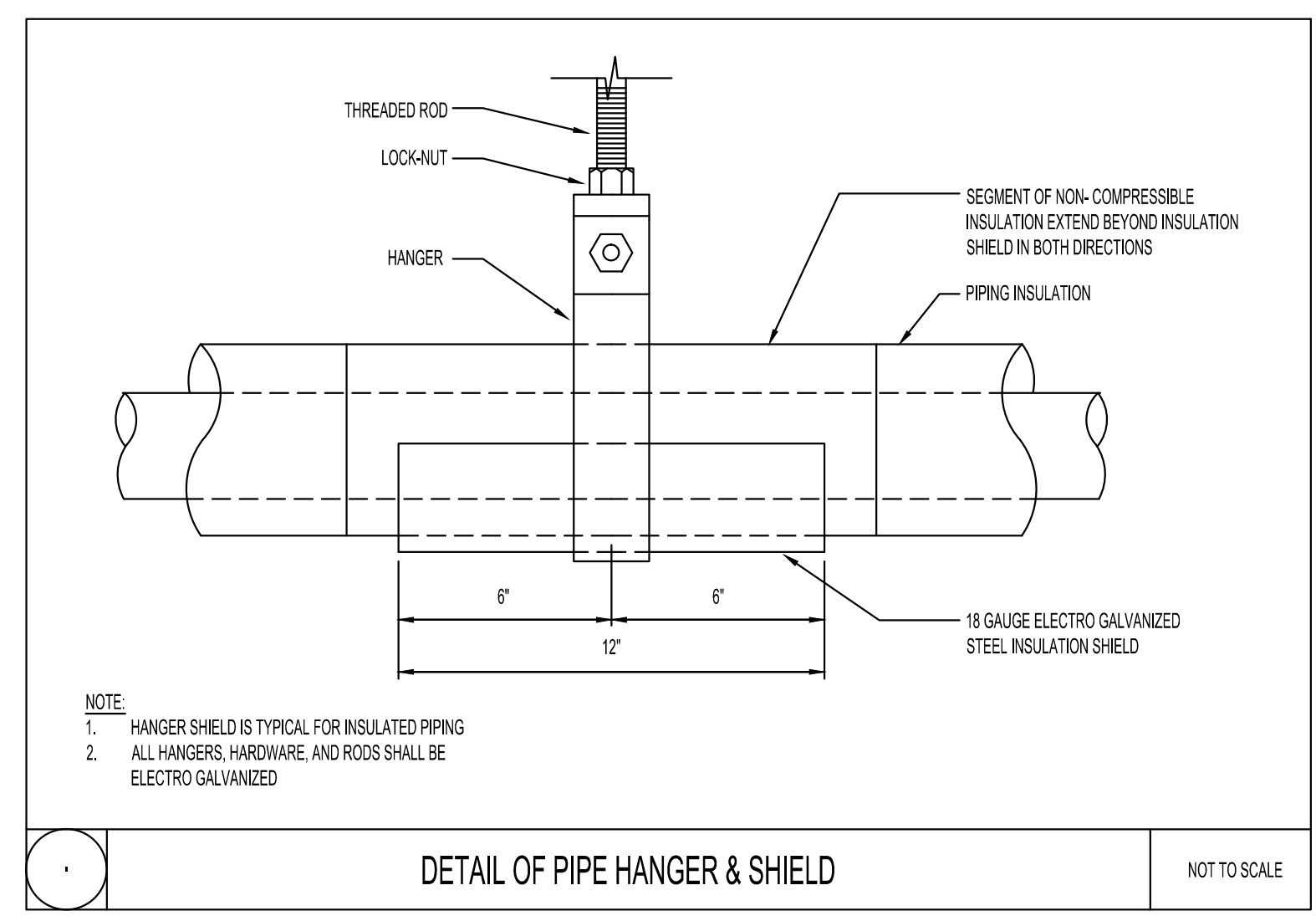
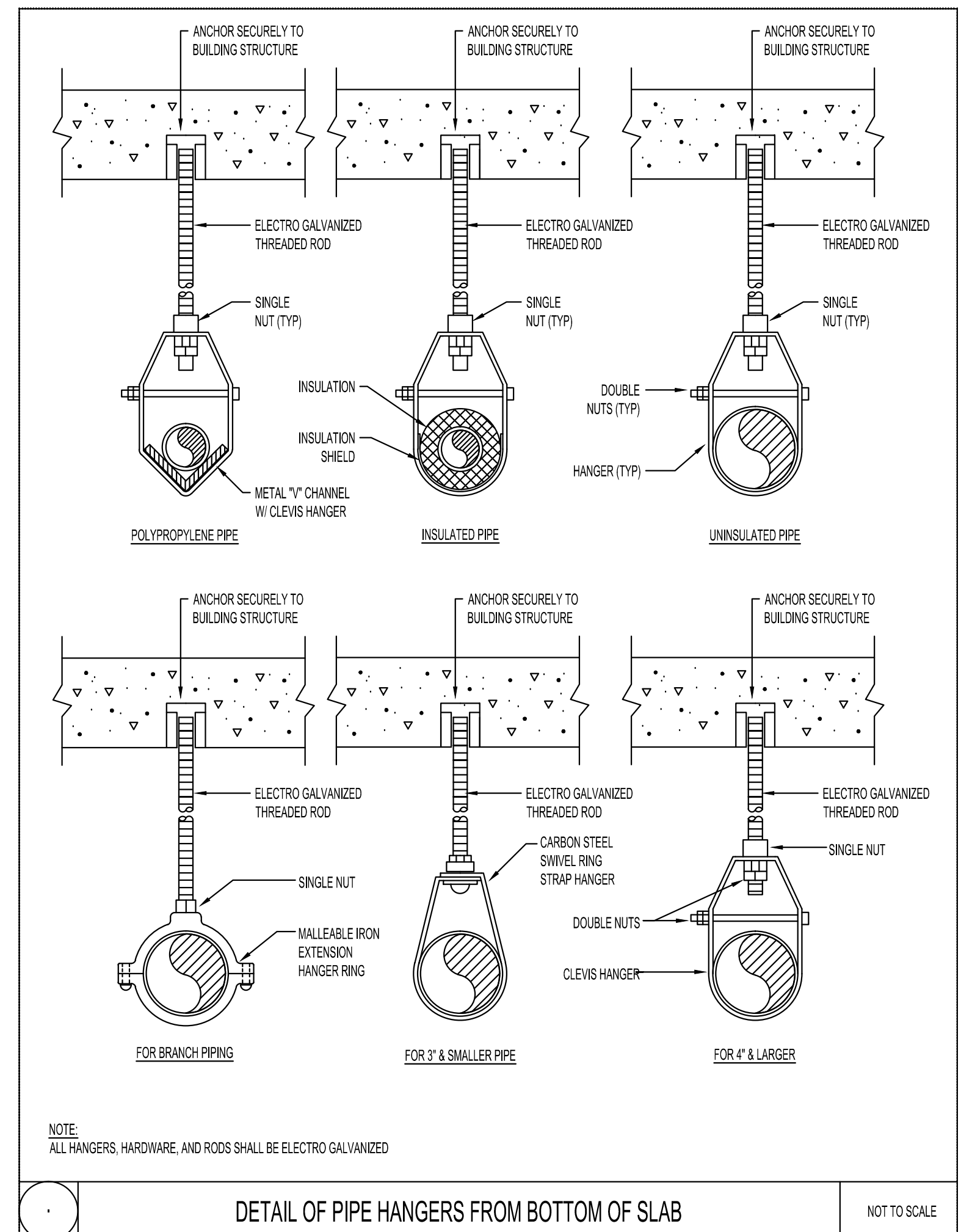


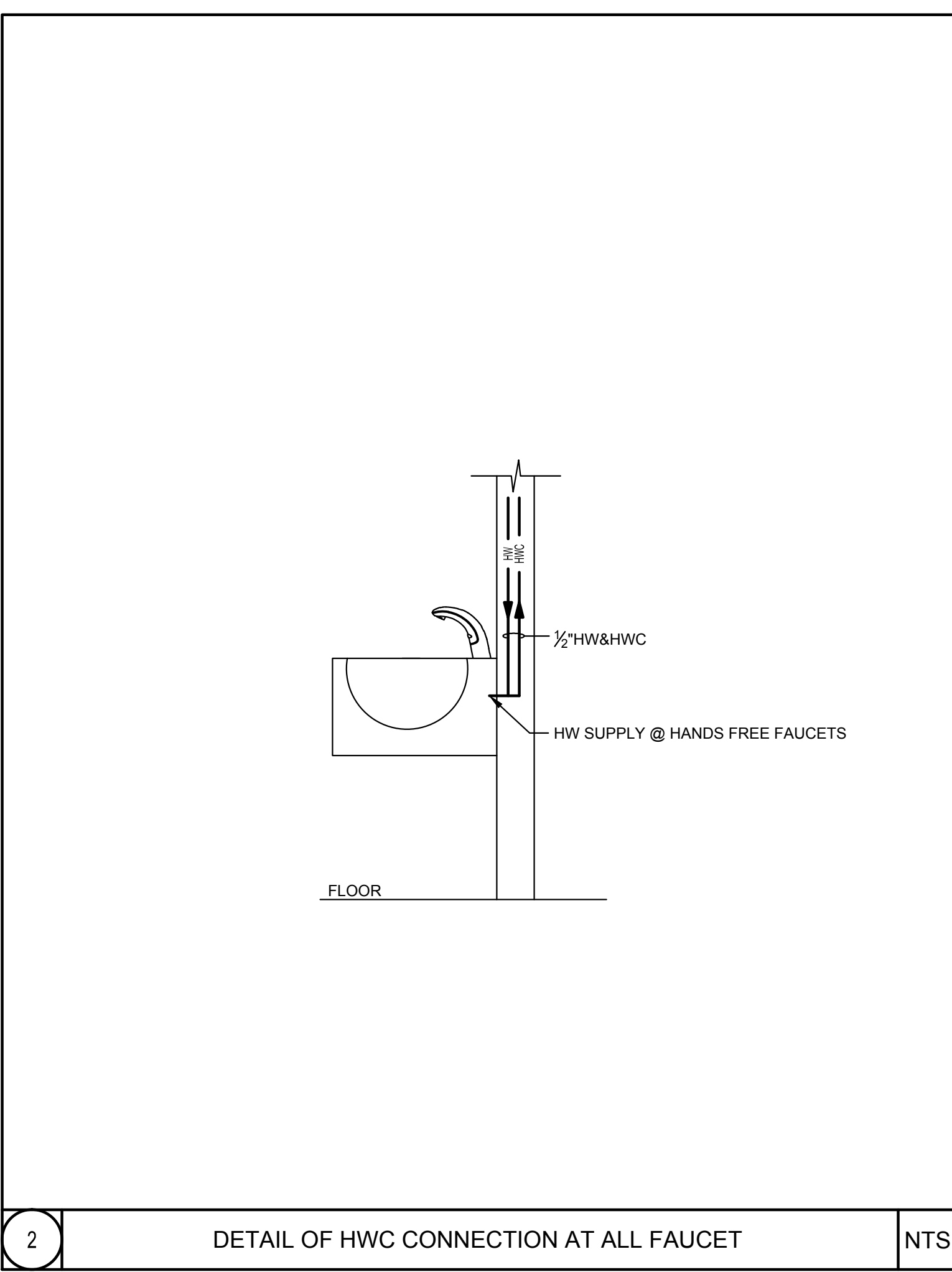
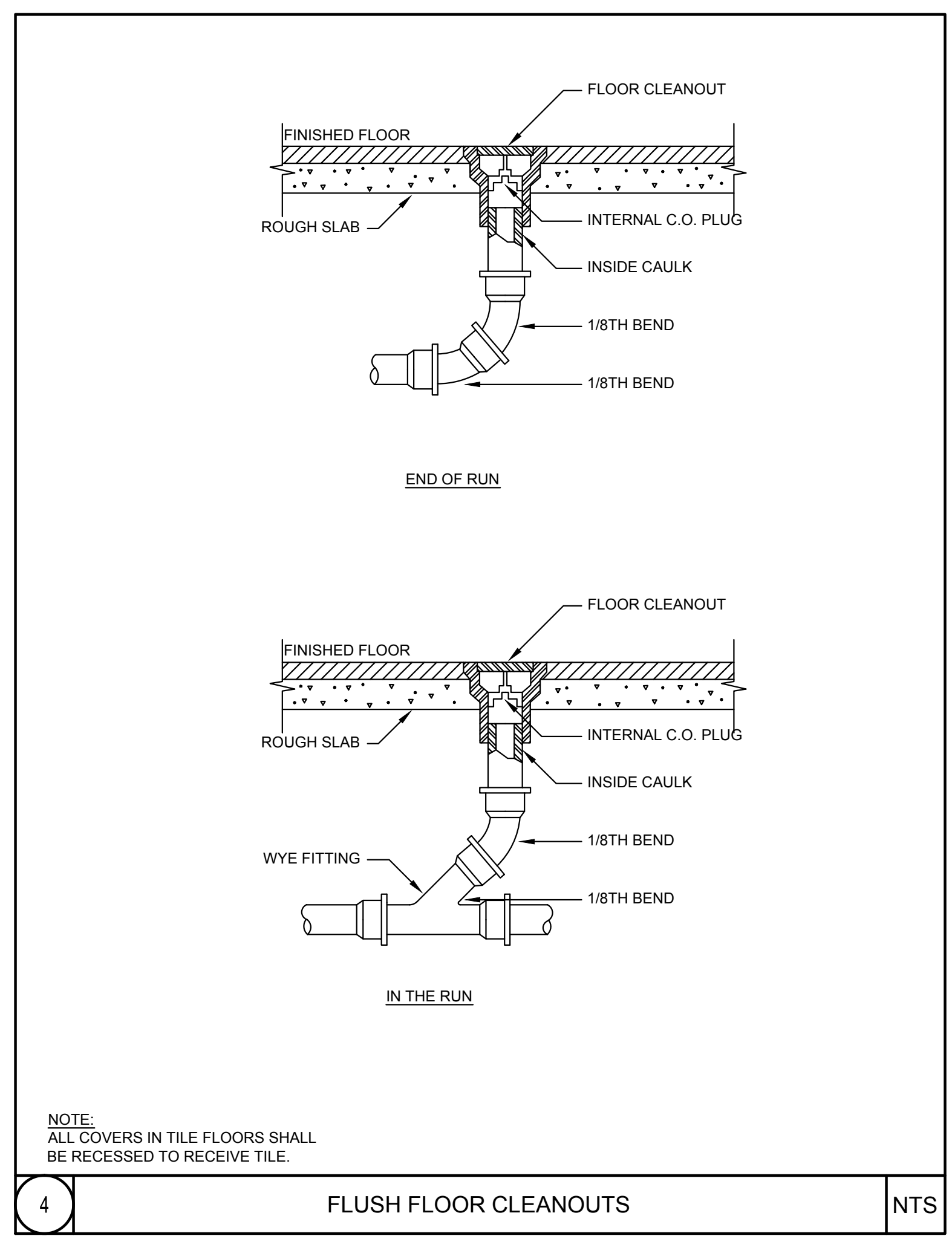
three eighths inch = one foot
 one half inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot
 one sixteenth inch = one foot
 one thirty second inch = one foot
 one sixty fourth inch = one foot

PLUMBING FIXTURE CONNECTION SCHEDULE							REMARKS
SYMBOL	FIXTURE	SOIL/WASTE	VENT	DCW	DHW	H/C MTG.	
P-1	WATER CLOSET WALL HUNG	4"	2"	1/2"	-	Y	KOHLER MODEL K4330 KINGSTON, WALL HUNG TOILET SLOAN MODEL 11-55, ROYAL FLUSHMETER KOHLER MODEL K4070-CA TOILET SEAT ZURN MODEL Z-2304-AS-BERATRIC CARRIER
P-2	LAVATORY WALL HUNG	2"	2"	1/2"	1/2"	Y	KOHLER MODEL K-2651, SCHO WALL HUNG LAVATORY CHICAGO MODEL 78-E2856-SK, (LS) P/L FAUCET MOJURE MODEL 167 STOPS & SUPPLIES MOJURE MODEL 155HC OFFSET GRID STRAINER MOJURE MODEL 8989 P-TRAP WITH P/S CONNECTION TO STACK & CHROME PLATED COVER TUBE FURNISH ZURN CARRIER TO SUIT FURNISH UNDER LAV INSULATION
P-3	EXAM SINK WALL HUNG	2"	2"	1/2"	1/2"	N	CHICAGO MODEL 20A-E292CP, WITH SPRAYER, LAMINAR FLOW AERATOR MOJURE MODEL 167 STOPS & SUPPLIES MOJURE MODEL 8989 P-TRAP WITH P/S CONNECTION TO STACK & CHROME PLATED COVER TUBE MOJURE MODEL 155HC OFFSET BASKET STRAINER, CHROME PLATED WITH 17 GAUGE THALPEZE FURNISH UNDER LAV INSULATION
P-4	EXAM SINK DROP IN	2"	2"	1/2"	1/2"	N	ELKAY MODEL LR2116, DROP IN STAINLESS STEEL SINK CHICAGO MODEL 20A-E292CP, WITH SPRAYER, LAMINAR FLOW AERATOR MOJURE MODEL 167 STOPS & SUPPLIES MOJURE MODEL 8989 P-TRAP WITH P/S CONNECTION TO STACK & CHROME PLATED COVER TUBE MOJURE MODEL 155HC OFFSET BASKET STRAINER, CHROME PLATED WITH 17 GAUGE THALPEZE FURNISH UNDER SINK P-TRAP INSULATION
P-5	JANITORS SINK	2"	2"	1/2"	1/2"	N	FAT MODEL MS2424, ACRYLIC CHICAGO MODEL 897CP WALL MOUNT FAUCET FAT MODEL 8804Z KOP BRACKET FAT MODEL 832AA HOSE & BRACKET FURNISH & INSTALL CHECK VALVES ON HW & CW SUPPLIES

DRAIN SCHEDULE						
DESIGNATION	FIXTURE	MANUFACTURER	MODEL	OUTLET	STRAINER	COMMENTS / DESCRIPTION
FDA	MECHANICAL ROOM DRAIN	ZURN	Z-6454-RY	4"	CAST IRON	WINDUP PROOF SCREWS, SEDIMENT BUCKET, & CALKED OUTLET FURNISH & INSTALL MECHANICAL TRAP PRIMING DEVICE
RDA	COMBINATION PRIMARY / OVERFLOW ROOF DRAIN	ZURN	Z-184	4" (TWO SEPARATE OUTLETS)	GALVANIZED CAST IRON	FURNISH WITH GALVANIZED DOME STRAINER & PARTS.



SYMBOL	ABBR.	DESCRIPTION
---	ETR	EXISTING TO REMAIN
---	ETBR	EXISTING TO BE REMOVED
---	BV	BALL VALVE
---	NOC	NATURAL GAS VALVE
---	DV	DRAIN VALVE
---	CV	CHECK VALVE
---		HOT WATER BALANCING VALVE
---	TMV	THERMOSTATIC MIXING VALVE
---		TRAP PRIMER
---		STRAINER
---		SOLENOID VALVES
---	RD	ROOF DRAIN
---	FD	FLOOR DRAIN
---	OED	OPEN END DRAIN
---	HB	HOSE BIBB w/ VACUUM BREAKER
---	WH	WALL HYDRANT w/ VACUUM BREAKER
---		PIPE CONNECT TO EXISTING
---		PIPE CAP OR PLUG
---		PIPE CONTINUATION
---		PIPE UP THROUGH SLAB ABOVE
---		PIPE DOWN THROUGH FLOOR ABOVE
---		PIPE RISE/DROP
---	SA	SHOCK ABSORBER
---	MGP	MEDICAL GAS ALARM PANEL
---	MGCV	MEDICAL GAS CONTROL VALVE
---	MGO	MEDICAL GAS OUTLET
---	WAT	WASTE AND TRAP
---	CO	CLEANOUT
---	FCD	FLUSH FLOOR CLEANOUT
---		ALARM PANEL (EXISTING/DEMOMED)
---	MA	MEDICAL AIR PIPING
---	OA	OXYGEN PIPING
---	MV	MEDICAL VACUUM PIPING
---	S w W	SOIL w WASTE PIPING
---	S or W	SOIL or WASTE PIPING (BURIED or BELOW SLAB)
---	V	VENT PIPING
---	V	VENT PIPING (BURIED or BELOW SLAB)
---	ST	STORM PIPING
---	ST	STORM PIPING (BURIED or BELOW SLAB)
---	PD	PUMP DISCHARGE PIPING
---	TP	TRAP PRIMER PIPING
---	CW	DOMESTIC COLD WATER PIPING
---	HW	DOMESTIC HOT WATER PIPING
---	HWC	DOMESTIC HOT WATER CIRCULATION PIPING
---	ETR	EXISTING TO REMAIN
---	CTE	CONNECT TO EXISTING
---	ETBR	EXISTING TO BE REMOVED
---	WS	WASTE STACK
---	VS	VENT STACK
---	WBV	WASTE & VENT
---	VTR	VENT THROUGH ROOF
---	INV. EL.	INVERT ELEVATION
---	FL. EL.	FLOOR ELEVATION
---	CWR	COLD WATER RISER
---	HW	HOT WATER RISER
---	HWCR	HOT WATER CIRCULATION WATER RISER
---	V&C	VALVE & CAP
---	L.O.W.	LIMIT OF PLUMBING CONTRACTORS WORK

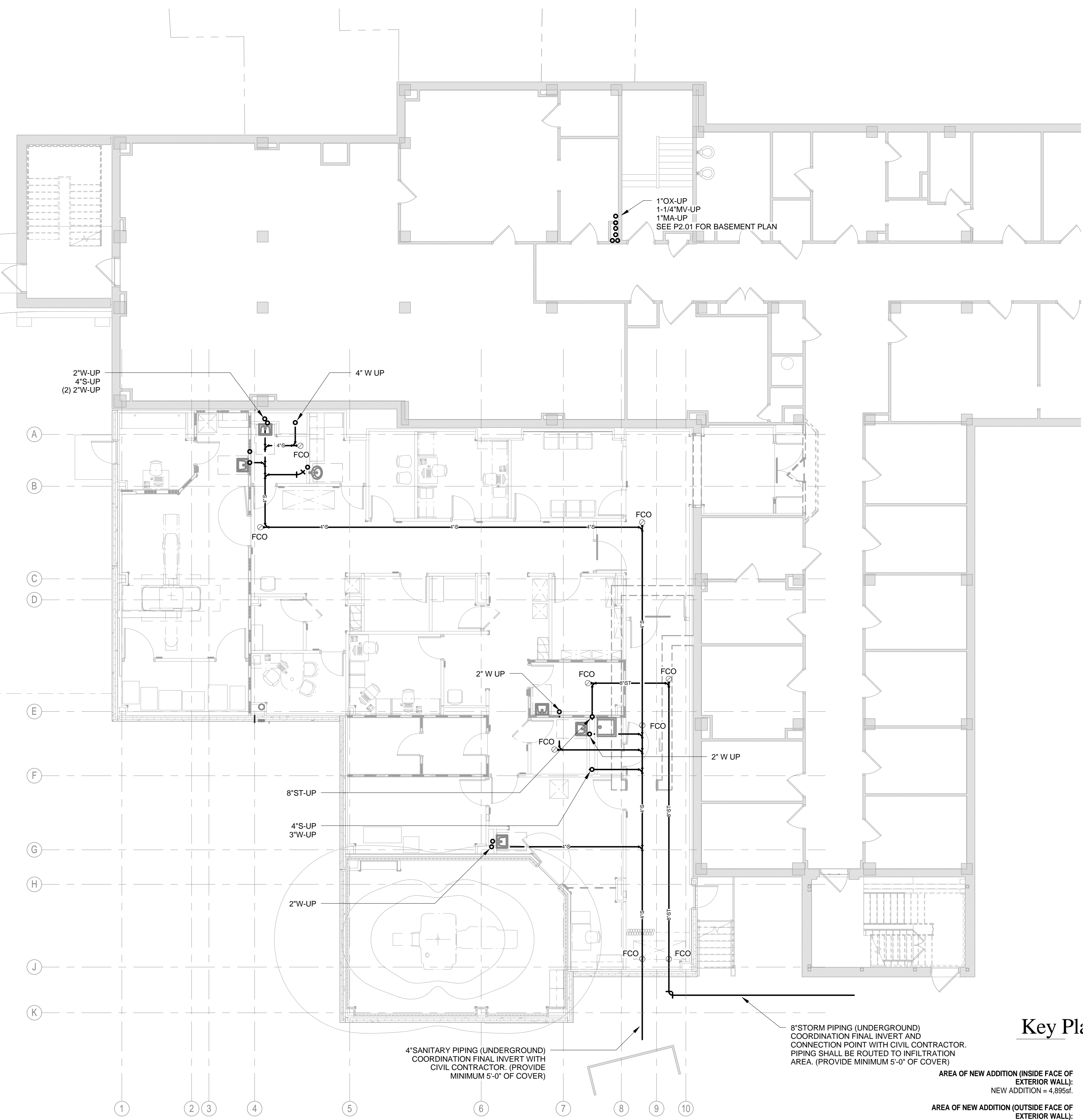


- PLUMBING GENERAL NOTES**
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, REGULATIONS, VA REGULATIONS, MASSACHUSETTS STATE PLUMBING CODE AND THE MASSACHUSETTS STATE BUILDING CODE. CODES ARE A MINIMUM. THESE SPECIFICATIONS SHALL APPLY WHEN THE REQUIREMENTS WERE EXCEEDED THE APPLICABLE CODE.
 - CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS WHERE RENOVATION WORK IS TO TAKE PLACE. THE LOCATIONS OF PIPING FIXTURES, ELEVATIONS, ETC. HAVE BEEN OBTAINED FROM THE BEST SOURCES AVAILABLE AND MUST BE FIELD VERIFIED PRIOR TO COMMENCING WORK IN AREAS WHICH ARE TO BE RENOVATED. NOTIFY ARCHITECT OF ANY DIFFERENCES BETWEEN ON-SITE CONDITIONS AND CONDITIONS SHOWN ON THE DRAWING AS EXISTING.
 - NEW WORK DRAWN HEAVILY. EXISTING WORK IS DRAWN IN LIGHTLY.
 - REFER TO THE ARCHITECTURAL DETAILED DRAWINGS FOR EXACT LOCATIONS & QUANTITY OF ALL FIXTURES.
 - COORDINATE SYSTEM SHUTDOWNS WITH OWNER/GENERAL CONTRACTOR. ALL SHUTDOWNS SHALL OCCUR AFTER HOURS.
 - ALL WORK SHALL OCCUR AT OWNERS CONVENIENCE. NOTIFY OWNER WELL IN ADVANCE OF BEGINNING ANY PHASE WORK. COORDINATE WORK OF PHASING WITH ARCHITECT.

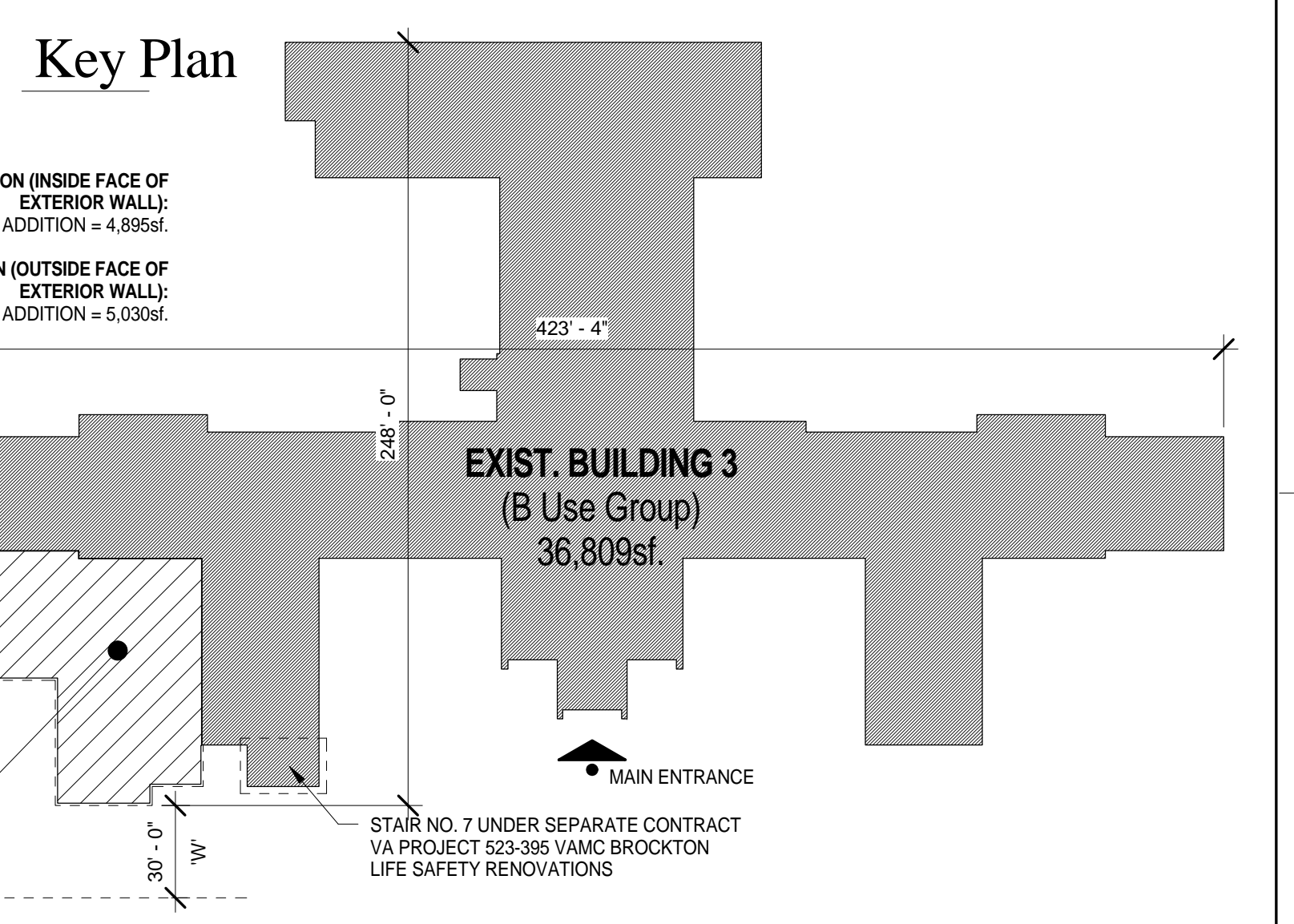
**100% CONSTRUCTION DOCUMENT SUBMISSION
 "FULLY SPRINKLERED"**

CONSULTANTS: R. W. Sullivan Engineering MEP/FP Engineering, Civil, Consulting The Springfield Center, 500 Main St., Suite 203 Boston, Massachusetts 02202-1102 Phone: (617) 552-6267 www.rwsusa.com 966-238 • 1102-02		ARCHITECT/ENGINEERS: moser pilon nelson architects 30 STATE STREET, SUITE 900 BOSTON, MASSACHUSETTS 02109 (617) 542-1914	Drawing Title PLUMBING LEGEND, SCHEDULE, DETAILS, & NOTES	Project Title BUILDING 3 MRI/CT Radiology Addition Boston Healthcare System - Brockton Campus	Project Number 523-398	Office of Facilities Management
			Approved: Project Director	Location 940 Belmont Street Brockton, MA 02301	Building Number 3	
1 - 100% CONSTRUCTION DOCUMENT SUBMISSION Revisions:	Date: 04/08/2016		Date 02/12/2016	Checked TPM	Drawn TPM	

three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot



P1.00 - PLUMBING UNDERGROUND PLAN

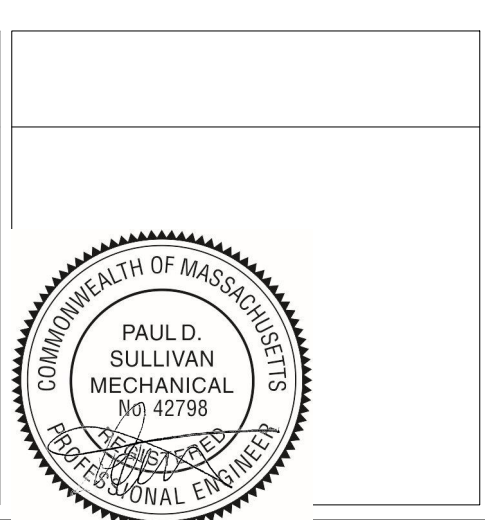


100% CONSTRUCTION DOCUMENT SUBMISSION "FULLY SPRINKLERED"

1 - 100% CONSTRUCTION DOCUMENT SUBMISSION	04/08/2016
Revisions:	Date:

CONSULTANTS:

RWS R. W. Sullivan Engineering
 MEP, FF Engineering, Civil, Consulting
 7th Street Corner, 525 Main St., Suite 203
 Boston, Massachusetts 02111-1157
 Phone: 617-534-8227 www.rwsusa.com
 RWS 25611075.00



ARCHITECT/ENGINEERS:

moser pilon nelson architects
 30 JORDAN LANE
 WILMINGTON, CT 06103
 (860) 583-8164

Drawing Title
PLUMBING UNDERGROUND PLAN

Approved: Project Director

Project Title
**BUILDING 3
 MRI/CT Radiology Addition
 Boston Healthcare System - Brockton Campus**

Location
940 Belmont Street Brockton, MA 02301

Date
02/12/2016

Checked
 TPM

Drawn
 TPM

Project Number
523-398

Building Number
3

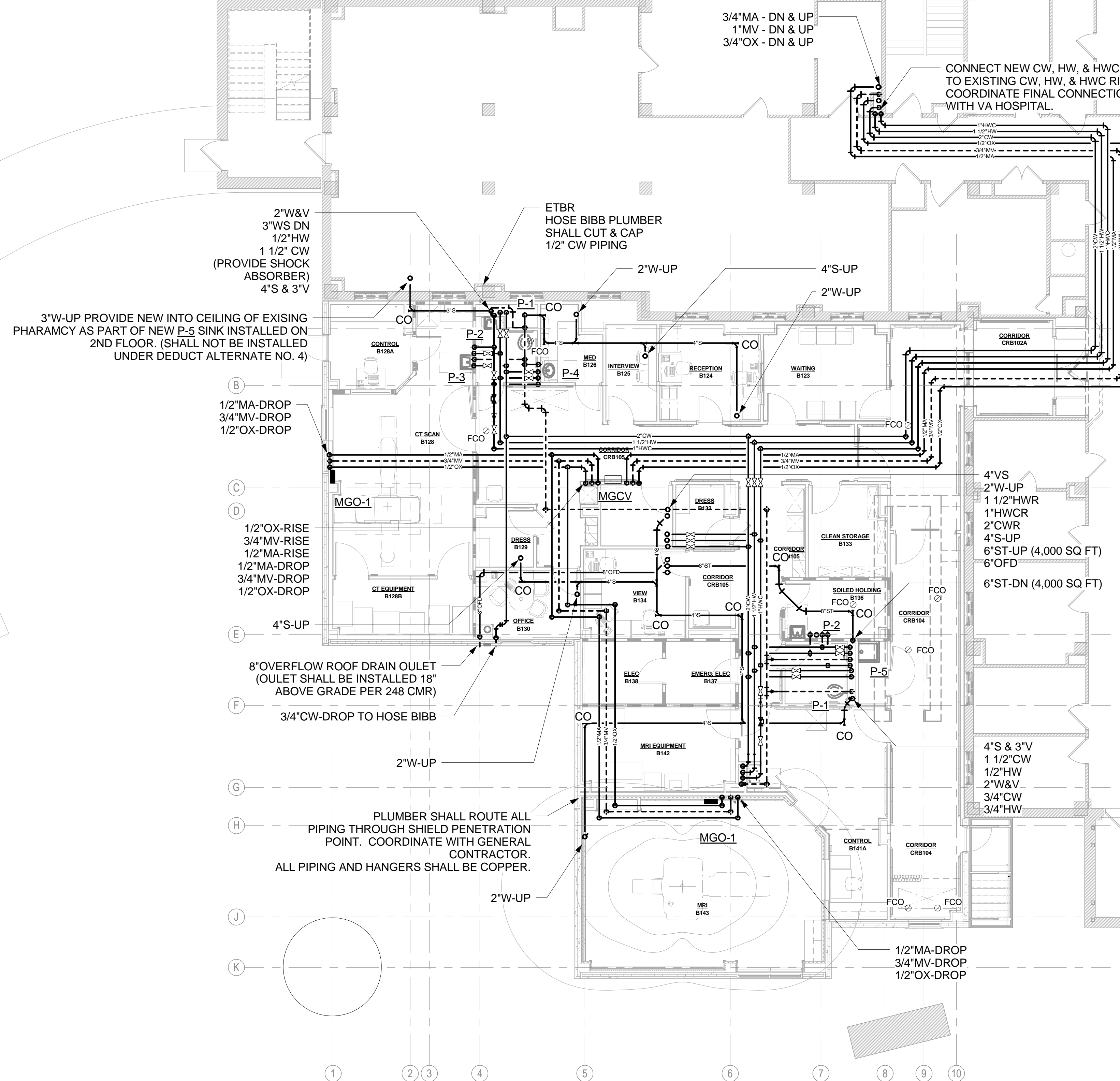
Drawing Number
P1.00

Dwg. 67 of 145

Office of Facilities Management

Department of Veterans Affairs

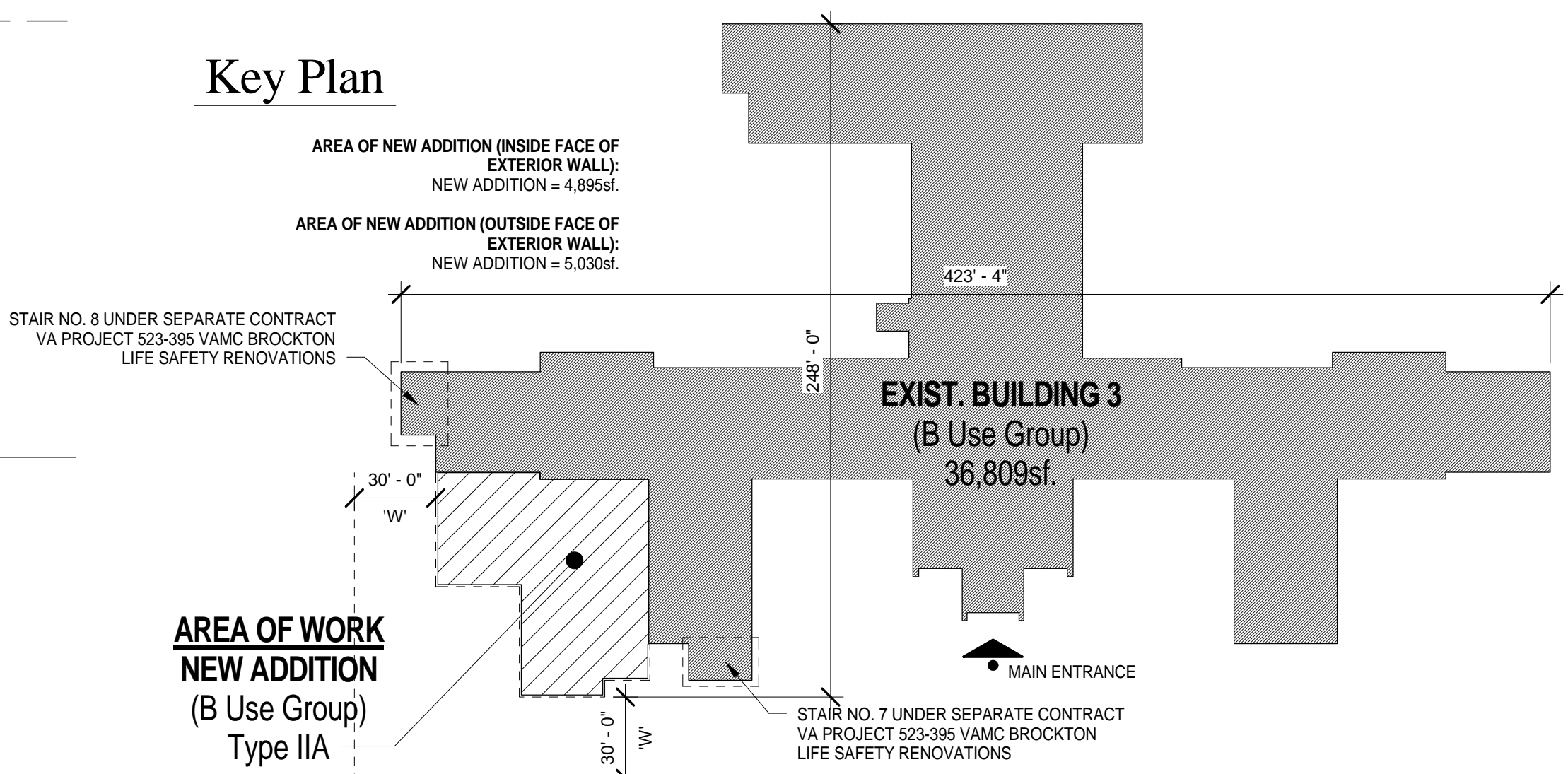
three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot



PLUMBING NOTES (DEDUCT ALTERNATE NO. 4)
 1. SANITARY PIPING AS SHOWN ON THIS PLAN PICKING UP SANITARY/WASTE DRAINAGE FROM THE SECOND FLOOR PLUMBING FIXTURES SHALL NOT BE PIPED AS PART OF THIS DEDUCT ALTERNATE NO. 4
 2. MEDICAL GAS PIPING SHALL NOT CONTINUE UP AS PART OF THIS DEDUCT ALTERNATE NO. 4

**P1.01 - PLUMBING
 LEVEL 1 PLAN**

Key Plan



**100% CONSTRUCTION DOCUMENT SUBMISSION
 "FULLY SPRINKLERED"**

1 - 100% CONSTRUCTION DOCUMENT SUBMISSION	04/08/2016
Revisions:	Date:

CONSULTANTS:

RWS R. W. Sullivan Engineering
 MEP/FPS Engineering, Civil, Construction
 7th Street Corner, 523 Main St., Suite 203
 Boston, Massachusetts 02111-1157
 Phone: 617-534-8227 www.rwsusa.com
 RWS 25811075.00

ARCHITECT/ENGINEERS:

moser pilon nelson
 architects
 20 JORDAN LANE
 BROCKTON, MA 01930
 (508) 583-8164

Drawing Title
LEVEL 1 PLUMBING PLAN

Approved: Project Director

Project Title
**BUILDING 3
 MRI/CT Radiology Addition
 Boston Healthcare System - Brockton Campus**

Location
940 Belmont Street Brockton, MA 02301

Date
 02/12/2016

Checked
 TPM

Drawn
 TPM

Project Number
523-398

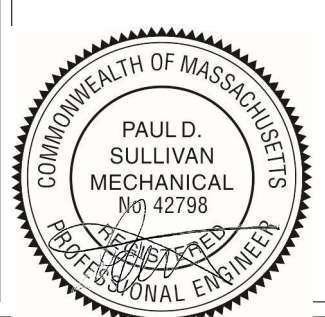
Building Number
3

Drawing Number
P1.01

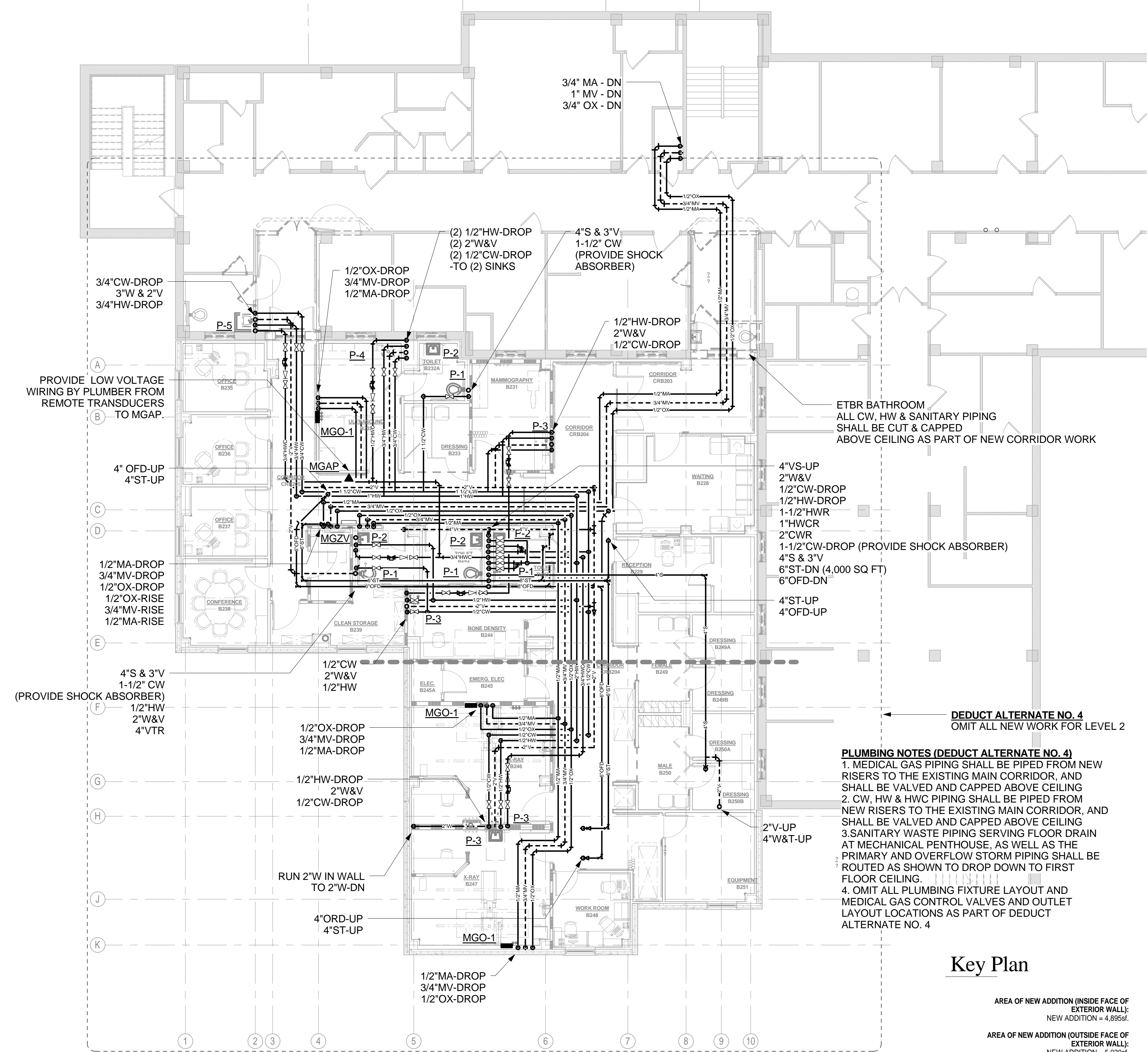
Dwg. 68 of 145

**Office of
 Facilities
 Management**

Department of
 Veterans Affairs



three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot

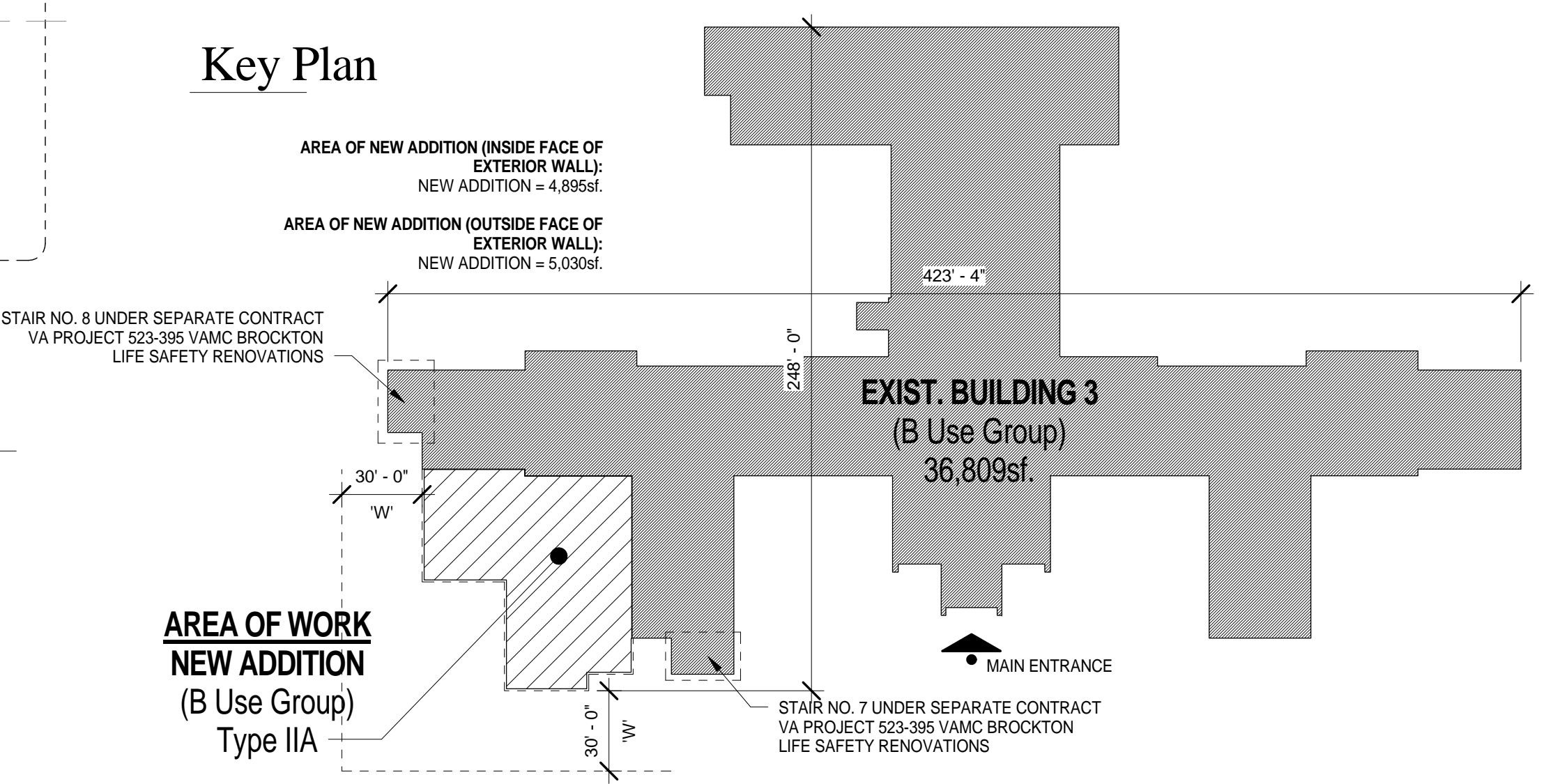


PLUMBING LEVEL 2 PLAN

PLUMBING NOTES (DEDUCT ALTERNATE NO. 4)

- MEDICAL GAS PIPING SHALL BE PIPED FROM NEW RISERS TO THE EXISTING MAIN CORRIDOR, AND SHALL BE VALVED AND CAPPED ABOVE CEILING
- CW, HW & HWC PIPING SHALL BE PIPED FROM NEW RISERS TO THE EXISTING MAIN CORRIDOR, AND SHALL BE VALVED AND CAPPED ABOVE CEILING
- SANITARY WASTE PIPING SERVING FLOOR DRAIN AT MECHANICAL PENTHOUSE, AS WELL AS THE PRIMARY AND OVERFLOW STORM PIPING SHALL BE ROUTED AS SHOWN TO DROP DOWN TO FIRST FLOOR CEILING.
- OMIT ALL PLUMBING FIXTURE LAYOUT AND MEDICAL GAS CONTROL VALVES AND OUTLET LAYOUT LOCATIONS AS PART OF DEDUCT ALTERNATE NO. 4


Key Plan



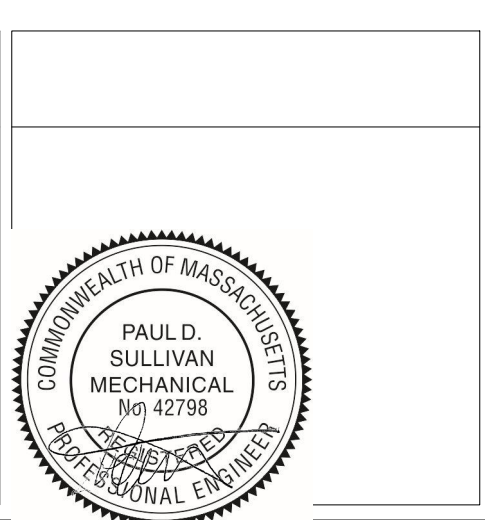
100% CONSTRUCTION DOCUMENT SUBMISSION "FULLY SPRINKLERED"

1 - 100% CONSTRUCTION DOCUMENT SUBMISSION	04/08/2016
Revisions:	Date:

CONSULTANTS:



R. W. Sullivan Engineering
 MEP / FF Engineering, Cost Consulting
 70 Beverly Court, Suite 200, Salem, MA 01970
 Phone: 978-234-8227 www.rws-engineering.com
 RWS 20611075.00



ARCHITECT/ENGINEERS:

moser pilon nelson architects

30 JORDAN LANE
 WILMINGTON, CT 06103
 (860) 583-8164

Drawing Title	LEVEL 2 PLUMBING PLAN
Approved: Project Director	

Project Title	BUILDING 3 MRI/CT Radiology Addition Boston Healthcare System - Brockton Campus
Location	940 Belmont Street Brockton, MA 02301
Date	02/12/2016
Checked	TPM
Drawn	TPM

Project Number: **523-398**

Building Number: **3**

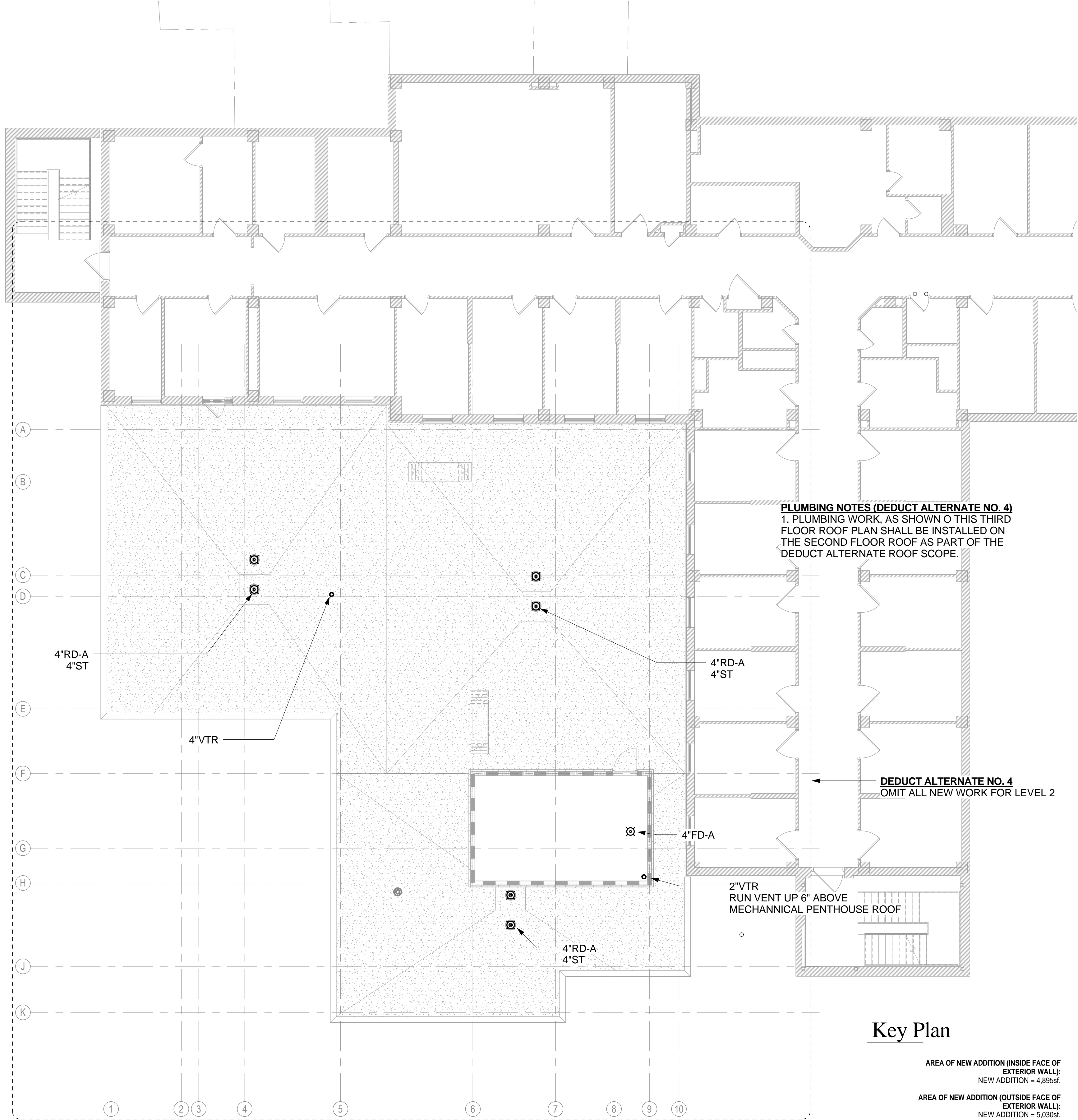
Drawing Number: **P1.02**

Dwg. 69 of 145

Office of Facilities Management



three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot



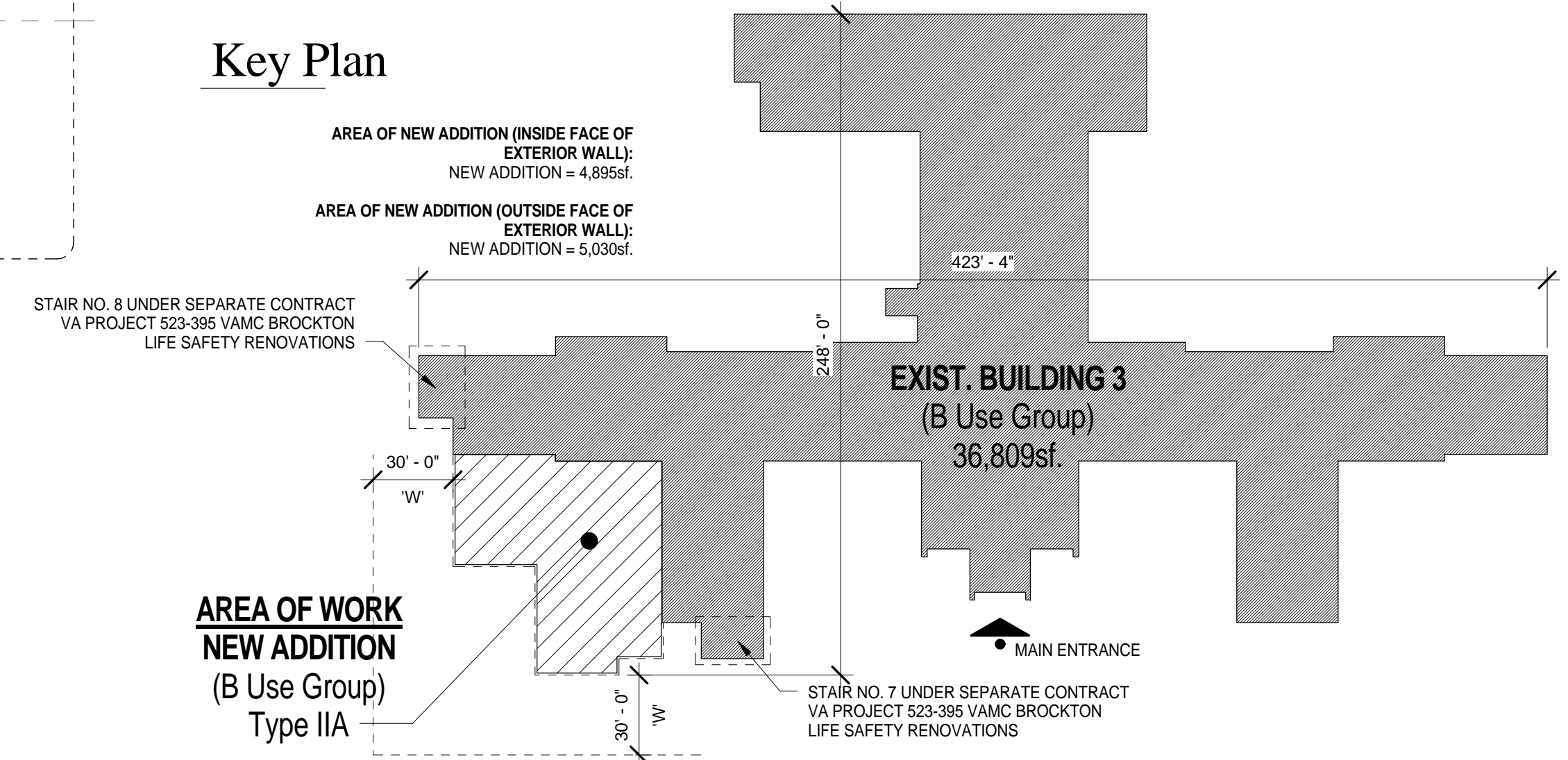
PLUMBING NOTES (DEDUCT ALTERNATE NO. 4)
 1. PLUMBING WORK, AS SHOWN ON THIS THIRD FLOOR ROOF PLAN SHALL BE INSTALLED ON THE SECOND FLOOR ROOF AS PART OF THE DEDUCT ALTERNATE ROOF SCOPE.

DEDUCT ALTERNATE NO. 4
 OMIT ALL NEW WORK FOR LEVEL 2

2"VTR
 RUN VENT UP 6" ABOVE MECHANICAL PENTHOUSE ROOF

P1.03 - PLUMBING ROOF DECK PLAN

Key Plan

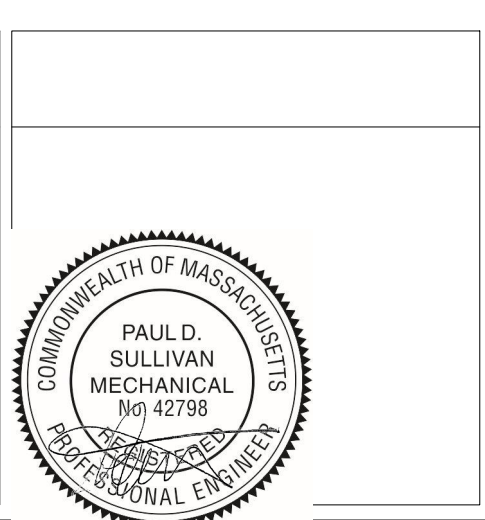


100% CONSTRUCTION DOCUMENT SUBMISSION "FULLY SPRINKLERED"

1 - 100% CONSTRUCTION DOCUMENT SUBMISSION	04/08/2016
Revisions:	Date:

CONSULTANTS:

R. W. Sullivan Engineering
 MEP, FF Engineering, Civil, Consulting
 7th Street Corner, 525 Main St., Suite 203
 Boston, Massachusetts 02111-1157
 Phone: 617-534-8227 www.rwsusa.com
 RWS 20611075.00



ARCHITECT/ENGINEERS:

moser pilon nelson architects
 architects
 20 JORDAN LANE
 WILMINGTON, CT 06103
 (860) 583-8164

Drawing Title

ROOF DECK LEVEL PLUMBING PLAN

Approved: Project Director

Project Title

BUILDING 3
MRI/CT Radiology Addition
Boston Healthcare System - Brockton Campus

Location

940 Belmont Street Brockton, MA 02301

Date

02/12/2016

Checked

TPM

Drawn

TPM

Project Number

523-398

Building Number

3

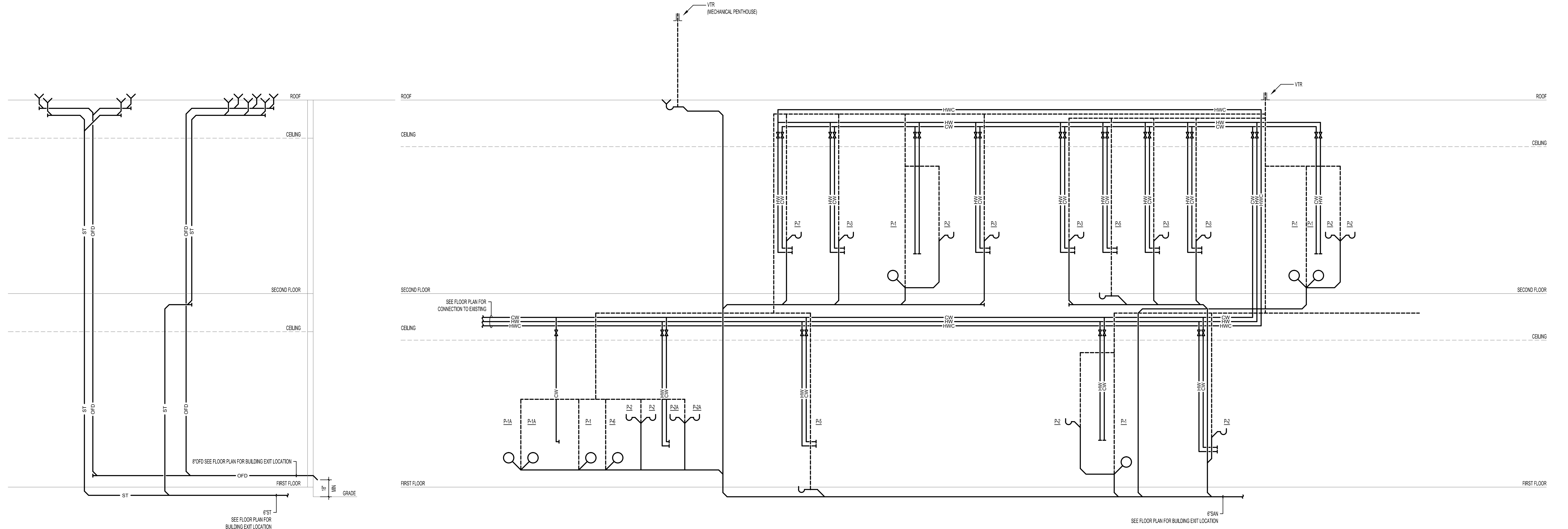
Drawing Number

P1.03

Dwg. 70 of 145

Office of Facilities Management

Department of Veterans Affairs



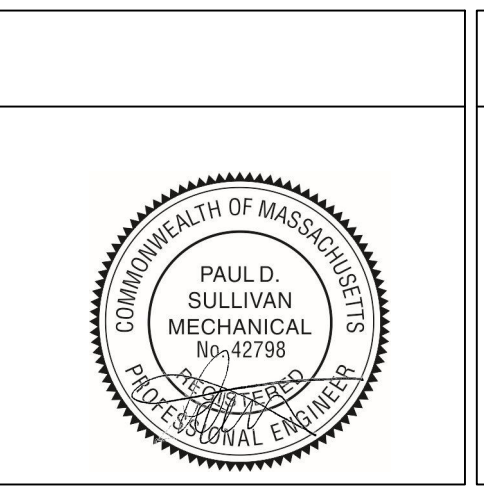
three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot

100% CONSTRUCTION DOCUMENT SUBMISSION
 "FULLY SPRINKLERED"

1 - 100% CONSTRUCTION DOCUMENT SUBMISSION	Date: 04/08/2016
Revisions:	

CONSULTANTS:

R. W. Sullivan Engineering
 MEP/FP Engineering, Construction
 The Northshore Center 500 North St., Suite 200
 Boston, Massachusetts 02210-1101
 Phone: (617) 552-6227 www.rwsullivan.com
 SWS 2584 11/2012



ARCHITECT/ENGINEERS:

moser pilon nelson
 architects

100 STATE STREET
 BOSTON, MASSACHUSETTS 02109
 (617) 542-7000

Drawing Title
PLUMBING RISER SCHEMATICS

Approved: Project Director

Project Title
**BUILDING 3
 MRI/CT Radiology Addition
 Boston Healthcare System - Brockton Campus**

Location
940 Belmont Street Brockton, MA 02301

Date
 02/12/2016

Checked
 TPM

Drawn
 TPM

Project Number
523-398

Building Number
3

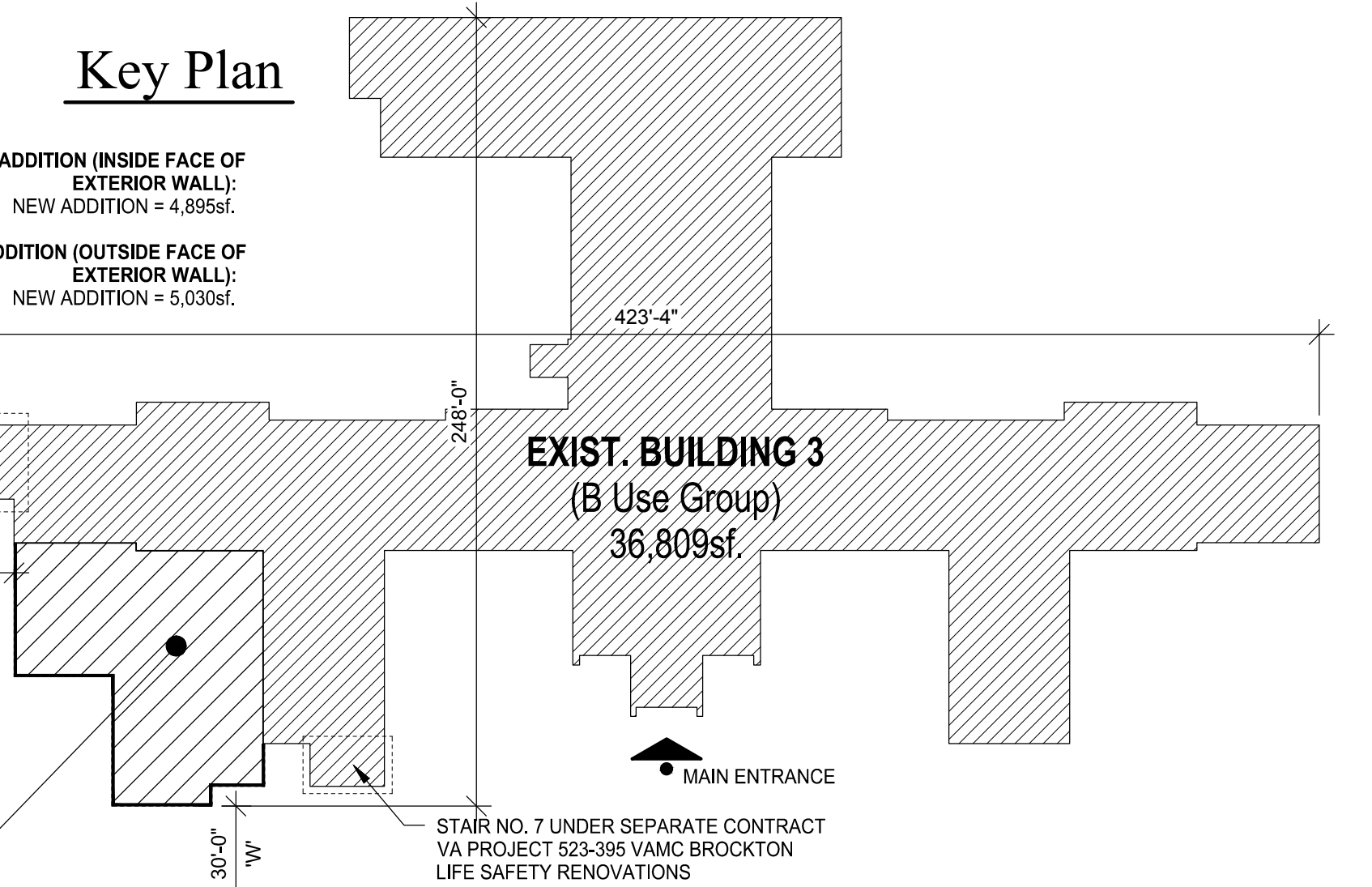
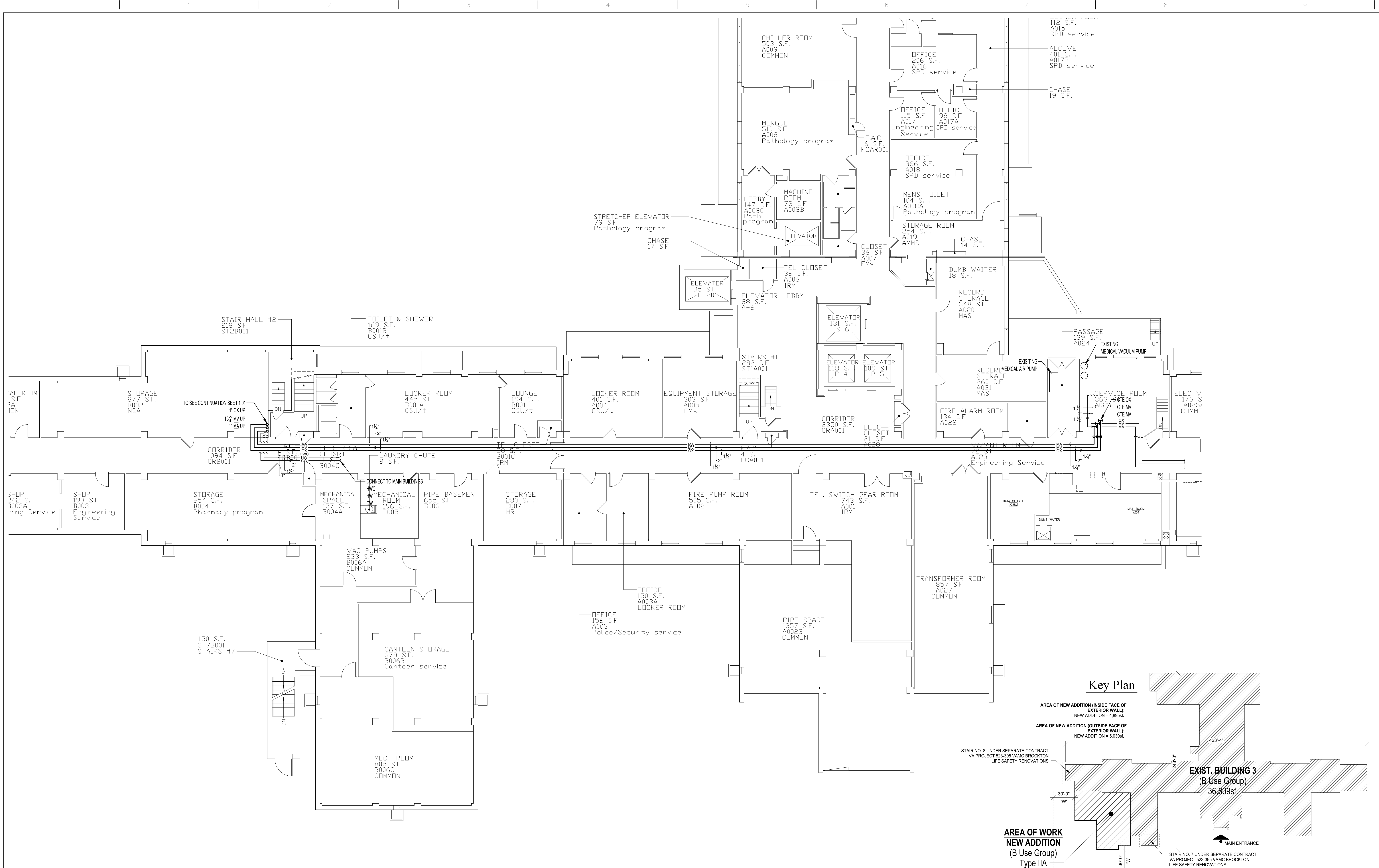
Drawing Number
P2.00

Dwg. 71 of 145

Office of Facilities Management

Department of Veterans Affairs


three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot



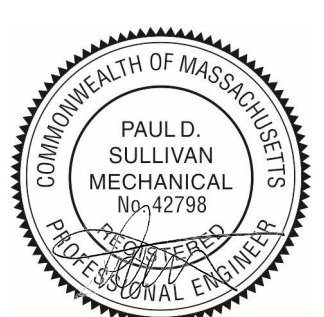
100% CONSTRUCTION DOCUMENT SUBMISSION
"FULLY SPRINKLERED"

1 - 100% CONSTRUCTION DOCUMENT SUBMISSION	04/08/2016
Revisions:	Date:

CONSULTANTS:


R. W. Sullivan Engineering
 MEP/FP Engineering, Civil, Consulting
 The North Center 50 Main St., Suite 203
 Boston, Massachusetts 02210-1102
 Phone: (617) 552-6257 www.rwslliv.com
 986-2384 1102102

ARCHITECT/ENGINEERS:


moser pilon nelson architects
 200 STATE STREET, SUITE 1000
 BOSTON, MASSACHUSETTS 02109
 (617) 552-1000

Drawing Title	PLUMBING BASEMENT
Approved: Project Director	

Project Title	BUILDING 3 MRI/CT Radiology Addition Boston Healthcare System - Brockton Campus
Project Number	523-398
Building Number	3
Location	940 Belmont Street Brockton, MA 02301
Date	02/12/2016
Checked	TPM
Drawn	TPM
Drawing Number	P2.01
Dwg. 72 of 145	

Office of Facilities Management

 Department of Veterans Affairs

ABREV.	DESCRIPTION
AC	AIR CONDITIONING UNIT
ACCU	AIR COOLED CONDENSING UNIT
ACD	AUTOMATIC CONTROL DAMPER
AD	ACCESS DOOR
AHU	AIR HANDLING UNIT
AFF	ABOVE FINISHED FLOOR
AFL	AIR FLOW MEASURING DEVICE
AHR	ABOVE FINISHED ROOF
AP	ACCESS PANEL
APD	AIR PRESSURE DROP (INCHES OF WATER)
AS	AIR SEPARATOR
ATC	AUTOMATIC TEMPERATURE CONTROL
AV	AIR VENT (AUTOMATIC)
B	BOILER
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSE POWER
BTUH	BRITISH THERMAL UNITS PER HOUR
C	CONTRACTOR
CRAC	COMPUTER ROOM A.C. UNIT
CC	COOLING COIL
CD	CONDENSATE DRAIN
CF	CENTRAL FEED
CFM	CUBIC FEET PER MINUTE
CFM	CUBIC FEET PER MINUTE
CH	CHILLER

CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CM	CONSTRUCTION MANAGER
CMR	CONDENSATE WATER RETURN
CNS	CONDENSER WATER SUPPLY
CO	CLEAN OUT
CP	CONDENSATE PUMP
CS	COOLANT SUPPLY
CR	COOLANT RETURN
CTS	COOLING TOWER SUPPLY
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CITY WATER
D	DRAIN
DET	DRY BULB TEMP °F
DN	DIMETER
DOV	DRAIN OFF VALVE
DTR	DUAL TEMPERATURE WATER RETURN
DTS	DUAL TEMPERATURE WATER SUPPLY
DX	DIRECT EXPANSION
E	EXISTING (BEFORE SYMBOL)
EA	EXHAUST AIR
EHC	ELECTRIC HEATING COIL
EAT	ENTERING AIR TEMPERATURE
EBB	ELECTRIC BASE BOARD
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN

ERV	ENERGY RECOVERY VENTILATION UNIT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETR	EXISTING TO BE REMOVED
ETR	EXISTING TO REMAIN
EUA	ELECTRIC UNIT HEATER
EWT	ENTERING WATER TEMPERATURE
EXP	EXPANSION
F	FILL
FA	FRESH AIR
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FF	FINAL FILTER
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FSD	FIRE & SMOKE DAMPER
FTR	FIRNED TUBE RADIATION
G	NATURAL GAS
GA	GAUGE
GAL	GALLONS
GC	GENERAL CONTRACTOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GLYCOL RETURN
GS	GLYCOL SUPPLY

GENERAL ABBREVIATIONS

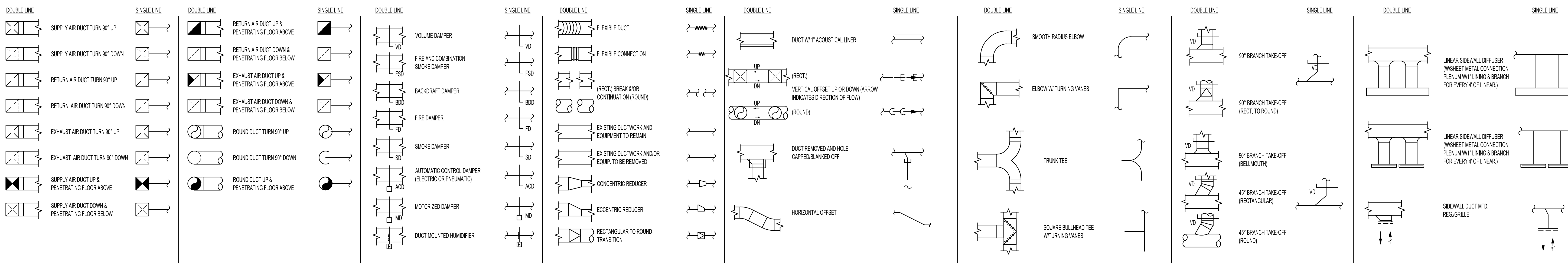
GHV	GAS UNIT HEATER
H	HUMIDIFIER
HG	HOT GAS
HP	HORSE POWER ON HEAT PUMP
HPR	HIGH PRESSURE CONDENSATE RETURN
HPS	HIGH PRESSURE STEAM (60 & UP)
HTR	HIGH TEMPERATURE HOT WATER
HTHV	HEATING VENTILATING & AIR CONDITIONING
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
ID	INSIDE DIAMETER
IJ	INDUCTION UNIT
KWH	KILOWATT HOUR
KWH	KILOWATT PER HOUR
LBS	POUNDS PER HOUR
LPS	LOW PRESSURE CONDENSATE RETURN
LPS	LOW PRESSURE STEAM (10 TO 19)
LRA	LOCKED ROTOR AMPS
LTHW	LOW TEMPERATURE HOT WATER
LWT	LEAVING WATER TEMPERATURE
LX	MAXIMUM
MBH	1000 CUBIC FEET
MD	MOTORIZED DAMPER
MFR	MANUFACTURER

MN	MINIMUM
MPR	MEDIUM PRESSURE CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM (10 TO 19)
MFD	MIXED
MTR	MEDIUM TEMPERATURE HOT WATER
MUA	MAKE UP AIR
MV	AIR VENT (MANUAL)
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
P	PUMP
PC	PLUMBING CONTRACTOR
PCHWR	PROCESSED CHILLED WATER RETURN
PCHWS	PROCESSED CHILLED WATER SUPPLY
PD	PRESSURE DROP (FEET OF WATER)
PF	PRE FILTER
PH	PRE-HEAT COIL
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSA	PRESSURE PER SQUARE INCH ABSOLUTE
PSG	POUNDS PER SQUARE INCH GAUGE

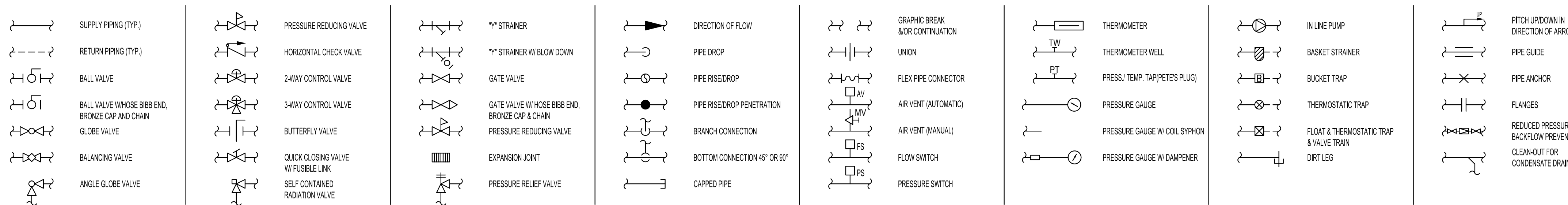
PTAC	PACKAGED TERMINAL AIR CONDITIONER
PTHF	PACKAGED TERMINAL HEAT PUMP
RA	RETURN AIR
RAF	RETURN AIR FAN
RHC	REHEAT COIL
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID
RP	RADIANT PANEL
RPV	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
S	SUPPLY AIR DEVICE
SA	SUPPLY AIR OR SOUND ATTENUATOR
SD	SMOKE DAMPER OR SMOKE DETECTOR
SF	SUPPLY AIR FAN
SG	SPECIFIC GRAVITY
SP	STATIC PRESSURE (INCHES OF WATER)
SPC	STATIC PRESSURE CONTROLLER
TA	TRANSFER AIR
TAC	THRU WALL AIR CONDITIONER
TS	TERMINAL BOX
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TW	THERMOMETER WELL
TYP	TYPICAL
UC	UNDERCUT
UH	UNIT HEATER

UV	UNIT VENTILATOR
V	VOLTS
VAV	VARIABLE AIR VOLUME TERMINAL BOX
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VP	VACUUM PUMP
VTR	VENTED THROUGH ROOF
W	WATTS
WAC	WINDOW AIR CONDITIONER
WBT	WET BULB TEMPERATURE °F
WH	WALL HEATER
WMS	WIRE MESH SCREEN
WPD	WATER PRESSURE DROP (FEET)

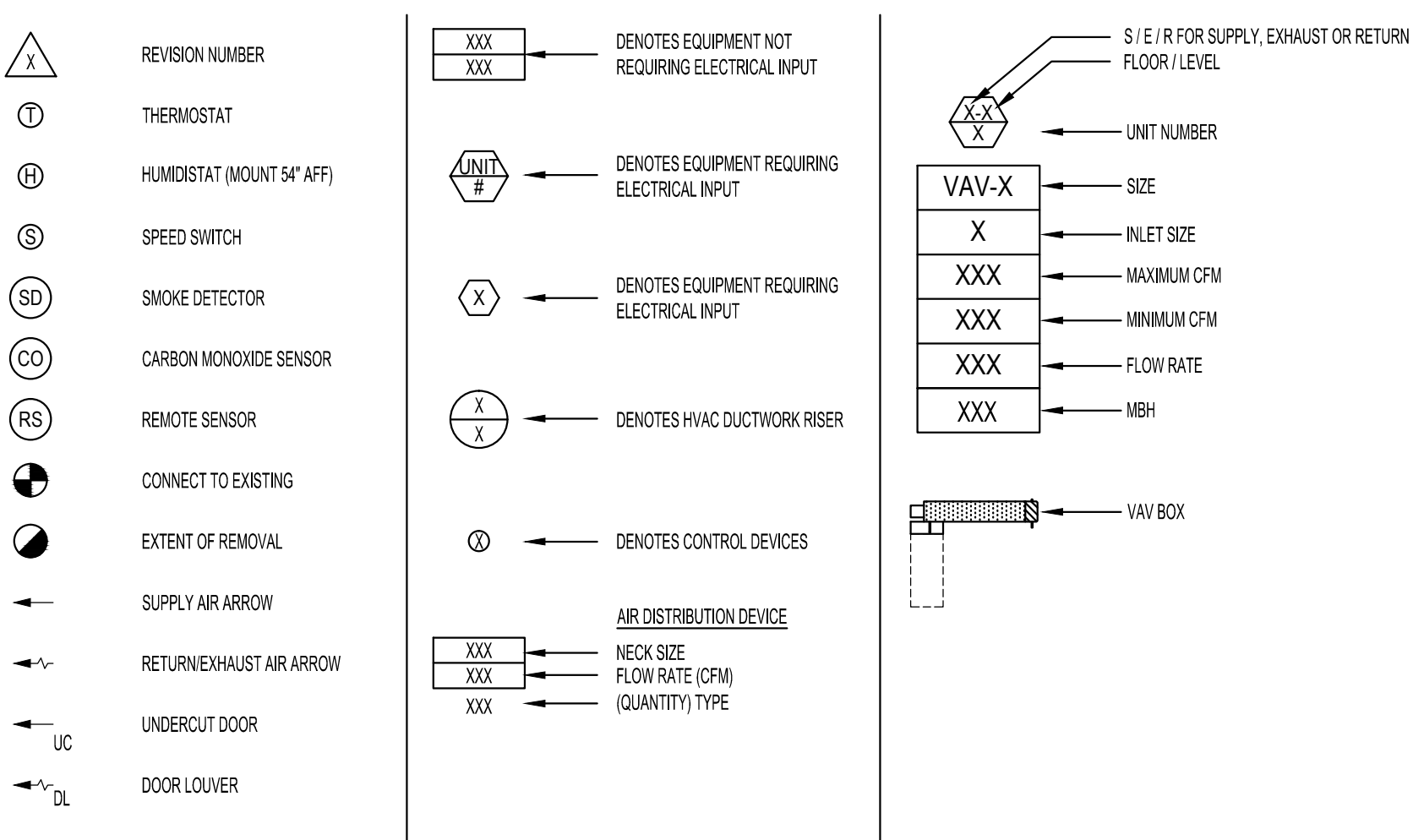
SHEETMETAL SYMBOLS



PIPING SYMBOLS



GENERAL SYMBOLS



GENERAL NOTES

- THE HEATING, VENTILATING AND AIR CONDITIONING (HVAC) CONTRACTOR SHALL VISIT THE SITE TO DETERMINE ALL PRE-EXISTING CONDITIONS AND WORK NECESSARY PRIOR TO SUBMISSION OF BID PRICE.
- THE HVAC CONTRACTOR SHALL BE FAMILIAR WITH ALL CONTRACT DOCUMENTS FOR ALL TRADES AND COORDINATE WITH OTHER CONTRACTORS.
- DRAWINGS ARE SHOWN FOR INFORMATION ONLY. FINAL ROUTING OF DUCTWORK, PIPING AND EQUIPMENT LOCATIONS SHALL BE DETERMINED IN THE FIELD. ADDITIONAL OFFSETS, ELBOWS, ETC., SHALL BE PROVIDED AND INSTALLED WITHOUT ADDITIONAL COST TO THE OWNER.
- ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS.
- SUPPLY AND RETURN DUCT TAKES FROM AIR HANDLING EQUIPMENT SHALL BE INTERNALLY LINKED AS PER SPECIFICATIONS A MINIMUM OF 5'-0" FROM THE UNIT UNLESS OTHERWISE NOTED. ALL DUCTWORK DIMENSIONS INDICATED ARE CLEAR INSIDE DIMENSIONS.
- VOLUME DAMPERS SHALL BE INSTALLED AT BRANCHES, SPLITS, AND TAKE-OFFS. ALL LOW PRESSURE SUPPLY, RETURN AND EXHAUST DUCTWORK.
- MINIMUM SIZE OF ALL HVAC PIPING SHALL BE 3/4" UNLESS OTHERWISE NOTED.
- PROVIDE SMOKE DETECTORS IN DUCT SYSTEMS IN ACCORDANCE WITH NFPA.
- THE HVAC CONTRACTOR SHALL COORDINATE ALL ELECTRICAL AND PLUMBING REQUIREMENTS WITH THE ELECTRICAL AND PLUMBING CONTRACTORS.
- THE HVAC CONTRACTOR SHALL FIELD MEASURE EXACT SIZES AND VERIFY ALL OPENINGS FOR SHAFTS AND LOUVERS PRIOR TO SUBMISSION OF SHOP DRAWINGS AND INSTALLATION.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR FINAL LOCATIONS OF DIFFUSERS, REGISTERS, GRILLES, THERMOSTATS, ETC.
- THE HVAC CONTRACTOR SHALL FURNISH AND INSTALL ALL INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE HVAC WORK COMPLETE AND READY FOR OPERATION.
- ALL HVAC WORK SHALL BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
- ALL HVAC EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- FIRE DAMPERS AND ACCESS PANELS SHALL BE INSTALLED AT ALL 24-HOUR RATED PARTITIONS AND FLOOR PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR PARTITION LOCATIONS.
- TRANSFER DUCTS IN RATED PARTITIONS SHALL BE INSTALLED WITH FIRE DAMPERS.
- ISOLATION VALVES SHALL BE INSTALLED IN SUPPLY AND RETURN PIPING ON EACH FLOOR AT EACH MAIN BRANCH AND AT EACH BRANCH OR RUN-OUT SERVING MORE THAN ONE PIECE OF EQUIPMENT.
- SHUT-OFF VALVES SHALL BE INSTALLED IN THE SUPPLY AND RETURN PIPING TO ALL EQUIPMENT TO ALLOW FOR SERVICING. UNIONS OR FLANGES SHALL BE ARRANGED SUCH THAT EQUIPMENT CAN BE SERVED WITHOUT CUTTING AND WITH MINIMAL DISRUPTION OF PIPING SERVING THE EQUIPMENT.
- THE HVAC CONTRACTOR SHALL FURNISH TO THE GENERAL CONTRACTOR ALL INFORMATION REQUIRED FOR SETTING OF WALL, ROOF AND PARTITION OPENINGS FOR HVAC WORK. THIS INFORMATION SHALL BE FURNISHED IN A TIMELY MANNER SUCH THAT CONSTRUCTION SCHEDULE IS NOT JEOPARDIZED.
- THE HVAC CONTRACTOR SHALL INFORM AND COORDINATE WITH THE OWNER ALL NECESSARY INTERRUPTIONS TO EXISTING BUILDING SYSTEMS AND SERVICE THAT MAY AFFECT THE NORMAL OPERATION OF OCCUPIED PORTIONS OF THE BUILDING. THE OWNER SHALL BE INFORMED OF ANY INTERRUPTIONS AT LEAST TWO (2) WEEKS IN ADVANCE.
- THE HVAC CONTRACTOR SHALL COORDINATE ANY PREMIUM WORK REQUIRED FOR THIS PROJECT WITH THE GENERAL CONTRACTOR.
- THE HVAC CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PHASING REQUIREMENTS OF THE PROJECT.
- THE AUTOMATIC TEMPERATURE CONTROL (ATC) CONTRACTOR SHALL COORDINATE THERMOSTAT LOCATIONS WITH ARCHITECTURAL FURNITURE PLANS. THERMOSTATS SHALL BE INSTALLED 5' ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

DRAWING LIST

- H401.....HVAC LEGEND & GENERAL NOTES
- H402.....HVAC SCHEDULES
- H403.....HVAC CHILLED GLYCOL, HOT WATER, AND STEAM PIPING SCHEMATIC
- H404.....HVAC DETAILS I
- H405.....HVAC DETAILS II
- H406.....HVAC DETAILS III
- H407.....HVAC DETAILS IV
- H408.....HVAC LEVEL 1 DUCTWORK PLAN
- H409.....HVAC LEVEL 2 DUCTWORK PLAN
- H410.....HVAC ROOF DUCTWORK PLAN
- H411.....HVAC DUCTWORK ALTERNATIVE ROOF DUCTWORK PLAN
- H412.....HVAC LEVEL 1 PIPING PLAN
- H413.....HVAC LEVEL 2 PIPING PLAN
- H414.....HVAC ROOF PIPING PLAN
- H415.....HVAC DUCTWORK ALTERNATIVE ROOF PIPING PLAN
- H416.....HVAC CONTROL LEGEND
- H417.....HVAC CONTROL DIAGRAMS AND SEQUENCES
- H418.....HVAC CONTROL DIAGRAMS AND SEQUENCES

100% CONSTRUCTION DOCUMENT SUBMISSION
"FULLY SPRINKLERED"

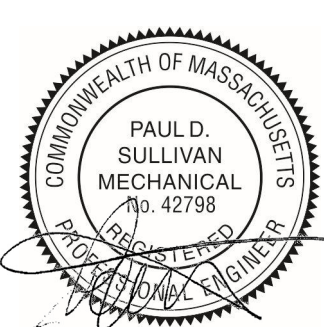
CONSULTANTS:



R. W. Sullivan Engineering
MEP/FP Engineering, Civil, Consulting
The South Center, 500 Main St., Suite 203
Boston, Massachusetts 02245-1101
Phone: (617) 552-0427 | www.rwsullivan.com
986-238-1100

ARCHITECT/ENGINEERS:

moser
pilon
nelson
architects



Drawing Title

HVAC
LEGEND & GENERAL NOTES

Approved: Project Director

Project Title

BUILDING 3
MRI/CT Radiology Addition
Boston Healthcare System - Brockton Campus

Location
940 Belmont Street Brockton, MA 02301

Project Number

523-398
Building Number
3

Drawing Number

HQ-01
Dwg. 73 of 145

Office of
Facilities
Management

