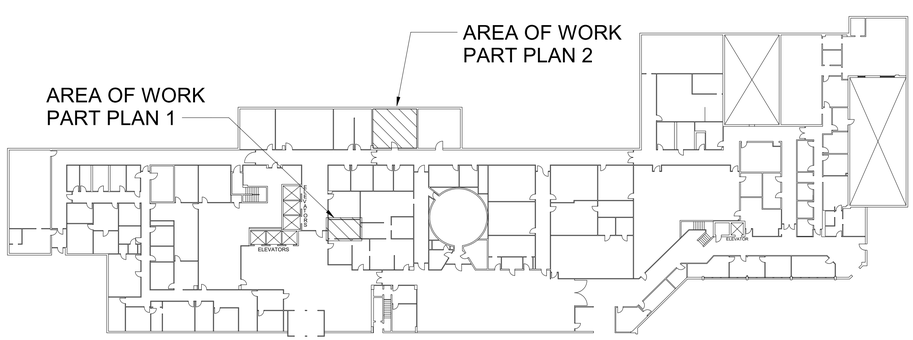
SCALE:NONE



NORTH 2 LEVEL 01 EXISTING ELECTRICAL PLAN MACHINE ROOM-129

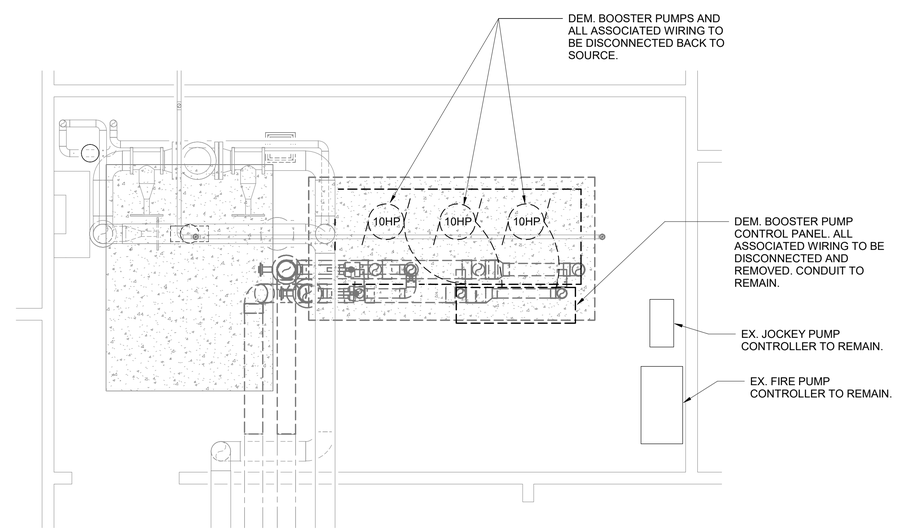
SCALE: 1/4" = 1'-0"

NOTE: NOT ALL EXISTING EQUIPMENT IS SHOWN IN THE ROOM.



3 LEVEL 01 KEY PLAN

SCALE: 1" = 40'-0"



NORTH 1 LEVEL 01 EXISTING ELECTRICAL PLAN FIRE PUMP ROOM 135

SCALE: 1/2" = 1'-0"

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Rockland County

Facilities Management

Robert H. Gruffi, P.E., LEED AP
Director Facilities Management

Rockland County Courthouse
1 South Main Street
New City, NY 10956

NO.	DESCRIPTION	DATE
2	ISSUED FOR BID	9/9/24
1	ISSUED FOR 100% REVIEW	5/15/24

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PROJECT

CAPITAL PROJECT 2098 HEALTH CENTER BUILDING IMPROVEMENTS BUILDING A DOMESTIC WATER BOOSTER PUMP REPLACEMENT

50 SANATORIUM ROAD
POMONA, NY 10970

DRAWING TITLE

ELECTRICAL DEMOLITION PLAN

SEAL

SCALE	AS NOTED
PROJECT NO.	RCK0019.00
DRAWN BY	GD
DRAWING NO.	E1.1
CHECKED BY	RS
DATE	04/23/24

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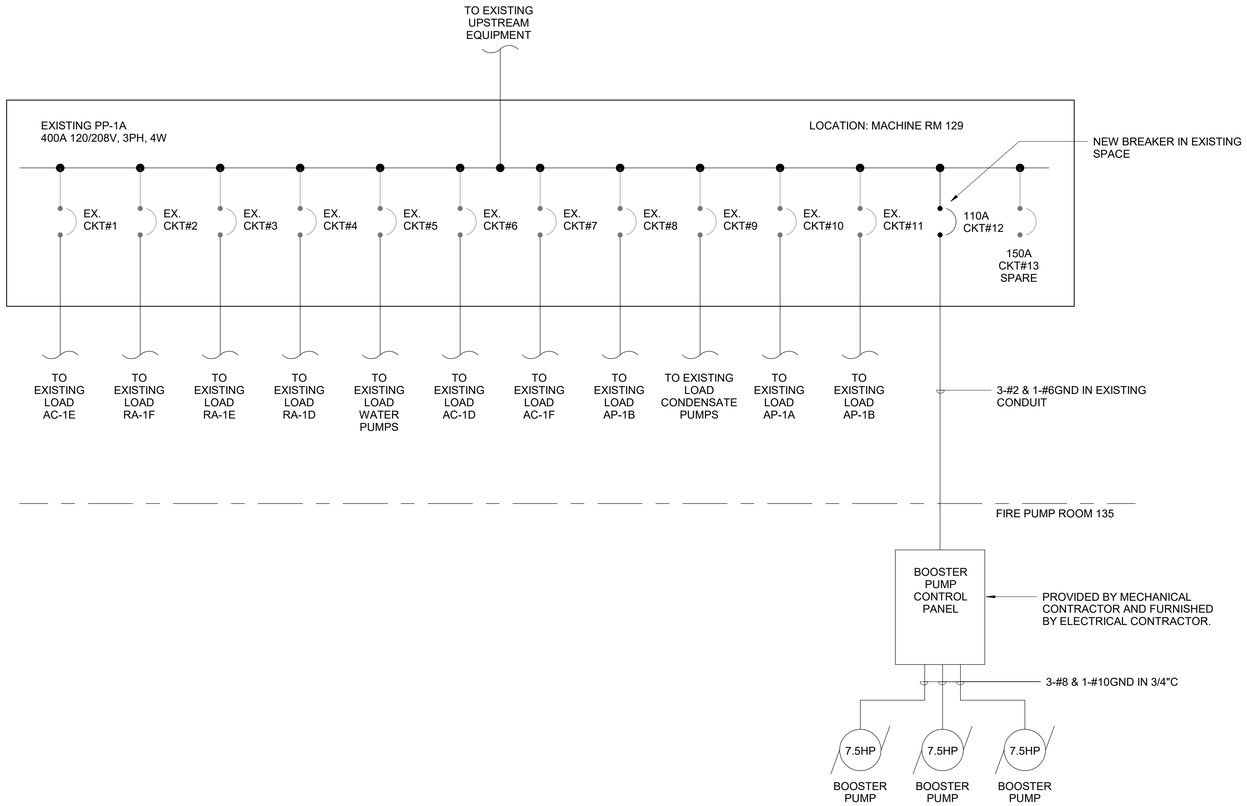
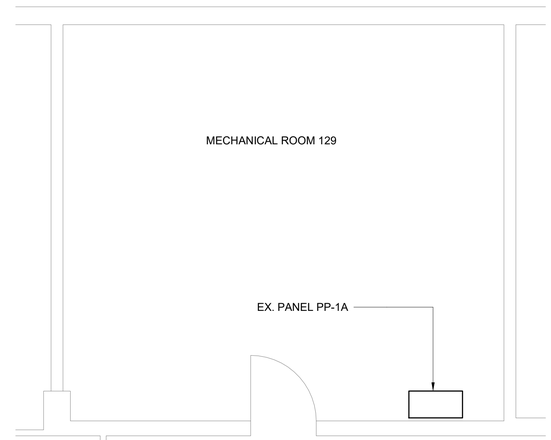


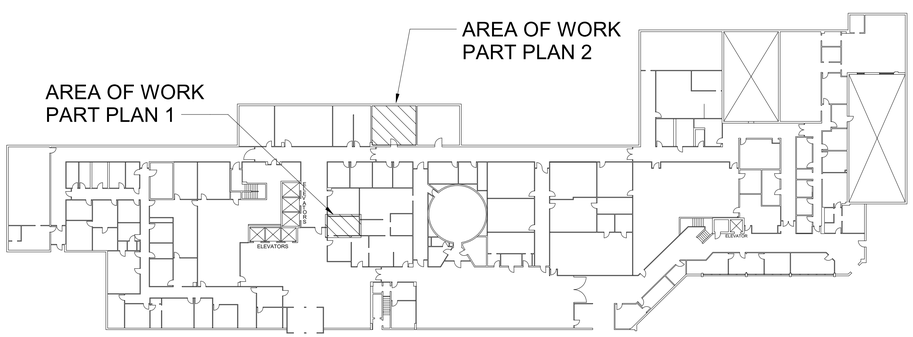
4 PP-1 SINGLE LINE NEW WORK

SCALE:NONE



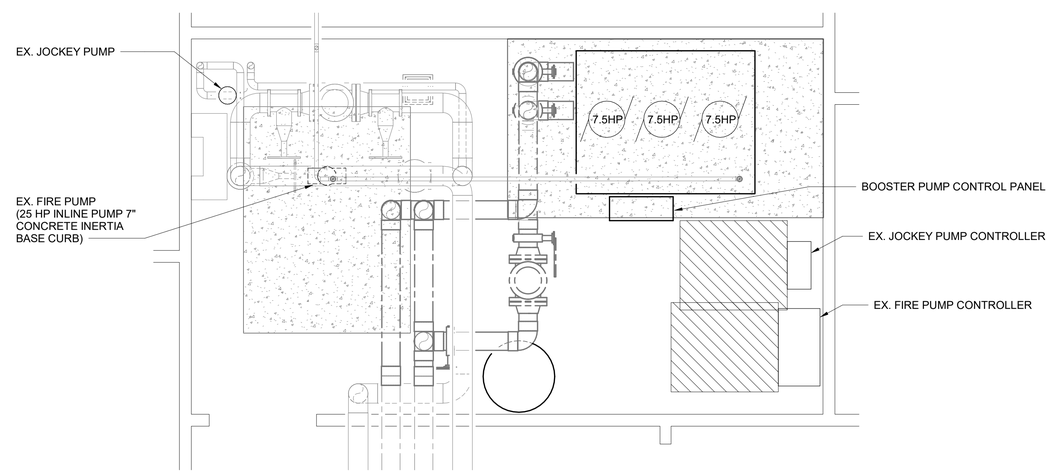
2 LEVEL 01 EXISTING ELECTRICAL PLAN MACHINE ROOM 129

SCALE: 1/4" = 1'-0" NOTE: NOT ALL EXISTING EQUIPMENT IS SHOWN IN THE ROOM.



3 LEVEL 01 KEY PLAN

SCALE: 1" = 40'-0"



1 LEVEL 01 ELECTRICAL PLAN NEW WORK

SCALE: 1/2" = 1'-0"

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CAPITAL PROJECT 2098 HEALTH CENTER BUILDING IMPROVEMENTS BUILDING A DOMESTIC WATER BOOSTER PUMP REPLACEMENT

50 SANATORIUM ROAD
POMONA, NY 10970

DRAWING TITLE

ELECTRICAL NEW WORK PLAN

SEAL

SCALE	PROJECT NO.
AS NOTED	RCK0019.00
DRAWN BY: GD	DRAWING NO.
CHECKED BY: JF	E1.2
DATE: 04/23/24	

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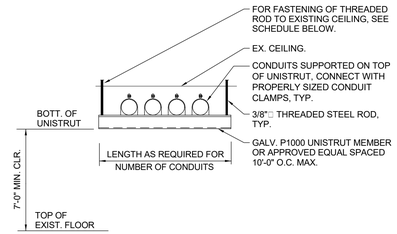
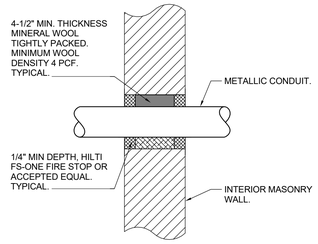
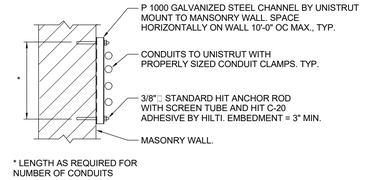


CEILING CONSTRUCTION	ANCHOR TYPE	EMBEDMENT
NORMAL WT. CONC	HILTI HDI DROP-IN ANCHOR	1" MIN.
CINDER CONCRETE	HILTI KWIK BOLT II	3" MIN.
HOLLOW CONSTRUCTION	TOGGLE BOLTS	NA

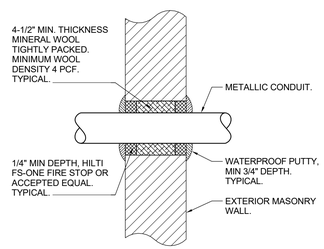
7 TRAPESE SUPPORT DETAIL
SCALE: NONE



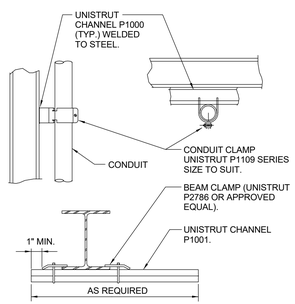
3 TYPICAL INTERIOR MASONRY WALL CONDUIT PENETRATION DETAIL
SCALE: NONE



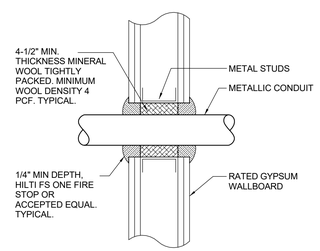
6 TYPICAL CONDUIT SUPPORT ON MASONRY DETAIL
SCALE: NONE



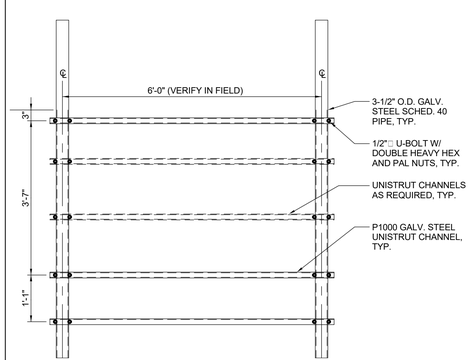
2 TYPICAL EXTERIOR MASONRY WALL ABOVE GRADE CONDUIT PENETRATION DETAIL
SCALE: NONE



9 STRUCTURAL STEEL CONDUIT SUPPORTED FROM
SCALE: NONE

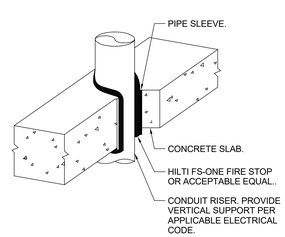


5 WALL PENETRATION DETAIL
SCALE: NONE

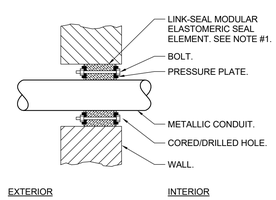


8 EQUIPMENT SUPPORT FRAME DETAIL
SCALE: NONE

NOTE:
1.) DESIGN TYPICAL FOR MOUNTING ALL WALL MOUNTED POWER EQUIPMENT.



4 TYPICAL VERTICAL CONDUIT PENETRATION DETAIL
SCALE: NONE



NOTES:
1. SEAL ASSEMBLY BASED ON MODEL "C" LINK-SEAL MODULAR SEAL, WITH EPDM SEAL ELEMENT, REINFORCED NYLON POLYMER PRESSURE PLATES, STEEL WITH 2-PART ZINC DICHROMATE & CORROSION INHIBITING COATING NUTS AND BOLTS AND WITH A OPERATING TEMPERATURE RANGE OF -40°F TO +250°F.
2. PROVIDE AND INSTALL TWO SEALS WHEN PENETRATED WALL THICKNESS IS GREATER THAN 12".
3. PROVIDE SCHEDULE 80 WALL SLEEVE FOR NEW WALL CONSTRUCTION PER MANUFACTURER'S REQUIREMENTS.

1 TYPICAL EXTERIOR MASONRY WALL BELOW GRADE CONDUIT PENETRATION DETAIL
SCALE: NONE

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DRAWING TITLE

ELECTRICAL DETAILS

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	AS NOTED	RCK0019.00
	DRAWN BY GD	DRAWING NO.
	CHECKED BY RS	E7.1
	DATE 04/23/24	

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