

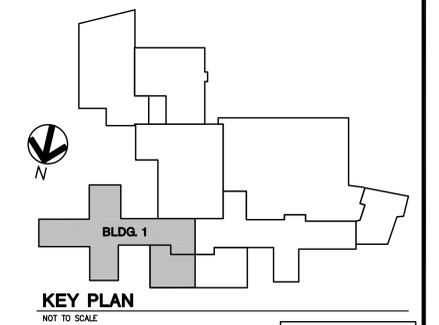
**GENERAL PLUMBING DEMOLITION NOTES:**

- ASBESTOS TESTING HAS BEEN PERFORMED THROUGHOUT THE PROJECT AREA AND IT HAS BEEN DETERMINED NO ASBESTOS IS PRESENT. IN THE EVENT THAT ASBESTOS OR OTHER SUSPECT MATERIAL IS FOUND IN THE COURSE OF WORKING, CONTRACTOR IS TO SUSPEND WORK IN THAT AREA AND CONTACT THE OWNER.
- DISCONNECT AND REMOVE ALL PREVIOUSLY ABANDONED PIPING. REMOVE EXISTING/ABANDONED HANGERS AND SUPPORTS IF DEEMED NOT REUSABLE.
- ALL PIPING SHOWN IS BASED ON ORIGINAL DRAWINGS AND FIELD VERIFICATION OF MAINS. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE ROUTE AND TO VERIFY ALL EXISTING CONDITIONS OF BRANCH PIPING TO INDIVIDUAL AND GANG-FITURE LOCATIONS. ALL DEMOLISHED PIPING SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- ALL PIPING ASSOCIATED WITH EXISTING SYSTEMS TO BE REMOVED SHALL BE DEMOLISHED. NO PIPING SHALL BE ABANDONED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DRAINING PIPING SYSTEMS TO BE CUT, CAPPED, OR REMOVED. DISCHARGE FROM SUCH SYSTEMS SHALL BE APPROPRIATELY DISPOSED PER FEDERAL, STATE AND LOCAL REQUIREMENTS.
- THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ANY EQUIPMENT THE MAINTENANCE DEPARTMENT MAY WISH TO RETAIN AFTER REMOVAL. THE CONTRACTOR SHALL BE RESPONSIBLE TO DISPOSE OF ALL REMOVED AND/OR DEMOLISHED EQUIPMENT THE OWNER CHOOSES NOT TO RETAIN.
- ALL PLUMBING FIXTURES AND/OR ARCHITECTURAL FEATURES TEMPORARILY REMOVED DURING DEMOLITION FOR ACCESS TO DEMO AND/OR NEW WORK AND FUTURE RECONNECTION/REINSTALLATION, SHALL BE REINSTALLED UNDER WORK REQUIRED ON THESE DRAWINGS. ALL COMPONENTS SHALL BE REINSTALLED AND FINISHED TO ORIGINAL CONDITION OR REPLACED WITH NEW UNDER THIS CONTRACT.
- COORDINATE WITH GENERAL CONTRACTOR FOR FLOOR, WALL AND ROOF PATCHING REQUIRED DUE TO PENETRATIONS RESULTING FROM DEMOLITION OF EXISTING AND INSTALLATION OF NEW MECHANICAL EQUIPMENT AND COMPONENTS.
- REFER TO SPECIFICATIONS FOR UTILITY TIE-IN AND DISRUPTION REQUIREMENTS.
- (48) FORTY-EIGHT HOUR WRITTEN NOTICE SHALL BE GIVEN TO THE OWNER PRIOR TO DISRUPTION OF UTILITIES OR SERVICES TO OR WITHIN THE BUILDING, SUBJECT TO THE OWNER'S APPROVAL. SEE SPECIFICATION SECTION 00 00 GENERAL REQUIREMENTS.

**PLUMBING DEMOLITION KEYED NOTES:**

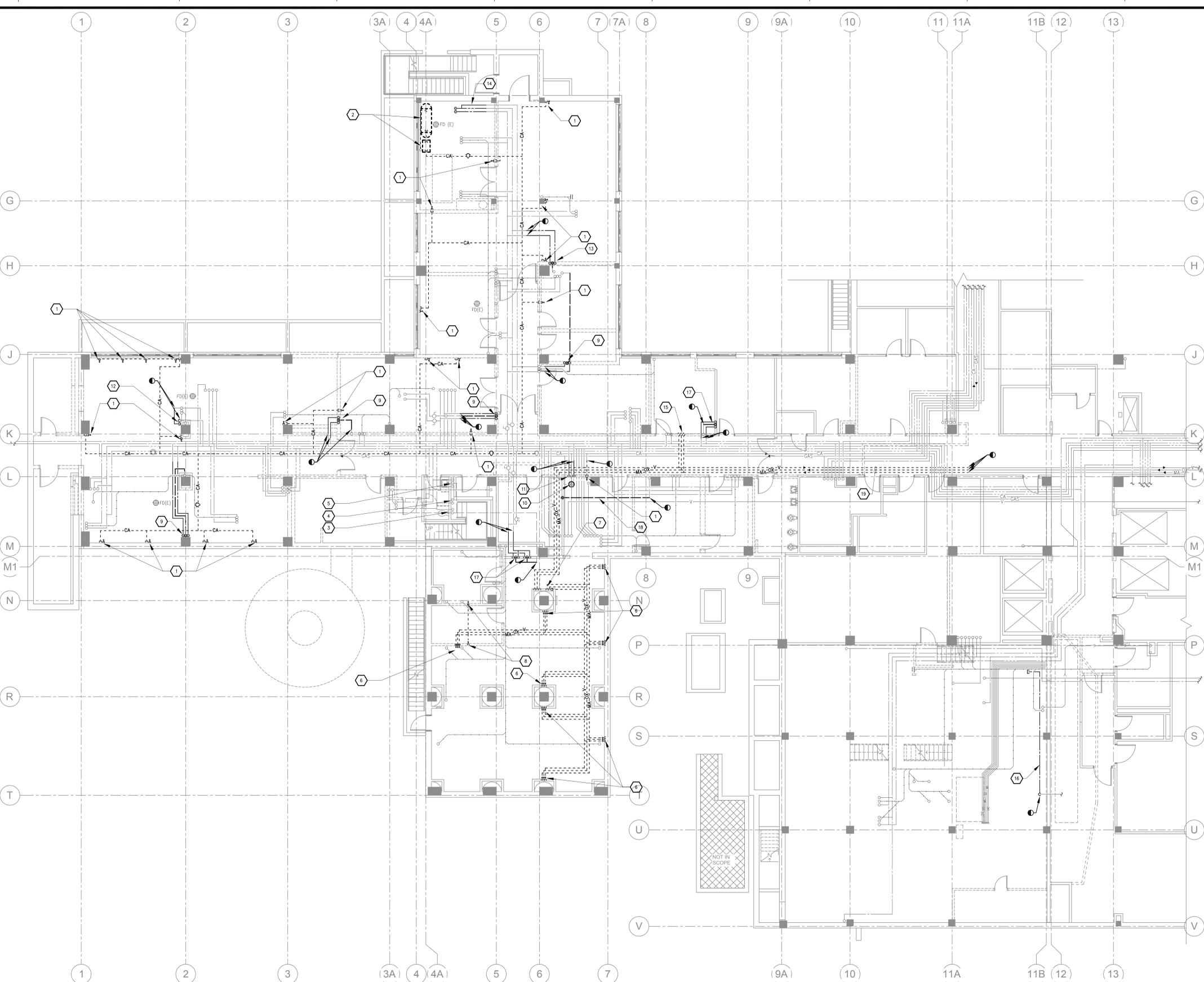
- REMOVE EXISTING COMPRESSED AIR OUTLET AND ASSOCIATED PIPING.
- RELOCATE EXISTING AIR COMPRESSOR AND DRYER AS SHOWN ON NEW WORK PLAN.
- REMOVE EXISTING WC. PIPING TO REMAIN FOR CONNECTION TO NEW FIXTURE.
- REMOVE EXISTING UR AND CAP ASSOCIATED PIPING.
- REMOVE EXISTING LAV. PIPING TO REMAIN FOR CONNECTION TO NEW FIXTURE.
- REMOVE EXISTING MA, VAC AND OX OUTLETS AND ASSOCIATED PIPING.
- REMOVE EXISTING MED GAS VALVE BOX.
- REMOVE EXISTING MA OUTLET AND ASSOCIATED PIPING.
- REMOVE EXISTING SINK AND ASSOCIATED UTILITIES. CAP WASTE BELOW FLOOR. CAP VENT, CW AND HW AS SHOWN.
- REMOVE EXISTING FLOOR DRAIN AND ASSOCIATED UTILITIES. CAP WASTE BELOW FLOOR. CAP VENT AS SHOWN.
- REMOVE EXISTING CW AND HW, CAP AS SHOWN.
- REMOVE EXISTING WASTE AND CW SERVING EQUIPMENT. CAP WASTE AT MAIN RISER AND CAP CW AS SHOWN.
- REMOVE EXISTING SINK, ELECTRIC WATER COOLER AND ASSOCIATED UTILITIES. CAP WASTE BELOW FLOOR. CAP VENT, CW AND HW AS SHOWN.
- REMOVE EXISTING CW, HW AND HWC.
- REMOVE EXISTING MASTER MED GAS ALARM PANEL AND ASSOCIATED SENSORS AND PIPING. PANEL AND SENSORS SHALL NOT BE REMOVED UNTIL NEW MASTER ALARM PANEL AND SENSORS ARE INSTALLED AND OPERATIONAL.
- REMOVE EXISTING CW AND CAP.
- REMOVE EXISTING ABANDONED VENT, CW AND HW IN WALL. CAP AS SHOWN.
- REMOVE EXISTING VENT AND CAP.
- REMOVE EXISTING VAC, OX AND MA, VALVE AND CAP.

RECERTIFICATION OF (E) VAC, OX AND MA SHALL BE PROVIDED PER NFPA 99 REQUIREMENTS.



**1-B**

**Veterans Administration**



**BASEMENT - PLUMBING DEMOLITION PLAN**  
1/8" = 1'-0"

Revisions	Date

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Drawing Title <b>BASEMENT PLUMBING DEMOLITION PLAN</b>	Project Title <b>RENOVATE AND EXPAND SPACE FOR PATIENT SUPPORT AREAS</b>	Date 12-17-2012 CONSTRUCTION DOCUMENTS
Approved: Division Chief	Building Number 1	Checked TRF
Approved: Service Director	Location IOWA CITY VA HEALTH CARE SYSTEM IOWA CITY, IOWA	Drawn MSJ
Project No. DVA#636-311 S-H#110240-0		DRAWING NO. <b>1-B-PD1</b>
		Dwg. 1 of 15



**PLUMBING GENERAL NOTES:**

- ALL WORK IS TO BE DONE IN A NEAT AND WORKMANLIKE MANNER USING ACCEPTABLE TRADE PRACTICES AND INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
- PLUMBING IS SHOWN IN SCHEMATIC FORM. ROUTE AS REQUIRED FOR CLEARANCE WITH STRUCTURAL CONDITIONS AND COORDINATE WITH OTHER TRADES FOR NEW WORK.
- (48) FORTY-EIGHT HOUR NOTICE SHALL BE GIVEN TO THE OWNER PRIOR TO DISRUPTION OF UTILITIES OR SERVICES TO OR WITHIN THE BUILDING. REFER TO SPECIFICATION SECTION 22 40 00 FOR REQUIREMENTS.
- BREAK CONNECTIONS ARE REQUIRED AT ALL MAJOR EQUIPMENT AND ALL PIPING ITEMS THAT REQUIRE REMOVAL FOR MAINTENANCE.
- PIPE REDUCTIONS ON HORIZONTAL PIPING GOING FROM LARGER TO SMALLER SHALL BE MADE WITH ECCENTRIC REDUCERS. TOP FLAT FOR LIQUID SYSTEMS. CONCENTRIC REDUCERS MAY BE USED FOR FLOW GOING FROM SMALL TO LARGER SIZE PIPE.
- FIRE SAFE ALL PIPE PENETRATIONS PER UL AT RATED WALLS.
- REFER TO DETAILS FOR ADDITIONAL INFORMATION.
- NEW FLOOR/WALL/CEILING PENETRATIONS REQUIRED FOR PLUMBING INSTALLATION SHALL BE CLEANLY BORED AT RIGHT ANGLES. AS NEW PIPING IS INSTALLED, NEW PIPING PENETRATIONS SHALL BE NEATLY CAULKED TO FULL VOID. EXPOSED WALL PENETRATIONS SHALL BE FINISHED WITH ESCUTCHEONS.
- CONNECTIONS BETWEEN NEW PIPING AND ALL FIXTURES SHALL TYPICALLY INCLUDE VACUUM BREAKERS, WATER HAMMER ARRESTORS, ETC. AS APPLICABLE BY CODE.
- SANITARY WASTE PIPING SHALL BE SLOPED AT 1/4" PER FOOT MINIMUM FOR PIPING UNDER 4" AND 1/8" PER FOOT MINIMUM FOR PIPING 4" AND LARGER.
- STORM PIPING SHALL BE SLOPED AT 1/8" PER FOOT MINIMUM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST ASSOCIATED WITH PERMITS, METERS AND WATER MAIN TAPS.

**PLUMBING KEYED NOTES:**

- 1/2" V, 3/4" CW, AND 3/4" HW DN TO SINK.
- 1/2" V, 3/4" CW AND 3/4" HW DN. ROUTE UNDER COUNTER TO SINK.
- 1/2" V, 3/4" CW AND 3/4" HW DN TO SINK AND R.O. SYSTEM. R.O. SYSTEM SHALL BE COMPLETE WITH FILTERS (5 MICRON SEDIMENT, 5 MICRON CARBON BLOCK, 50GPD 5MIN FILM COMPRESSIBLE MEMBER AND CARBON POST), FILTER RACK, 3 GALLON STORAGE TANK AND DECK MOUNTED FAUCET. FILTER ASSEMBLY AND TANK SHALL BE MOUNTED UNDER COUNTER.
- 1/2" V, 1" CW AND 1" HW DN TO SINK AND DECK MOUNTED EYE WASH. MIXING VALVE FOR EYE WASH TO BE MOUNTED UNDER COUNTER.
- 1/2" V, 3/4" CW, AND 3/4" HW DN TO SINK AND HOT WATER DISPENSER. HOT WATER DISPENSER SHALL BE COMPLETE WITH 1/2 GALLON COPPER TANK, ADJUSTABLE TEMP, SELF-CLOSING HOT VALVE, GROUNDING 3 PRONG (115 VOLT, 4.3 AMPS) AND DECK MOUNTED FAUCET.
- CONNECT EXISTING UTILITIES TO NEW LAVATORY.
- MASTER MEDICAL GAS ALARM PANEL AND SENSORS. NEW PANEL AND SENSORS SHALL BE INSTALLED AND OPERATIONAL PRIOR TO EXISTING PANEL AND SENSORS BEING REMOVED.
- CONNECT EXISTING UTILITIES TO NEW WATER CLOSET.
- 1/2" V, 3/4" CW, AND 3/4" HW DN TO LAVATORY.
- 2" V AND 1 1/2" CW DN TO WATER CLOSET.
- 1" COMPRESSED AIR DN, PROVIDE BALL VALVE AND THREADED FEMALE CONNECTION ABOVE COUNTER.
- MEDICAL GAS VALVE BOX FOR 3/4" MA, 3/4" VAC AND 3/4" OX.
- 3/4" MA, 3/4" VAC AND 3/4" OX DN TO OUTLETS LOCATED ABOVE COUNTER.
- 1/2" CW DOWN TO VALVED CONNECTION FOR OWNER FURNISHED ICE MACHINE.
- 1 1/2" V AND 1/2" CW DOWN TO ELECTRIC WATER COOLER.
- RELOCATED AIR COMPRESSOR, REFRIGERANT DRYER AND FILTERS. ROUTE 3/4" BRAN FROM DRYER TO THE EAST THEN SOUTH ALONG THE SOUTH WALL OF PAINT STG BE17C TO THE EXISTING FLOOR DRAIN.
- CONNECT 2" VENT TO EXISTING VENT IN THIS AREA.
- FD-D, ROUTE 2" ST FROM DRAIN DOWN TO (E) 2" ST IN SUB-BASEMENT.

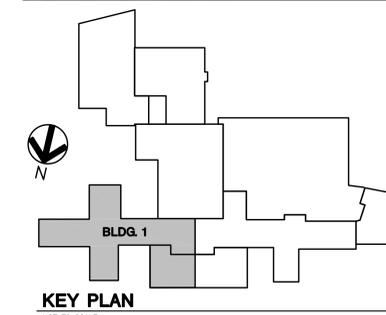
**MEDICAL AIR PIPE SIZING:**  
 ASSUME 1 CFM PER OUTLET WITH MAXIMUM PRESSURE LOSS OF 0.50 PSI PER 100 FT.

**MEDICAL VACUUM PIPE SIZING:**  
 ASSUME 1 CFM PER INLET WITH MAXIMUM PRESSURE LOSS OF 0.50 IN HG PER 100 FT.

**OXYGEN PIPE SIZING:**  
 ASSUME 20 LPM PER OUTLET WITH MAXIMUM PRESSURE LOSS OF 0.50 PSI PER 100 FT.

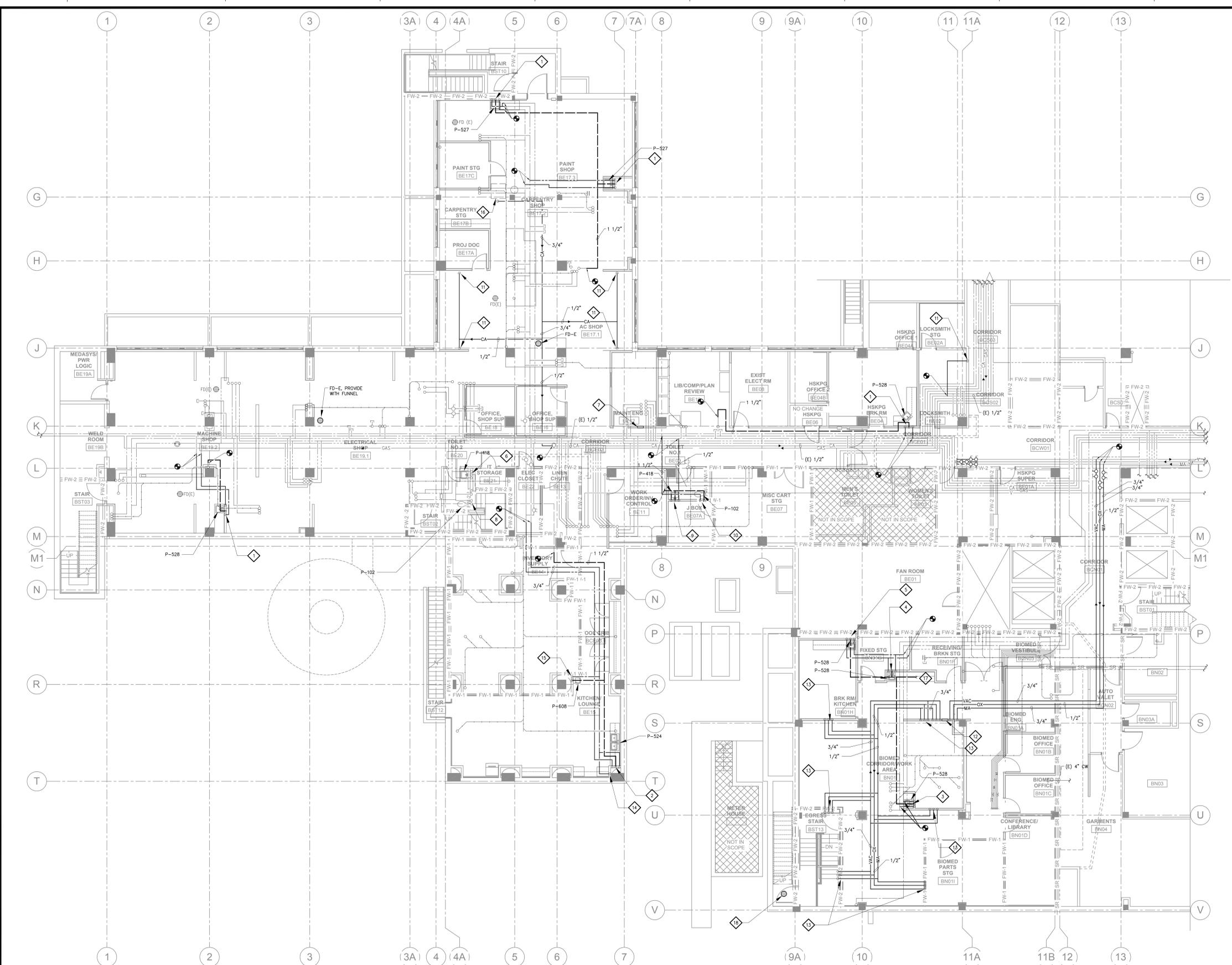
ALL NEW MA, VAC AND OX SHALL BE TESTED AND CERTIFIED PER NFPA 99 REQUIREMENTS.

REFER TO SPECIFICATION SECTION 22 40 00  
 PLUMBING FIXTURES FOR DESCRIPTION OF  
 FIXTURES TO BE PROVIDED.



**1-B**

**Veterans Administration**



**BASEMENT - PLUMBING PLAN**  
 1/8" = 1'-0"

Revisions	Date

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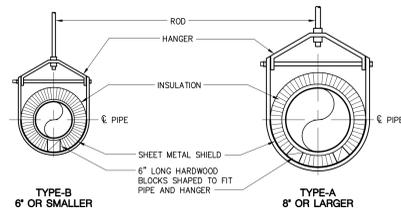
Drawing Title <b>BASEMENT PLUMBING PLAN</b>		Project Title <b>RENOVATE AND EXPAND SPACE FOR PATIENT SUPPORT AREAS</b>		Date: 12-17-2012 CONSTRUCTION DOCUMENTS Project No. DVA#636-311 S-H#110240-0 DRAWING NO. <b>1-B-P1</b> Dwg. 3 of 15	
Approved: Division Chief	Building Number <b>1</b>	Checked TRF	Drawn MSJ	Location IOWA CITY VA HEALTH CARE SYSTEM IOWA CITY, IOWA	
Approved: Service Director		Location IOWA CITY VA HEALTH CARE SYSTEM IOWA CITY, IOWA			

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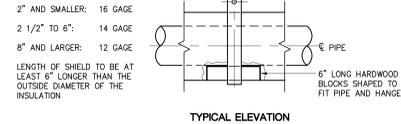
LEGEND		LEGEND	
FITTINGS		VALVES	
PLAN MARK	DESCRIPTION	PLAN MARK	DESCRIPTION
	DIRECTION OF FLOW		3-WAY CONTROL VALVE
	DIRECTION OF PITCH		ANGLE GATE VALVE
	ALIGNMENT GUIDES		ANGLE GLOBE VALVE
	PIPE ANCHOR		BALANCING VALVE
	AIR VENT		BALL VALVE
	CONCENTRIC REDUCER		BUTTERFLY FLY VALVE
	ECCENTRIC REDUCER		CHECK VALVE
	FLEXIBLE CONNECTION		GATE VALVE
	STRAINER		GENERIC VALVE
	STRAINER W/ DRAIN		GLOBE VALVE
	UNION		SAFETY RELIEF VALVE
	PIPE TRAP		STORM/ OVERFLOW DRAINS
	ELBOW DOWN		
	ELBOW UP		
	TEE TURNED DOWN		
	TEE TURNED UP		
	BLIND FLANGE OR WALL CLEANOUT		
	PIPE CAP		
	FLOOR CLEANOUT		
	END RUN CLEANOUT OR PLUG CLEANOUT		
	FLOOR DRAIN		
	WALL OUTLET		
	HOSE BIBB		
	WALL HYDRANT OR FREEZE PROOF HOSE BIBB		
	PRESSURE GAUGE		
	THERMOMETER		
	PRESSURE SENSOR		
	TEMPERATURE SENSOR		
	FLOW SWITCH		
	FIRE ALARM SWITCH		
	PRESSURE SWITCH		
	AUTO VALVE ASSEMBLY		
	BALANCE STATION		
	FLOW METER		
	VENTURI FLOW METER		
	WATER HAMMER		

**PLUMBING ABBREVIATIONS**

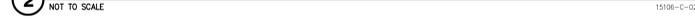
AF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
BDD	BACKDRAFT DAMPER
B	BOILER
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CD	CEILING DIFFUSION
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHR	DUAL TEMPERATURE RETURN WATER
CHS	DUAL TEMPERATURE SUPPLY WATER
CUH	CABINET UNIT HEATER
OW	COLD WATER DOWN
EAT	ENTERING AIR TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EA	EXHAUST AIR
EG	EXHAUST GRILLE
FD	FIRE DAMPER
GPM	GALLONS PER MINUTE
SIR	GEOTHERMAL RETURN WATER
GIS	GEOTHERMAL SUPPLY WATER
OW	GEOTHERMAL DUAL TEMPERATURE
HRR	HEAT RECOVERY RETURN WATER
HRS	HEAT RECOVERY SUPPLY WATER
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
HZ	HERTZ (FREQUENCY IN CYCLES PER SECOND)
HW	HOT WATER
HWC	HOT WATER CIRCULATING
IN	INCHES
IN WC	INCHES WATER COLUMN
LB	POUND
MAX	MAXIMUM
MBH	BRITISH THERMAL UNIT (1000)
MED	MEDIUM
MEZZ	MEZZANINE
MIN	MINIMUM
MU	MAKE-UP WATER
NC	NOISE CRITERIA
OA	OUTSIDE AIR
OD	OVERFLOW DRAIN
PH	PHASE
PS	PRESSURE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE GAUGE
RA	RETURN AIR
RD	ROOF DRAIN
RG	RETURN AIR GRILLE
RPM	REVOLUTIONS PER MINUTE
RH	REHEAT
SA	SUPPLY AIR
SD	SUPPLY DIFFUSER
SF	SQUARE FOOT
SI	SANITARY SEWER
ST	STORM DRAIN
TEMP	TEMPERATURE
TOT	TOTAL
TW	TEMPERED WATER
TWC	TEMPERED WATER CIRCULATING
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
V	VENT
VTR	VENT THRU ROOF
W/O	WITHOUT
W	WET BULB
WB	WASTE FRESER TO FEED PLUMBING FIXTURE(S)
W	WATER COLUMN
WC	WATER COLUMN
WTR	WATER



**1 INSULATED PIPE HANGER DETAIL**



**2 TRAPEZE TYPE HANGER DETAIL**

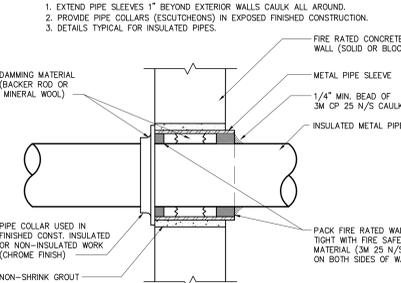


**3 INTERIOR WALL PIPE PENETRATION DETAIL (THROUGH CONDITIONED SPACE)**

**SHIELD SCHEDULE**  
2\"/>

**NOTES:**  
1. SIZE STRUT AND CLAMP TO ADEQUATELY SUPPORT LOAD.  
2. STRUT SHALL BE EPOXY PAINTED.

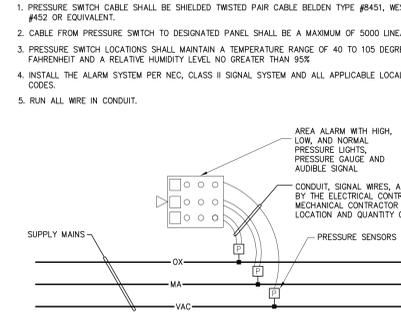
**4 WALL PENETRATION - UL # CAJ5001**



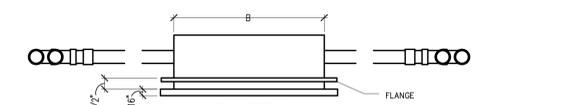
**5 NON-CRITICAL CARE AREA - ZONE VALVE BOX AND GAUGES**



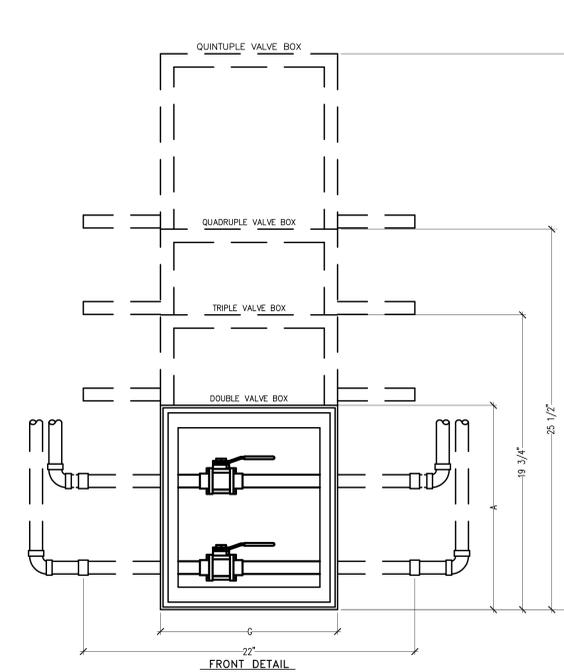
**6 MASTER ALARM PANEL DETAIL**



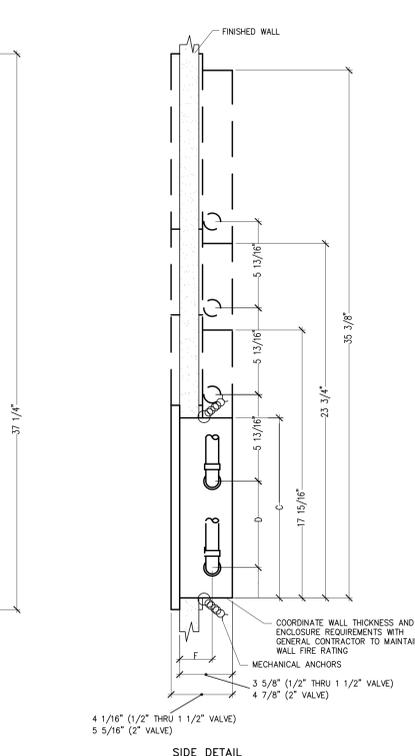
**7 HIGH/LOW PRESSURE SWITCH**



**8 RECESSED ZONE VALVE BOX DETAIL**



VALVE SIZE	A	B	C	D	E	F	G
1/2" THRU 1-1/4"	13 11/16"	10"	12 1/8"	5 13/16"	2 1/16"	2 1/8"	11 3/4"
1-1/2" THRU 2"	15"	11 13/16"	13 3/8"	6 9/16"	2 1/2"	2 5/8"	13 7/8"



**NOTES:**  
1. PRESSURE SWITCH CABLE SHALL BE SHIELDED TWISTED PAIR CABLE BELDEN TYPE #8451, WEST PENN #452 OR EQUIVALENT.  
2. CABLE FROM PRESSURE SWITCH TO DESIGNATED PANEL SHALL BE A MAXIMUM OF 5000 LINEAL FEET.  
3. PRESSURE SWITCH LOCATIONS SHALL MAINTAIN A TEMPERATURE RANGE OF 40 TO 105 DEGREES FAHRENHEIT AND A RELATIVE HUMIDITY LEVEL NO GREATER THAN 95%.  
4. INSTALL THE ALARM SYSTEM PER NEC, CLASS II SIGNAL SYSTEM AND ALL APPLICABLE LOCAL CODES.  
5. RUN ALL WIRE IN CONDUIT.

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Drawing Title: **PLUMBING DETAILS AND LEGENDS**

Project Title: **RENOVATE AND EXPAND SPACE FOR PATIENT SUPPORT AREAS**

Date: **12-17-2012 CONSTRUCTION DOCUMENTS**

Project No.: **DVA#636-311 S-H#110240-0**

Building Number: **1** | Checked: **TRF** | Drawn: **MSJ**

Location: **IOWA CITY VA HEALTH CARE SYSTEM IOWA CITY, IOWA**

Approved: Division Chief | Approved: Service Director

DRAWING NO.: **1-B-P2**  
Dwg. 4 of 15

Revisions: \_\_\_\_\_ Date: \_\_\_\_\_

**Veterans Administration**