VETERANS AFFAIRS MEDICAL CENTER

500 E VETERANS ST
TOMAH, WI 54660

REPLACE HVAC & AC B404

PROJECT NO.: 676-16-102

CAMPUS MAP

PROJECT TEAM

PROJECT LEADER/ARCHITECT

PENN CONSTRUCTION GROOP

MILWAUKEE, WI
309 N. WATER ST.,
SUITE 650
MILWAUKEE, WI 53202
PHONE: (414) 391-2797

MECHANICAL

PENN CONSTRUCTION GROUP

MILWAUKEE, WI
309 N. WATER ST.
SUITE 650
MILWAUKEE, WI 53202

PLUMBING

PENN CONSTRUCTION GROUP

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FIRE PROTECTION

PENN CONSTRUCTION GROUP

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ELECTRICAL

PENN CONSTRUCTION GROUP

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SUITE 650
MILWAUKEE, WI 53202

LOCATION MAP

SHEET INDEX

SHEET NUMBER	SHEET NAME	ISSUED FOR 35% SDs 09/06/2017	ISSUED FOR 65% DDs 11/03/2017	ISSUED FOR 95% CDs 12/22/17	ISSUED FOR 100% CDs 02/09/18
GENERAL INFORMATION					
G001	TITLE SHEET	X	X	X	X
GC101	PHASING DEMOLITION	X	X	X	X
GC102	PHASING NEW WORK	X	X	X	X
GC103	INFECTION CONTROL GENERAL NOTES AND DETAILS		X	X	X
GC104	INFECTION CONTROL PLANS			X	X
CIVIL					
C001	SITE DETAILS			X	X
C101	SITE STAGING AND EQUIPMENT LAYOUT PLAN		X	X	X
ARCHITECTURAL					
A001	ARCHITECTURAL LEGEND, ABBREVIATIONS, SCHEDULES, AND DETAILS	X	X	X	X
AD101	ARCHITECTURAL DEMOLITION	X	X	X	X
AS101	ARCHITECTURAL NEW WORK	X	X	X	X
AS201	ARCHITECTURAL REFLECTED CEILING PLAN			X	X
A401	ARCHITECTURAL ELEVATIONS	X	X	X	X
A402	ARCHITECTURAL ELEVATIONS	X	X	X	X
FIRE PROTECTION					
F001	FIRE PROTECTION LEGEND, ABBREVIATIONS, SCHEDULES AND DETAILS	X	X	X	X
FD101	FIRE PROTECTION SUPPRESSION DEMOLITION	X	X	X	X
FD102	FIRE PROTECTION DETECTION AND ALARM DEMOLITION	X	X	X	X
FX101	FIRE PROTECTION SUPPRESSION NEW WORK	X	X	X	X
FA101	FIRE PROTECTION DETECTION AND ALARM NEW WORK	X	X	X	X
PLUMBING					
P001	PLUMBING LEGEND, ABBREVIATIONS, AND DIAGRAMS	X	X	X	X
PD101	PLUMBING DEMOLITION	X	X	X	X
PL101	PLUMBING NEW WORK - THIRD FLOOR	X	X	X	X
PL102	PLUMBING NEW WORK - ATTIC		X	X	X
MECHANICAL					
M001	MECHANICAL LEGEND, ABBREVIATIONS, AND NOTES	X	X	X	X
MD101	MECHANICAL BASEMENT DEMOLITION	X	X	X	X
MD102-A	MECHANICAL PARTIAL ATTIC DEMOLITION - DUCTWORK	X	X	X	X
MD102-B	MECHANICAL PARTIAL ATTIC DEMOLITION - DUCTWORK	X	X	X	X
MD102-C	MECHANICAL PARTIAL ATTIC DEMOLITION - DUCTWORK	X	X	X	X
MD103-A	MECHANICAL PARTIAL ATTIC DEMOLITION - PIPING	X	X	X	X
MD103-B	MECHANICAL PARTIAL ATTIC DEMOLITION - PIPING	X	X	X	X
MD103-C	MECHANICAL PARTIAL ATTIC DEMOLITION - PIPING	X	X	X	X
MH101	MECHANICAL BASEMENT NEW WORK	X	X	X	X
MH102-A	MECHANICAL PARTIAL ATTIC NEW WORK - DUCTWORK	X	X	X	X
MH102-B	MECHANICAL PARTIAL ATTIC NEW WORK - DUCTWORK	X	X	X	X
MH102-C	MECHANICAL PARTIAL ATTIC NEW WORK - DUCTWORK	X	X	X	X
MP102-A	MECHANICAL PARTIAL ATTIC NEW WORK - PIPING	X	X	X	X
MP102-B	MECHANICAL PARTIAL ATTIC NEW WORK - PIPING	X	X	X	X
MP102-C	MECHANICAL PARTIAL ATTIC NEW WORK - PIPING	X	X	X	X
M301	MECHANICAL SECTIONS	X	X	X	X
M302	MECHANICAL SECTIONS	X	X	X	X
M501	MECHANICAL DETAILS AND DIAGRAMS			X	X
M502	MECHANICAL DETAILS AND DIAGRAMS			X	X
M601	MECHANICAL SCHEDULES	X	X	X	X
M701	MECHANICAL CONTROL DIAGRAMS		X	X	X
M702	MECHANICAL CONTROL DIAGRAMS			X	X
M703	MECHANICAL AIR FLOW DIAGRAMS		X	X	X
M704	MECHANICAL FLOW DIAGRAMS		X	X	X
ELECTRICAL					
E001	ELECTRICAL LEGEND, ABBREVIATIONS, AND SCHEDULE	X	X	X	X
ED101	ELECTRICAL DEMOLITION	X	X	X	X
ES101	ELECTRICAL NEW WORK	X	X	X	X
E301	ELECTRICAL MCC ELEVATIONS	X	X	X	X
E302	ELECTRICAL MCC ELEVATIONS	X	X	X	X

IN THE CASE OF CONFLICTS OR DISCREPANCIES WITHIN OR AMONG THE CONTRACT DRAWINGS, THE BETTER QUALITY, MORE STRINGENT REQUIREMENTS OR GREATER QUANTITY OF WORK, AS DETERMINED BY THE GOVERNMENT, SHALL BE PROVIDED.

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: TITLE SHEET
Approved: Project Director
Project Title: Replace HVAC & AC B404
Location: Tomah, Wisconsin
Date: February 9, 2018
Checked By: HFB
Drawn By: MDG

FULLY SPRINKLERED
100% CONSTRUCTION DOCS
Project Number: 676-16-102
Building Number: 404
Drawing Number: GI001

Office of Facilities Management
Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

PHASE 1 – REPLACE EXHAUST FANS EF-1, EF-3-1, AND EF-3-2
DEMOLITION.
- EXISTING DUCTWORK PARTIALLY BLOCKS EXISTING ACCESS DOORS.
- CUT NEW TEMPORARY OPENING IN EAST WALL. SALVAGE EXISTING BRICK FOR RE-USE.
- PROVIDE A TEMPORARY EXHAUST FAN AND EXHAUST THROUGH THE NEW TEMPORARY OPENING IN EAST WALL. EC TO PROVIDE A TEMPORARY POWER FEEDER TO THE EXHAUST FAN FROM EXISTING MCC-2. EC TO PROVIDE A NEW FUSED SWITCH IN EXISTING BUSSED CUBICLE SPACE IN MCC-2.
- PROVIDE SCREENED OUTLET FOR EXHAUST AND SEAL ALL AROUND EXHAUST DUCT.
- REMOVE/DEMOLISH EXISTING EXHAUST FANS, EF-1, EF-3-1 AND EF-3-2. CONDUIT, POWER CONDUCTORS, CONTROLS AND DISCONNECT SWITCHES SHALL BE REMOVED BACK TO POWER DISTRIBUTION SOURCE(S) SERVING EACH SYSTEM.
- INSTALL NEW EXHAUST FAN EF-1, ENERGY RECOVERY COIL, DUCTWORK, AND RELATED ACCESSORIES. PROVIDE NEW CONDUIT, POWER CONDUCTORS AND LOCAL DISCONNECT SWITCH AS REQUIRED. EF-1 SHALL BE FED FROM EXISTING MCC-2.
- REMOVE TEMPORARY FAN AND DUCTWORK. DISCONNECT AND REMOVE TEMPORARY POWER FEEDER TO EXHAUST FAN. TEMPORARY FUSED SWITCH USED FOR EXHAUST FAN TO REMAIN.
- INFILL TEMPORARY OPENING IN EAST WALL TO MATCH EXISTING CONSTRUCTION. RE-USE SALVAGED BRICK OR PROVIDE NEW BRICK TO MATCH EXISTING.

PHASE 2 – OPEN EXISTING WEST WALL AND INSTALL NEW 6 FT BY 6 FT OPENING FOR ACCESS DOORS, REPLACE EXHAUST FANS.
- EXISTING DUCTS COVER THE WEST WALL MAKING ACCESS IMPOSSIBLE.
- CUT NEW OPENINGS IN THE EXISTING WEST WALL FOR NEW DOORWAY AND A TEMPORARY OPENING. SALVAGE EXISTING BRICK FOR RE-USE.
- PROVIDE TEMPORARY EXHAUST FAN AND EXHAUST THROUGH TEMPORARY OPENING IN WEST WALL. EC TO PROVIDE A TEMPORARY POWER FEEDER TO THE EXHAUST FAN FROM EXISTING MCC-3. EC TO PROVIDE A NEW FUSED SWITCH IN EXISTING BUSSED CUBICLE SPACE IN MCC-3.
- PROVIDE SCREENED OUTLET FOR EXHAUST AND SEAL ALL AROUND EXHAUST DUCT.
- PROVIDE NEW EXHAUST DUCT CONNECTIONS TO THE NEW LOUVER(S) TO NEW EXHAUST FAN(S).
- REMOVE/DEMOLISH EXISTING EXHAUST FANS, EF-2-3, EF-5-1 AND EF-5-2. CONDUIT, POWER CONDUCTORS, CONTROLS AND DISCONNECT SWITCHES SHALL BE REMOVED BACK TO POWER DISTRIBUTION SOURCE(S) SERVING EACH SYSTEM.
- INSTALL NEW EXHAUST FAN EF-5, ENERGY RECOVERY COIL, DUCTWORK, AND RELATED ACCESSORIES. PROVIDE NEW CONDUIT, POWER CONDUCTORS AND LOCAL DISCONNECT SWITCH. EF-5 SHALL BE FED FROM EXISTING MCC-3.
- REMOVE TEMPORARY FAN AND DUCTWORK. DISCONNECT AND REMOVE TEMPORARY POWER FEEDER TO EXHAUST FAN. TEMPORARY FUSED SWITCH USED FOR EXHAUST FAN TO REMAIN.
- PROVIDE NEW 6 FT BY 6 FT DOORS IN WEST WALL.
- INFILL TEMPORARY OPENING IN WEST WALL TO MATCH EXISTING CONSTRUCTION. RE-USE SALVAGED BRICK OR PROVIDE NEW BRICK TO MATCH EXISTING.

PHASE 3 – AHU 1 AND 3 REMOVAL AND REPLACEMENT
- ALL WORK SHALL BE COMPLETED BETWEEN THE DATES NOVEMBER 1 AND APRIL 1. DURING THIS TIME IT IS EXPECTED THE AHU OPERATE AT MINIMUM AIRFLOWS.

PHASE 3A
- PROVIDE TEMPORARY SUPPLY AND RETURN DUCT CONNECTIONS BETWEEN AHU-3 AND AHU-1.
- REMOVE SUPPLY AND RETURN DUCTWORK FOR AHU-1.
- REMOVE CHILLED WATER, STEAM, AND CONDENSATE PIPING AT AHU-1.
- COMPLETELY REMOVE EXISTING AHU-1 AND RF-1. CONDUIT, POWER CONDUCTORS, CONTROLS AND DISCONNECT SWITCHES SHALL BE REMOVED BACK TO POWER DISTRIBUTION SOURCE(S) SERVING SYSTEM.

PHASE 3C
- REMOVE CHILLED WATER, STEAM, AND CONDENSATE PIPING AT EXISTING AHU-3.
- COMPLETELY REMOVE EXISTING AHU-3 AND RF-3. CONDUIT, POWER CONDUCTORS, CONTROLS AND DISCONNECT SWITCHES SHALL BE REMOVED BACK TO POWER DISTRIBUTION SOURCE(S) SERVING SYSTEM.

PHASE 4 – AHU 2 AND 5 REMOVAL AND REPLACEMENT
- ALL WORK SHALL BE COMPLETED BETWEEN THE DATES NOVEMBER 1 AND APRIL 1. DURING THIS TIME IT IS EXPECTED THE AHU OPERATE MINIMUM AIRFLOWS.

PHASE 4A
- PROVIDE TEMPORARY SUPPLY AND RETURN DUCT CONNECTIONS BETWEEN AHU-5 AND AHU-2. PROVIDE A TEMPORARY CONNECTION BETWEEN THE DISCHARGE OF RF-2 AND THE RETURN DUCTWORK OF AHU-5.
- REMOVE SUPPLY AND RETURN DUCTWORK FOR AHU-2.
- REMOVE CHILLED WATER, STEAM, AND CONDENSATE PIPING AHU-2.
- COMPLETELY REMOVE EXISTING AHU-2. CONDUIT, POWER CONDUCTORS, CONTROLS AND DISCONNECT SWITCHES SHALL BE REMOVED BACK TO POWER DISTRIBUTION SOURCE(S) SERVING SYSTEM.

PHASE 4B
- DEMO EXISTING RF-5. CONDUIT, POWER CONDUCTORS, CONTROLS AND DISCONNECT SWITCHES SHALL BE REMOVED BACK TO POWER DISTRIBUTION SOURCE(S) SERVING SYSTEM. PROVIDE TEMPORARY INLINE FAN IN DUCTWORK TO REPLACE RF-5. EC TO PROVIDE A TEMPORARY POWER FEEDER TO THE INLINE FAN FROM EXISTING MCC-2. EC TO PROVIDE A NEW FUSED SWITCH IN EXISTING BUSSED SPACE IN MCC-2.
- DEMO EXISTING EF-9. CONDUIT, POWER CONDUCTORS, CONTROLS AND DISCONNECT SWITCHES SHALL BE REMOVED BACK TO POWER DISTRIBUTION SOURCE(S) SERVING SYSTEM.

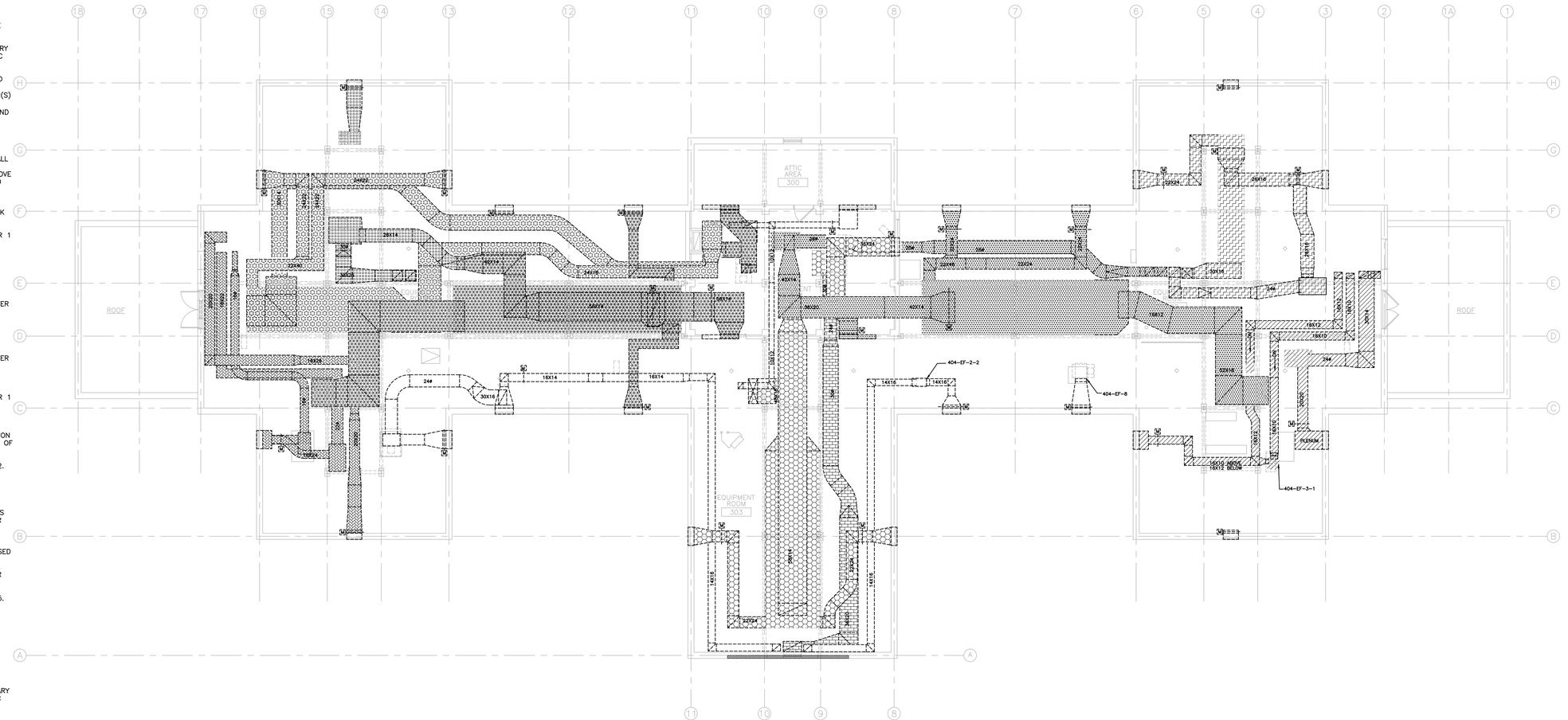
PHASE 4D
- REMOVE CHILLED WATER, STEAM, AND CONDENSATE PIPING AHU-5.
- COMPLETELY REMOVE EXISTING AHU-5, RF-2, AND TEMPORARY INLINE FAN. RECONNECT RETURN DUCTS WHERE FANS WERE REMOVED. CONDUIT, POWER CONDUCTORS, CONTROLS AND DISCONNECT SWITCHES SHALL BE REMOVED BACK TO POWER DISTRIBUTION SOURCE(S) SERVING SYSTEM.

PHASE 5 – AHU-4 REMOVAL AND REPLACEMENT
- PHASE 5 WORK SHALL BE COMPLETED ONLY AFTER PHASES 1 THROUGH 4 ARE COMPLETED.

PHASE 5A
- PROVIDE TEMPORARY OPENING IN THE SOUTH WALL. OPENING IS FOR REMOVAL OF EXISTING AHU-4 AND NEW AHU-4 IN PLACE. PROVIDE FALL PROTECTION AT OPENING AND PROVIDE A TEMPORARY REMOVABLE STUD WALL WITH VISQUEEN COVER TO PROTECT ATTIC FROM WEATHER, RAIN, WIND AND SNOW.
- SALVAGE ALL EXTERIOR MATERIALS FOR REPLACEMENT.
- PROVIDE A TEMPORARY UNIT WITH STEAM HEATING AND PROVIDE TEMPORARY SUPPLY AND RETURN DUCT CONNECTIONS. EC TO PROVIDE A TEMPORARY POWER FEEDER TO NEW UNIT FROM EXISTING MCC-2. EC TO PROVIDE A NEW FUSED SWITCH IN EXISTING BUSSED SPACE IN MCC-2.

PHASE 5B
- REMOVE SUPPLY DUCTWORK FOR AHU-4. KEEP EXISTING RETURN DUCTWORK WHILE TEMPORARY UNIT IS REQUIRED.
- REMOVE CHILLED WATER, STEAM, AND CONDENSATE PIPING AT AHU-4.
- COMPLETELY REMOVE EXISTING AHU-4 AND RF-4. CONDUIT, POWER CONDUCTORS, CONTROLS AND DISCONNECT SWITCHES SHALL BE REMOVED BACK TO POWER DISTRIBUTION SOURCE(S) SERVING SYSTEM.

PHASE 5C
- PROVIDE NEW AHU-4 IN LOCATION OF DEMOLISHED AHU-4. PROVIDE NEW CONDUIT, POWER CONDUCTORS AND LOCAL DISCONNECT SWITCH AS REQUIRED. AHU-4 SHALL BE FED FROM EXISTING MCC-3. EC TO REUSE EXISTING FUSED SWITCH IN MCC-2 AND PROVIDE NEW FUSES AS REQUIRED.
- PROVIDE CHILLED WATER, STEAM AND CONDENSATE PIPING TO NEW AHU-4.
- PROVIDE PERMANENT CONNECTIONS TO SUPPLY AND RETURN DUCTS FOR AHU-4.
- REMOVE TEMPORARY UNIT. DEMO RETURN DUCTWORK NOT REMOVED DURING PHASE 5B. TEMPORARY FUSED SWITCH USED FOR AHU UNIT TO REMAIN IN MCC-3.
- INFILL TEMPORARY OPENING IN SOUTH WALL TO MATCH EXISTING CONSTRUCTION. RE-USE SALVAGED BRICK OR PROVIDE NEW BRICK TO MATCH EXISTING.



1 ATTIC PLAN
1/8" = 1'-0"

ATTIC KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

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CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	PHASING DEMOLITION
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	JMD
Project Number	676-16-102
Building Number	404
Drawing Number	GC101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

PHASE 1 – REPLACE EXHAUST FANS EF–1, EF–3–1, AND EF–3–2 NEW WORK.
- INSTALL NEW EXHAUST FAN EF–1, ENERGY RECOVERY COIL, DUCTWORK, AND RELATED ACCESSORIES. PROVIDE NEW CONDUIT, POWER CONDUCTORS AND LOCAL DISCONNECT SWITCH AS REQUIRED. EF–1 SHALL BE FED FROM EXISTING MCC–2.
- REMOVE TEMPORARY FAN AND DUCTWORK. DISCONNECT AND REMOVE TEMPORARY POWER FEEDER TO EXHAUST FAN. TEMPORARY FUSED SWITCH USED FOR EXHAUST FAN TO REMAIN.
- INFILL TEMPORARY OPENING IN EAST WALL TO MATCH EXISTING CONSTRUCTION. RE–USE SALVAGED BRICK OR PROVIDE NEW BRICK TO MATCH EXISTING.

PHASE 2 – OPEN EXISTING WEST WALL AND INSTALL NEW 6 FT BY 6 FT OPENING FOR ACCESS DOORS, REPLACE EXHAUST FANS.
- INSTALL NEW EXHAUST FAN EF–5, ENERGY RECOVERY COIL, DUCTWORK, AND RELATED ACCESSORIES. PROVIDE NEW CONDUIT, POWER CONDUCTORS AND LOCAL DISCONNECT SWITCH. EF–5 SHALL BE FED FROM EXISTING MCC–3.
- REMOVE TEMPORARY FAN AND DUCTWORK. DISCONNECT AND REMOVE TEMPORARY POWER FEEDER TO EXHAUST FAN. TEMPORARY FUSED SWITCH USED FOR EXHAUST FAN TO REMAIN.
- PROVIDE NEW 6 FT BY 6 FT DOORS IN WEST WALL.
- INFILL TEMPORARY OPENING IN WEST WALL TO MATCH EXISTING CONSTRUCTION. RE–USE SALVAGED BRICK OR PROVIDE NEW BRICK TO MATCH EXISTING.

PHASE 3 – AHU 1 AND 3 REMOVAL AND REPLACEMENT
- ALL WORK SHALL BE COMPLETED BETWEEN THE DATES NOVEMBER 1 AND APRIL 1. DURING THIS TIME IT IS EXPECTED THE AHU OPERATE AT MINIMUM AIRFLOWS.

PHASE 3B
- PROVIDE NEW AHU–3 IN LOCATION OF DEMOLISHED AHU–1. PROVIDE NEW CONDUIT, POWER CONDUCTORS AND LOCAL DISCONNECT SWITCH AS REQUIRED. AHU–3 SHALL BE FED FROM EXISTING MCC–2. EC TO REUSE EXISTING FUSED SWITCH IN MCC–2 AND PROVIDE NEW FUSES AS REQUIRED.
- PROVIDE CHILLED WATER, STEAM AND CONDENSATE PIPING TO NEW AHU–3.
- PROVIDE TEMPORARY DISCHARGE PLENUM FOR AHU–3.
- PROVIDE TEMPORARY SUPPLY AND RETURN DUCTS FROM AHU–3 TO EXISTING DUCT RISERS. KEEP CROSS CONNECTIONS TO AHU–1.

PHASE 3D
- PROVIDE NEW AHU–1 IN THE LOCATION WHERE EXISTING AHU–3 WAS. PROVIDE NEW CONDUIT, POWER CONDUCTORS AND LOCAL DISCONNECT SWITCH AS REQUIRED. AHU–1 SHALL BE FED FROM EXISTING MCC–2. EC TO REUSE EXISTING FUSED SWITCH IN MCC–2 AND PROVIDE NEW FUSES AS REQUIRED.
- INSTALL PERMANENT DISCHARGE PLENUM AND FINAL FILTERS FOR AHU–3.
- PROVIDE PERMANENT CONNECTIONS TO SUPPLY AND RETURN DUCTS.
- PROVIDE PERMANENT CHILLED WATER, STEAM AND CONDENSATE CONNECTIONS TO NEW AHU–1.

PHASE 4 – AHU 2 AND 5 REMOVAL AND REPLACEMENT
- ALL WORK SHALL BE COMPLETED BETWEEN THE DATES NOVEMBER 1 AND APRIL 1. DURING THIS TIME IT IS EXPECTED THE AHU OPERATE MINIMUM AIRFLOWS.

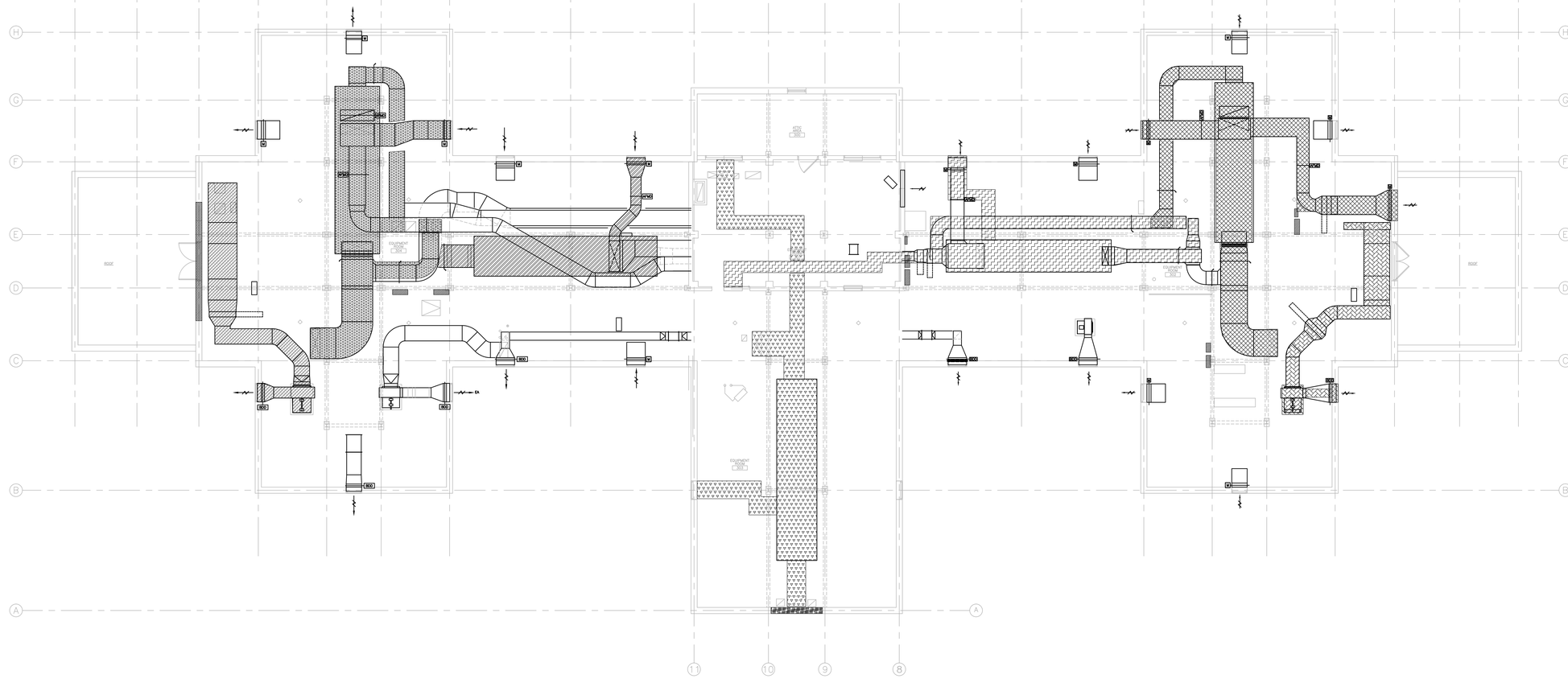
PHASE 4C
- PROVIDE NEW AHU–5 NEAR THE LOCATION OF DEMOLISHED AHU–2 BUT PERPENDICULAR. PROVIDE NEW CONDUIT, POWER CONDUCTORS AND LOCAL DISCONNECT SWITCH AS REQUIRED. AHU–5 SHALL BE FED FROM EXISTING MCC–3. EC TO REUSE EXISTING FUSED SWITCH IN MCC–3 AND PROVIDE NEW FUSES AS REQUIRED.
- PROVIDE TEMPORARY DISCHARGE PLENUM FOR AHU–5.
- PROVIDE TEMPORARY SUPPLY AND RETURN DUCTS FROM AHU–5 TO EXISTING DUCT RISERS.
- PROVIDE CHILLED WATER, STEAM AND CONDENSATE PIPING TO NEW AHU–5.

PHASE 4E
- PROVIDE NEW AHU–2 IN THE LOCATION WHERE EXISTING AHU–5 WAS. PROVIDE NEW CONDUIT, POWER CONDUCTORS AND LOCAL DISCONNECT SWITCH AS REQUIRED. AHU–2 SHALL BE FED FROM EXISTING MCC–3. EC TO REUSE EXISTING FUSED SWITCH IN MCC–3 AND PROVIDE NEW FUSES AS REQUIRED.
- PROVIDE PERMANENT CHILLED WATER, STEAM AND CONDENSATE CONNECTIONS TO NEW AHU–2.
- INSTALL PERMANENT DISCHARGE PLENUM AND FINAL FILTERS FOR AHU–5.
- PROVIDE PERMANENT CONNECTIONS TO NEW AHU–2 SUPPLY AND RETURN DUCTS.

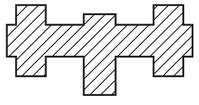
PHASE 5 – AHU–4 REMOVAL AND REPLACEMENT
- PHASE 5 WORK SHALL BE COMPLETED ONLY AFTER PHASES 1 THROUGH 4 ARE COMPLETED.

PHASE 5A
- PROVIDE TEMPORARY OPENING IN THE SOUTH WALL. OPENING IS FOR REMOVAL OF EXISTING AHU–4 AND NEW AHU–4 IN PLACE. PROVIDE FALL PROTECTION AT OPENING AND PROVIDE A TEMPORARY REMOVABLE STUD WALL WITH VISQUEEN COVER TO PROTECT ATTIC FROM WEATHER, RAIN, WIND AND SNOW.
- SALVAGE ALL EXTERIOR MATERIALS FOR REPLACEMENT.
- PROVIDE A TEMPORARY UNIT WITH STEAM HEATING AND PROVIDE TEMPORARY SUPPLY AND RETURN DUCT CONNECTIONS. EC TO PROVIDE A TEMPORARY POWER FEEDER TO NEW UNIT FROM EXISTING MCC–2. EC TO PROVIDE A NEW FUSED SWITCH IN EXISTING BUSSED SPACE IN MCC–2.

PHASE 5C
- PROVIDE NEW AHU–4 IN LOCATION OF DEMOLISHED AHU–4. PROVIDE NEW CONDUIT, POWER CONDUCTORS AND LOCAL DISCONNECT SWITCH AS REQUIRED. AHU–4 SHALL BE FED FROM EXISTING MCC–3. EC TO REUSE EXISTING FUSED SWITCH IN MCC–2 AND PROVIDE NEW FUSES AS REQUIRED.
- PROVIDE CHILLED WATER, STEAM AND CONDENSATE PIPING TO NEW AHU–4.
- PROVIDE PERMANENT CONNECTIONS TO SUPPLY AND RETURN DUCTS FOR AHU–4.
- REMOVE TEMPORARY UNIT. DEMO RETURN DUCTWORK NOT REMOVED DURING PHASE 5B. TEMPORARY FUSED SWITCH USED FOR AHU UNIT TO REMAIN IN MCC–3.
- INFILL TEMPORARY OPENING IN SOUTH WALL TO MATCH EXISTING CONSTRUCTION. RE–USE SALVAGED BRICK OR PROVIDE NEW BRICK TO MATCH EXISTING.



1 ATTIC PLAN
1/8" = 1'-0"



ATTIC KEY PLAN

FULLY SPRINKLERED

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Revisions:	Date

VETERANS AFFAIRS
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TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: PHASING NEW WORK

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: HFB

Drawn By: JMD

Project Number: 676-16-102

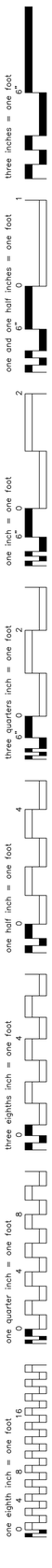
Building Number: 404

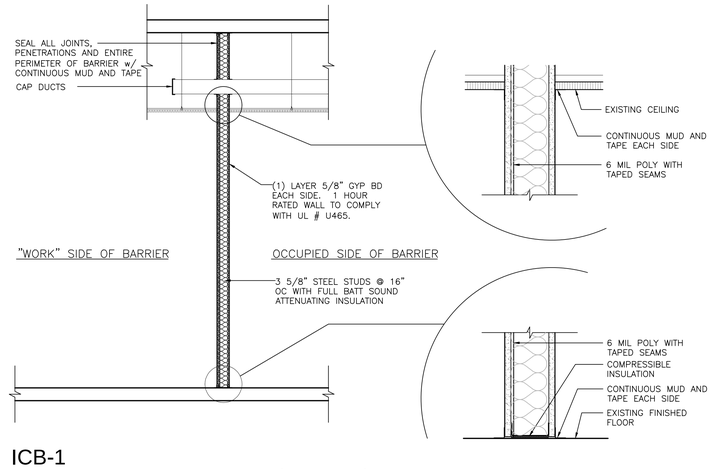
Drawing Number: GC102

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08–6231, OCT 1978





ICB-1
1 1 HOUR CONSTRUCTION (UL #465) & INFECTION CONTROL BARRIER
1/2" = 1'-0"

INFECTION CONTROL DESIGN NOTES:

TYPE A Minimal Fire Risk	**Inspection and Non-Invasive Activities** Includes, but is not limited to: ▪ removal of ceiling tiles for visual inspection limited t 1 tile per 50 square feet ▪ painting (but not sanding) ▪ wall covering, electrical trim work, minor plumbing, an activities which do not generate dust or require cuttin of walls or access to ceilings other than for visual inspection. ▪ Removal of floor tile less than 25 square feet, non-ACM and no grinding or dust generating activities
TYPE B Limited Fire Risk	**Small scale, short duration activities which create minimal dust** Includes, but is not limited to: ▪ installation of telephone and computer cabling ▪ access to chase spaces ▪ cutting of walls or ceiling where dust migration can be controlled.
TYPE C Moderate Fire Risk	**Work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies** Includes, but is not limited to: ▪ sanding of walls for painting or wall covering ▪ removal of floor coverings, ceiling tiles and casework ▪ new construction or renovations over 3 days duration ▪ major duct work, plumbing, piping, or electrical work ▪ soldering or brazing operations ▪ ANY activity that requires a burn permit
TYPE D Significant Fire Risk	**Major demolition and construction projects** Includes, but is not limited to: ▪ activities which require consecutive work shifts ▪ requires heavy demolition or removal of a complete building system ▪ new construction or renovations over 3 days duration

Low Risk	Medium Risk	High Risk	Highest Risk
▪ Office areas	▪ Cardiology ▪ Echocardiography ▪ Endoscopy ▪ Nuclear Medicine ▪ Physical Therapy ▪ Radiology/MRI ▪ Respiratory Therapy	▪ CCU ▪ Emergency Room ▪ Labor & Delivery ▪ Laboratories (specimen) ▪ Newborn Nursery ▪ Outpatient Surgery ▪ Pediatrics ▪ Pharmacy ▪ Post Anesthesia Care Unit ▪ Surgical Units ▪ Linen ▪ Kitchen & Canteen	▪ Any area caring for immunocompromised patients ▪ Burn Unit ▪ Cardiac Cath Lab ▪ Central Sterile Supply ▪ Intensive Care Units ▪ Medical Unit ▪ Negative pressure isolation rooms ▪ Oncology ▪ Operating rooms including C-section rooms ▪ Dialysis

Construction Project Type

Patient Risk Group	TYPE A	TYPE B	TYPE C	TYPE D
LOW Risk Group	I	II	II	III/IV
MEDIUM Risk Group	I	II	III	IV
HIGH Risk Group	I	II	III/IV	IV
HIGHEST Risk Group	II	III/IV	III/IV	IV

Description of Required Infection Control Precautions by Class

	During Construction Project	Upon Completion of Project
CLASS I	1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace a ceiling tile displaced for visual inspection	
CLASS II	1. Provide active means to prevent airborne dust from dispersing into atmosphere. 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents. 5. Place dust mat at entrance and exit of work area 6. *Remove or isolate HVAC system in areas where work is being performed.	1. Wipe work surfaces with disinfectant. 2. Contain construction waste before transport in tightly covered containers. 3. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area. 4. Remove isolation of HVAC system in areas where work is being performed.
CLASS III	1. *Remove or Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Contain construction waste before transport in tightly covered containers. 5. Cover transport receptacles or carts. Tape covering unless solid lid. * Use window for negative HEPA air exhaust when accessible. Obtain V.A. resident engineer approval for exhausting in existing exhaust ductwork.	1. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department. 2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 3. Vacuum work area with HEPA filtered vacuums. 4. Wet mop area with disinfectant. 5. Remove isolation of HVAC system in areas where work is being performed.
CLASS IV	1. Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Seal holes, pipes, conduits, and punctures appropriately. 5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site. 6. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area. 7. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department.	1. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction. 2. Contain construction waste before transport in tightly covered containers. 3. Cover transport receptacles or carts. Tape covering unless solid lid 4. Vacuum work area with HEPA filtered vacuums. 5. Wet mop area with disinfectant. 6. Remove isolation of HVAC system in areas where work is being performed.

INFECTION CONTROL GENERAL NOTES:

1. SEE SPECIFICATION SECTIONS 010000–IC AND 013526 FOR INFECTION CONTROL DESIGN REQUIREMENTS.
2. THE INTENT OF INFECTION CONTROL (IC) ISOLATION IS TO PROTECT PATIENTS IN THE HOSPITAL WHO HAVE LOW IMMUNE LEVELS. THEREFORE, CONSTRUCTION OPERATIONS NEED TO BE DIRECTED TO CONTAIN DUST AND PARTICULATE MATTER TO THE CONSTRUCTION AREA.
3. PROVIDE TRIATEK ISOLATION MONITORS DURING CLASS III OR CLASS IV CONSTRUCTION OPERATIONS. EACH AREA TO BE UNDER NEGATIVE PRESSURE (0.02"WC) DURING THESE OPERATIONS. MONITOR TO MEASURE PRESSURE DIFFERENTIAL BETWEEN CONSTRUCTION AREA AND ADJACENT CORRIDOR OR ROOM AS DIRECTED BY VA COR
4. DURING CONSTRUCTION OPERATIONS IN EACH ENCLOSED AREA USE TRIATEK ISOLATION MONITORS, MINIMUM (1) ONE IN AREAS LESS THAN 1000 SF, (2) TWO MINIMUM IN AREAS BETWEEN 1000 SF AND 5000 SF, AND (3) THREE FOR AREAS BETWEEN 5000 SF AND 10000 SF. CONTRACTOR SHALL PROVIDE EXISTING POWER CONNECTIONS FOR TRIATEK ISOLATION MONITORS OR PROVIDE TEMPORARY POWER TO TRIATEK ISOLATION MONITORS DURING CONSTRUCTION.
5. PROVIDE BALANCING DAMPER IN THE BRANCH SUPPLY & EXHAUST DUCT WORK SERVING THE AFFECTED AREA. TEMPORARILY BALANCE AIR FLOW TO PROVIDE NEGATIVE AIR FLOW IN CONSTRUCTION ZONE AT ALL TIMES AS INDICATED IN NOTE BELOW. DAMPERS TO REMAIN IN DUCT AFTER CONSTRUCTION IS COMPLETE AND IS TO BE SECURED IN FINAL BALANCING POSITION PRIOR TO TURNING SYSTEM OVER FOR OCCUPANCY.
6. THE CONTRACTOR SHALL PROVIDE ENOUGH NEGATIVE AIR MACHINES TO COMPLETELY EXCHANGE THE REGULATED AREA AIR VOLUME (4) FOUR ACTUAL TIMES PER HOUR. THE COMPETENT PERSON SHALL DETERMINE THE NUMBER OF UNITS NEEDED FOR EACH REGULATED AREA BY DIVIDING THE CUBIC FEET IN THE REGULATED AREA BY (15) FIFTEEN AND THEN DIVIDING THAT RESULT BY THE ACTUAL CUBIC FEET PER MINUTE (CFM) FOR EACH UNIT TO DETERMINE THE NUMBER OF UNITS NEEDED TO EFFECT (4) FOUR AIR CHANGES PER HOUR. PROVIDE A STANDBY UNIT IN THE EVENT OF MACHINE FAILURE AND/OR EMERGENCY IN AN ADJACENT AREA.
7. AS CONSTRUCTION PROGRESSES FROM TYPE D TO TYPE C (SEE SPECIFICATION SECTION 013526 "SAFETY REQUIREMENTS") AND THEREON, REQUEST A NEW "INFECTION CONTROL CONSTRUCTION PERMIT" FROM THE VA INFECTION CONTROL NURSE. UPON AUTHORIZATION, PROCEED TO NEXT TYPE OF CONSTRUCTION. PROVIDE AT LEAST 10 DAYS NOTICE FOR EACH PERMIT.
8. CONSTRUCT IC (INFECTION CONTROL) CONSTRUCTION BARRIER FROM FLOOR TO DECK/FLOOR ABOVE. SEE DETAIL 3/GC104 & SPECIFICATION SECTION 013526. EXCEPTION: IF BARRIER IS ADJACENT TO A SMOKE, FIRE, OR EXISTING WALL CONSTRUCTION WHICH WILL NOT BE DEMOLISHED AND TERMINATES TO FLOOR OR DECK ABOVE, THEN CONSTRUCT IC BARRIER FROM FLOOR TO ABOVE CORRIDOR CEILING WITH 6 MIL POLY BEING SEALED ON ALL EDGES: FLOOR, TOP OF WALL, SIDES, AND ALL PENETRATIONS.
9. GENERAL CONTRACTOR SHALL PROVIDE NEW YELLOW CONSTRUCTION ACCESS DOORS AND PROXIMITY CARD READERS AT ALL BARRIERS. MAINTAIN ALL INFECTION CONTROL STANDARDS. CONTROL BARRIERS ARE TO BE INSTALLED AND REMOVED ONLY BEFORE 7:00 A.M. AND AFTER 8:00 P.M. IN OCCUPIED AREAS.
12. EGRESS IS TO BE MAINTAINED TO THE STAIRWELLS AT ALL TIMES.
13. PRIOR TO ANY REMOVAL OF SMOKE BARRIER FIRE RATED WALLS, CONSTRUCT NEW SMOKE BARRIER/APPROPRIATE FIRE RATED WALLS PER NEW PLANS OR CONSTRUCT INFECTION CONTROL BARRIER TO ACT AS SMOKE BARRIER.
14. A PORTION OF THE CORRIDOR MAY BE MADE AVAILABLE TO CREATE AN INFECTION CONTROL AREA; HOWEVER, A MINIMUM OF 4 FT MUST BE MAINTAINED OPEN FOR THE MOVEMENT OF PERSONNEL. THE CORRIDOR WILL NOT BE CLOSED OFF.

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: INFECTION CONTROL GENERAL NOTES AND DETAILS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: BAM | Drawn By: KAB

FULLY SPRINKLERED
100% CONSTRUCTION DOCS

Project Number: 676-16-102

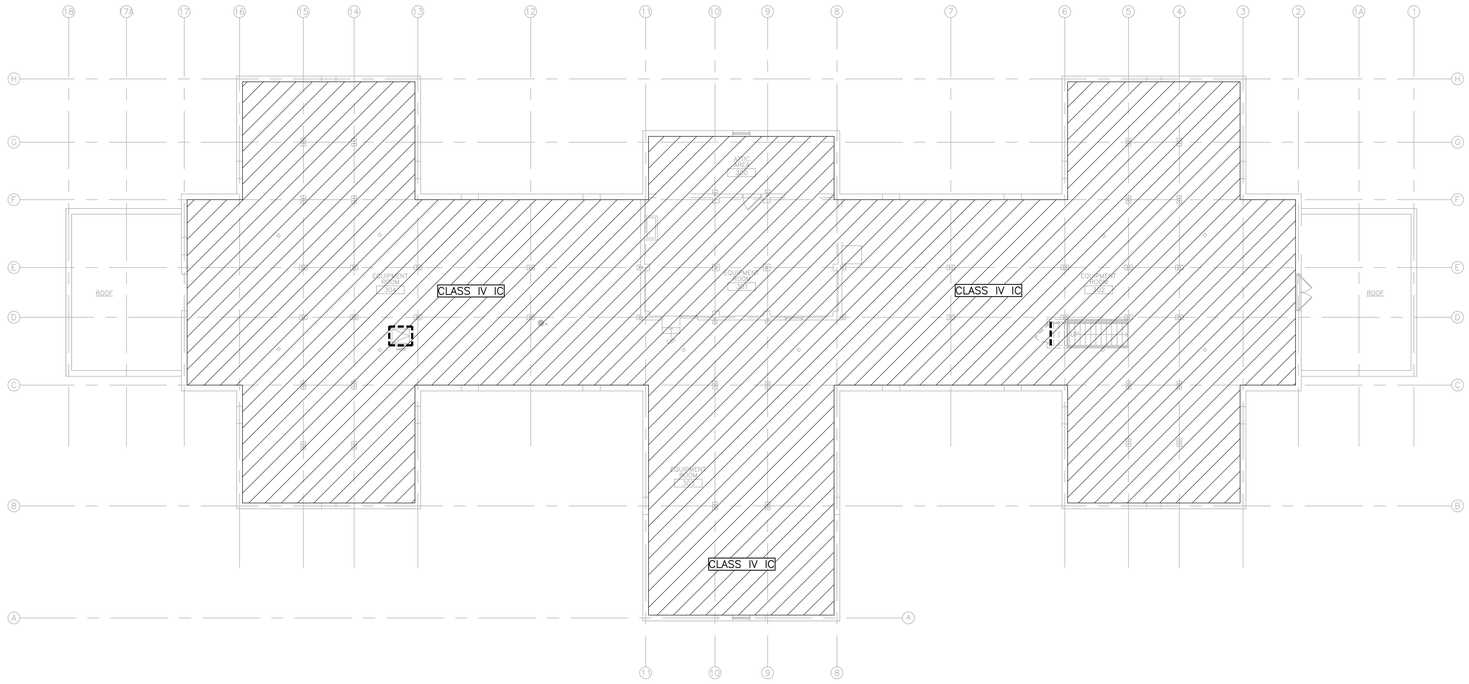
Building Number: 404

Drawing Number: GC103

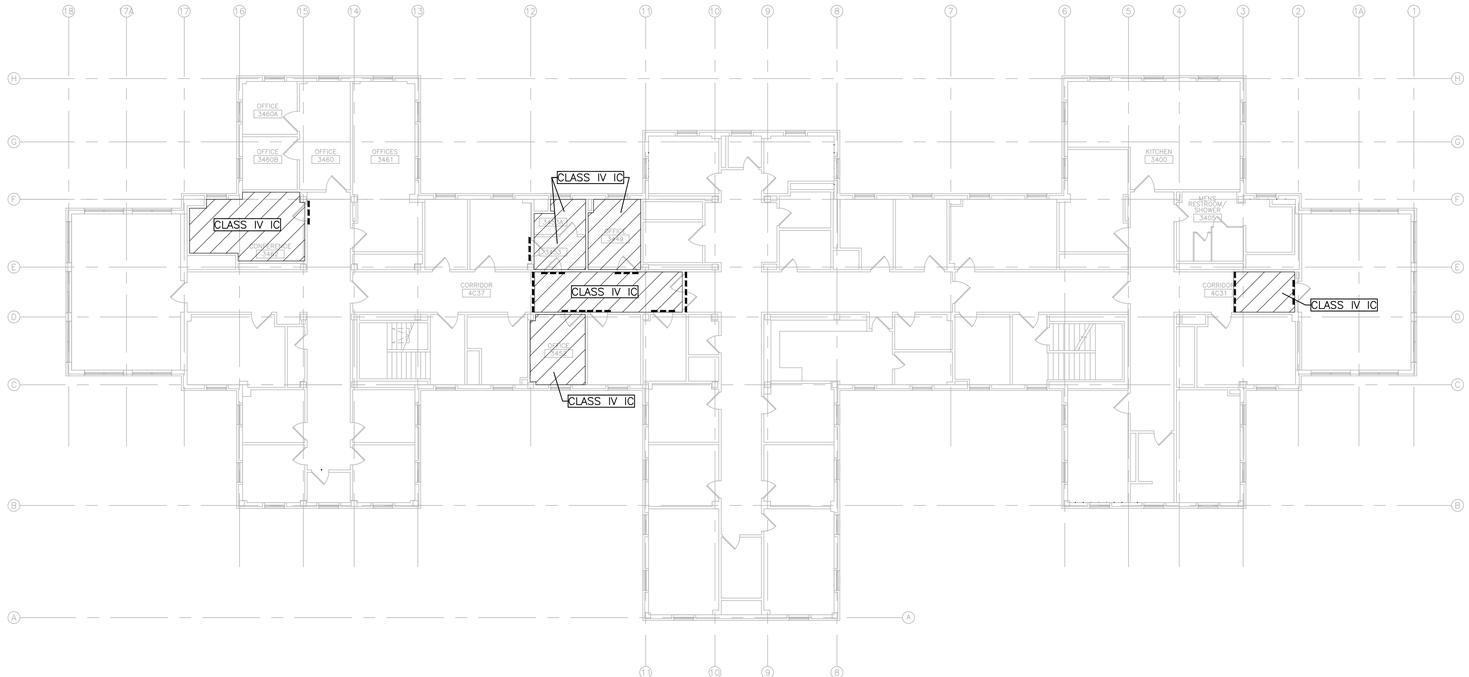
Office of Facilities Management

Department of Veterans Affairs

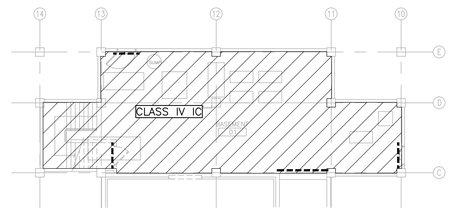
VA FORM 08-6231, OCT 1978



1 ATTIC PLAN
3/32" = 1'-0"



2 THIRD FLOOR PLAN
3/32" = 1'-0"

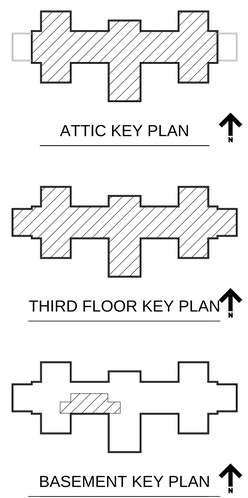


3 BASEMENT PLAN
3/32" = 1'-0"

INFECTION CONTROL – LEGEND

CLASS IV INFECTION CONTROL

INFECTION CONTROL BARRIER PER CLASS REQUIREMENTS; SEE INFECTION CONTROL DESIGN NOTES ON SHEET GC103.



ATTIC KEY PLAN

THIRD FLOOR KEY PLAN

BASEMENT KEY PLAN

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Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
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Drawing Title: INFECTION CONTROL PLANS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: BAM | Drawn By: KAB

Project Number: 676-16-102

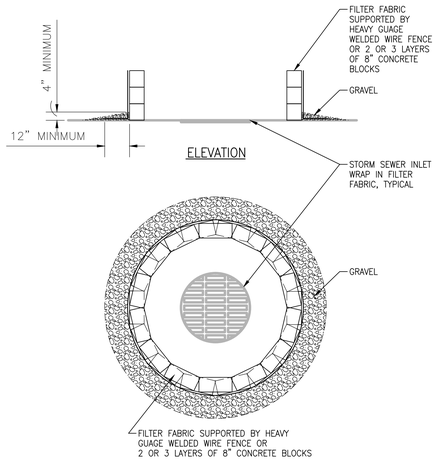
Building Number: 404

Drawing Number: GC104

Office of Facilities Management

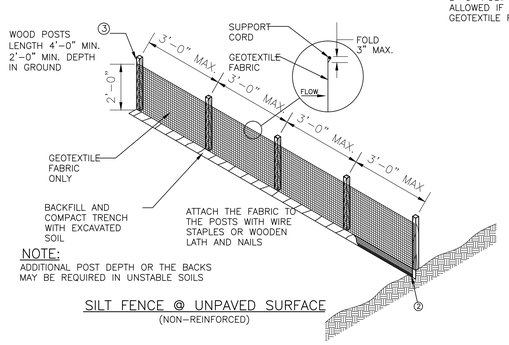
Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



NOTE:
FILTER FABRIC SHALL BE @ LEAST 18" HIGH BUT LESS THAN 36" HIGH.

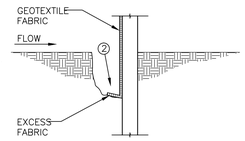
1 STORM INLET PROTECTION DETAIL
SCALE: NONE



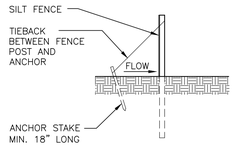
NOTE:
ADDITIONAL POST DEPTH OR THE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

SILT FENCE @ UNPAVED SURFACE
(NON-REINFORCED)

NOTE:
8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



TRENCH DETAIL



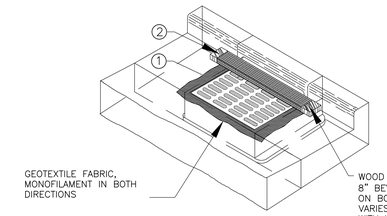
SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

GENERAL NOTES:

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

1. HORIZONTAL BRACE WITH 2" x 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS AS DIRECTED BY THE ENGINEER.
2. TRENCH SHALL BE A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POST SHALL BE A MINIMUM SIZE OF 1 1/8" x 1 1/8" OF OAK OR HICKORY

2 TEMPORARY SILT FENCE, SPECIAL (TOE-IN METHOD)
SCALE: NONE

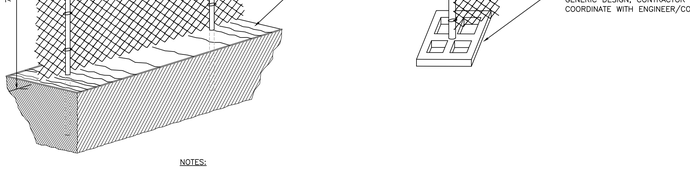


INSTALLATION NOTES

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
2. FOR INLET PROTECTION, CURB TYPE, AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

3 SILT FENCE INLET SEDIMENT BARRIER
SCALE: NOT TO SCALE



NOTES:

1. CHAIN LINK CONSTRUCTION FENCING IS TO BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
2. CHAIN LINK CONSTRUCTION FENCE SHALL BE A MINIMUM OF 84" ABOVE GRADE.
3. CHAIN LINK CONSTRUCTION FENCE SHALL HAVE THE FOLLOWING PROPERTIES:
   - FENCE SHALL BE INSPECTED DAILY AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED FOR THE DAY. IF DAMAGED, FENCING SHALL BE REPAIRED IMMEDIATELY.
   - WHERE CHAIN LINK CONSTRUCTION FENCE IS SHOWN ON IMPERVIOUS SURFACES, SUCH AS THE EXISTING BRICK PAVERS IN THE COURTYARD AREA, POST ARE TO BE ANCHORED ON SURFACE STANDS. STEEL PIPE IS NOT TO BE DRIVEN BELOW GRADE ON IMPERVIOUS SURFACES TO REMAIN.

4 TEMPORARY CHAIN LINK FENCE DETAIL
SCALE: NONE

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: SITE DETAILS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: JMD

Project Number: 676-16-102

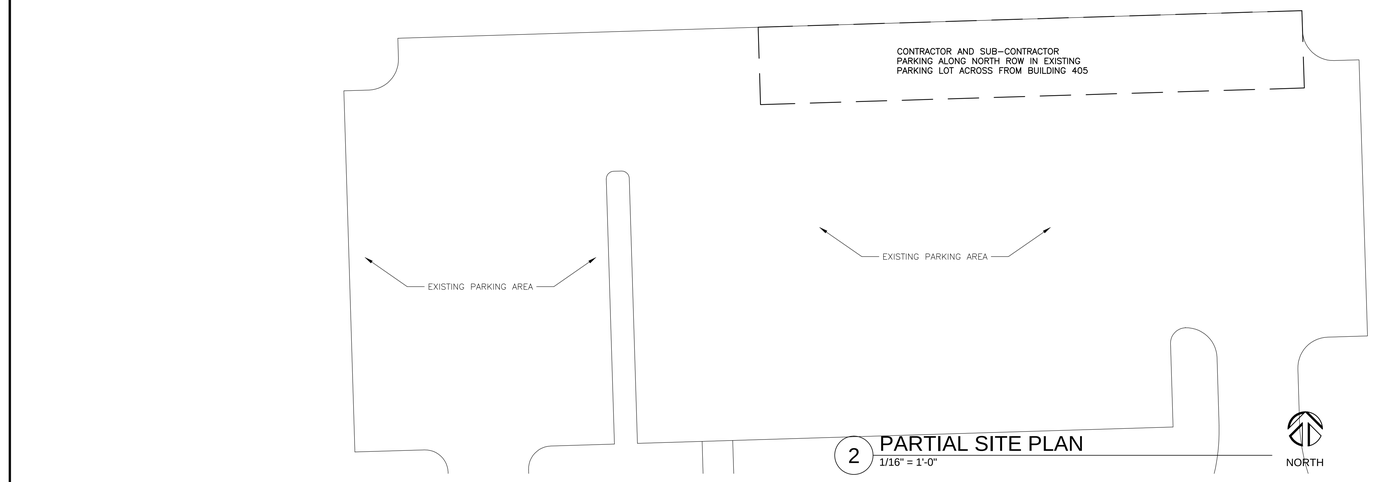
Building Number: 404

Drawing Number: C001

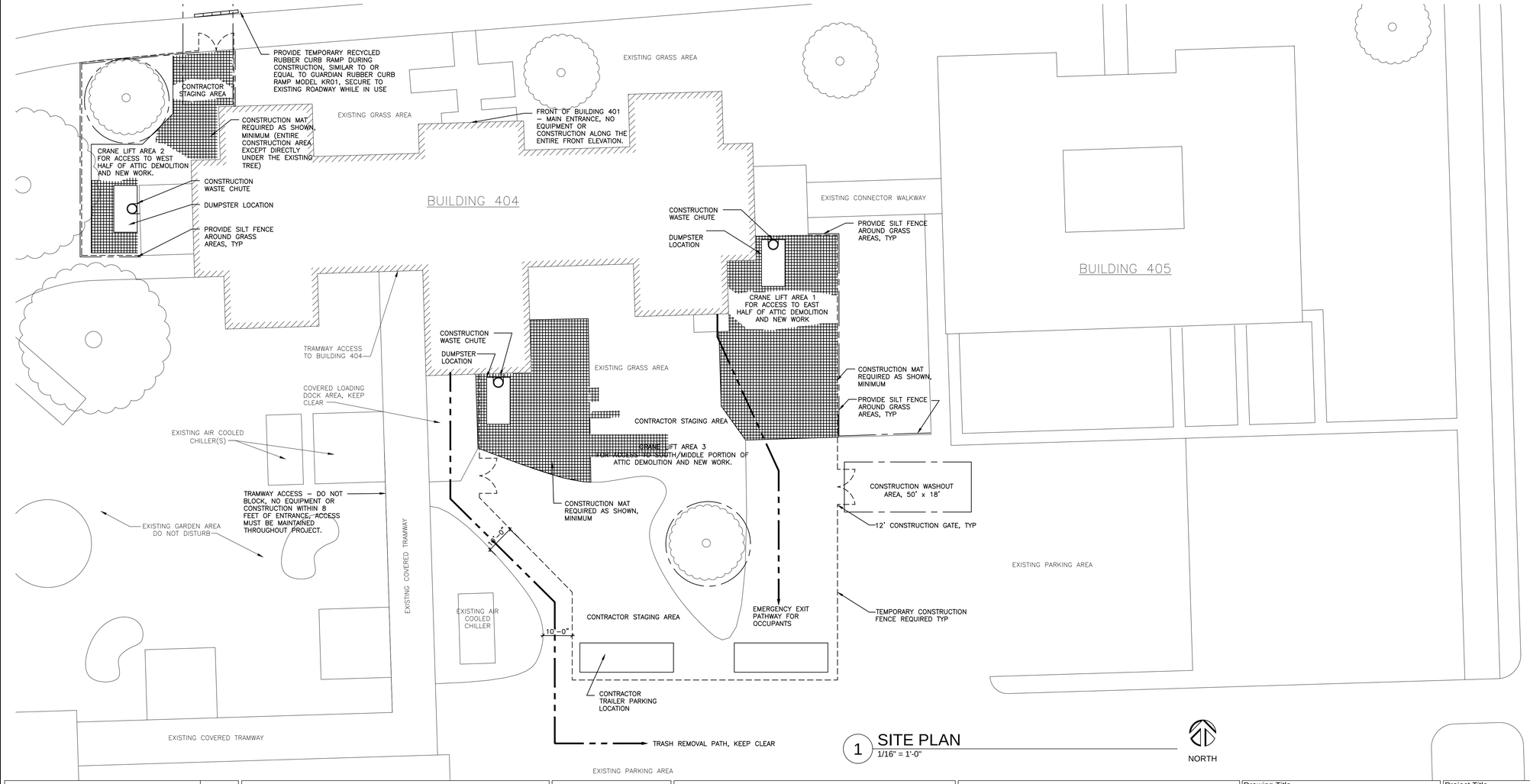
Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



2 PARTIAL SITE PLAN
1/16" = 1'-0"



1 SITE PLAN
1/16" = 1'-0"

GENERAL NOTES:

1. ALL DISTURBED GRASS SHALL BE RE-SODDED AT END OF THE PHASE. CONTRACTOR SHALL PROVIDE 3" BROWN SIFTED TOPSOIL. GRADE TO MATCH EXISTING. SLOPE NEW GRADE AWAY FROM BUILDING 404. CONTRACTOR SHALL PROVIDE WATERING OF NEW SOD FOR 4 TIMES PER WEEK FOR 8 WEEKS.
2. CONSTRUCTION STAGING AREA SHALL BE COMPLETELY FENCED IN AND LOCKED DURING OFF HOURS. ADDITIONAL SPACE IF REQUIRED SHALL BE COORDINATED WITH THE VA CONSTRUCTION MANAGER.
3. EACH THE CRANE LIFT AREA SHALL BE PROTECTED BY A TEMPORARY FENCE AND LOCKED DURING OFF HOURS.
4. THE CONTRACTOR SHALL PROVIDE PORTABLE RESTROOM FACILITIES FOR ALL CONTRACTOR AND SUB-CONTRACTORS USE THROUGHOUT THE DURATION OF THE PROJECT. FACILITY RESTROOM USE IS NOT ALLOWED BY ANY CONSTRUCTION PERSONNEL.
5. ALL CONSTRUCTION AREAS SHALL BE CLEANED DAILY.
6. ALL CONTRACTOR AND SUB-CONTRACTOR VEHICLES SHALL PARK IN THE DESIGNATED AREA OF THE EXISTING PARKING LOT. IF THERE ARE EXCESS VEHICLES LAST ROW TO THE EAST MAY BE USED AS OVER-FLOW PARKING.
7. UP TO 2 CONSTRUCTION TRAILERS MAY BE PARKED IN THE DESIGNATED AREA SHOWN ON THE PLAN. ELECTRICAL HOOK UP SHALL BE THE CONTRACTORS RESPONSIBILITY AND COORDINATED WITH THE VA CONSTRUCTION MANAGER. EACH CONNECTION SHALL BE METERED INDIVIDUALLY.
8. NO SANITARY OR WATER CONNECTIONS ALLOWED.
9. CONSTRUCTION DEBRIS CHUTE SHALL BE COMPLETELY SUPPORTED INDEPENDENTLY OF THE BUILDING BY ITS OWN SCAFFOLD.
10. CONTRACTOR SHALL REPAIR ALL ROADWAY DAMAGED FROM CONSTRUCTION TO MATCH EXISTING CONDITIONS.
11. CONTRACTOR TO ENSURE ALL FIRE HYDRANTS AROUND BUILDING 404 ARE NOT BLOCKED OFF OR UNUSABLE.

LEGEND

- 1045.0 — CONTOUR LINE
- 1045.5 — INTERMITTANT CONTOUR LINE
- 1000.0 — SPOT ELEVATION
- CBMH — STORM CATCH BASIN MANHOLE
- MH — SEWER MANHOLE
- TREES
- CONSTRUCTION LIMITS
- CONSTRUCTION FENCE
- SITE FENCE
- EXISTING TO BE DEMOLISHED
- CONCRETE WALK
- CURB AND GUTTER
- ROAD
- PROJECT BUILDING IDENTIFICATION
- BOLLARD
- CONSTRUCTION ENTRANCE AND CONSTRUCTION PAD PROTECTION, SIMILAR TO PRESTO GEOSYSTEMS GEOTERRA GTO OR EQUAL. HIGH DENSITY POLYETHYLENE INTERLOCKING MATS FOR EXISTING SURFACE PROTECTION, APPROXIMATELY 17.5" x 36.5" x 2" THICK INDIVIDUAL MATS CAPABLE OF BOLTING TO EACH OTHER TO FORM A CONTINUOUS PAD.
- TREE PROTECTION FENCE
- FLOW ARROW
- INLET PROTECTION
- WASH OUT AREA

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: SITE STAGING AND EQUIPMENT LAYOUT PLAN

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: JMD

FULLY SPRINKLERED
100% CONSTRUCTION DOCS

Project Number: 676-16-102

Building Number: 404

Drawing Number: C101

Office of Facilities Management
Department of Veterans Affairs

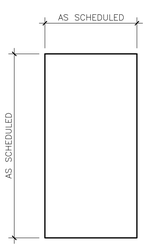
VA FORM 08-6231, OCT 1978

DOOR SCHEDULE

DOOR NO.	ROOM NO.	ROOM NAME	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	DOOR GLASS TYPE	FRAME SIZE WIDTH	FRAME SIZE HEIGHT	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	HARDWARE GROUP	ASSEMBLY RATING	DOOR SCHEDULE REMARKS
ATTIC																
304.1	304	EQUIPMENT ROOM	(2) 3'-0"	6'-0"	A	H.M.	PAINT	–	6'-4"	6'-6"	1	H.M.	PAINT	HW-1.0	SMOKE RESISTIVE	–

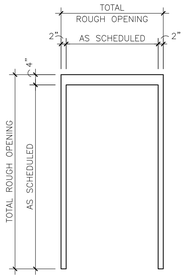
HARDWARE GROUP HW-1.0:

6	HINGE BB1199 4-1/2" x 4-1/2"	NRP	US32D	HAGER
1	AUTOMATIC FLUSH BOLT	2842/2942	US26D	ROCKWOOD
1	DUST PROOF STRIKE	570	US26D	ROCKWOOD
1	STOREROOM LOCK	45H7D 15H LESS CORE	626	BEST
1	REMOVABLE CORE	3JN700006	05	MEDECO
1	COORDINATOR	2672 WEAR PLATES	US28	ROCKWOOD
2	MOUNTING BRACKET	2601AB OR 2601C	BLACK	ROCKWOOD
2	DOOR CLOSER	4040XP CUSH	AL	LCN
1	THRESHOLD	2009APK x WIDTH		PEMKO
1	GASKETING	312CR LAR		PEMKO
1	RAIN GUARD	346C x 4" PLUS WIDTH		PEMKO
1	ASTRAGAL	357SP x HEIGHT		PEMKO



DOOR TYPE 'A'

FLUSH INSULATED STEEL DOOR

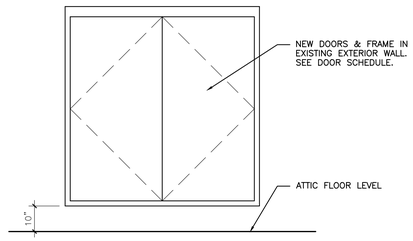


FRAME TYPE '1'

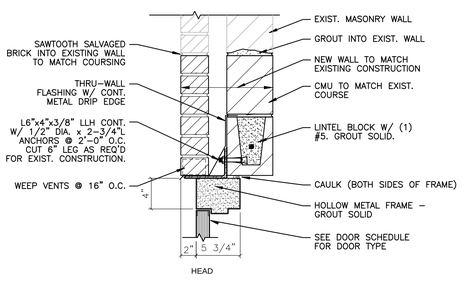
HOLLOW METAL, INSULATED

1 DOOR TYPES
1/2" = 1'-0"

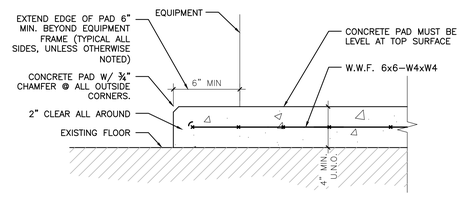
2 DOOR FRAME TYPES
1/2" = 1'-0"



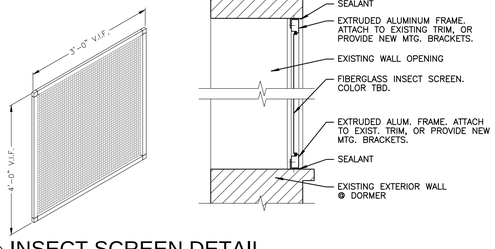
3 INTERIOR ELEVATION @ NEW DOOR
1/2" = 1'-0"



4 H.M. FRAME DETAILS @ TYP. EXTERIOR MASONRY WALL
1-1/2" = 1'-0"



5 TYPICAL CONCRETE PAD DETAIL
NTS



6 INSECT SCREEN DETAIL
NTS

ARCHITECTURAL ABBREVIATIONS

A/E	ARCHITECT/ENGINEER
ABBV	ABBREVIATIONS
AC	ACOUSTICAL CEILING
ACS DR	ACCESS DOOR
ACST	ACOUSTIC
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJACENT, ADJOINING, OR ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
ARCH	ARCHITECT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AUTO	AUTOMATIC
AVG	AVERAGE
AWT	ACOUSTICAL WALL TREATMENT
B	BASE
B/	BOTTOM
BD	BOARD
BEJ	BRICK EXPANSION JOINT
BF	BARRIER FREE
BLDG	BUILDING
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
C	CARPET
CAB	CABINET
CC	CUBICLE CURTAIN
CD	CONSTRUCTION DOCUMENTS OR CONTRACT DOCUMENTS
CG	CORNER GUARD
CIP	CAST IN PLACE
CJ	CONSTRUCTION JOINT OR CONTROL JOINT
CL	CENTER LINE, CLOSET
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CNR	CORNER
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CONTR	CONTRACTOR
CONV	CONVECTOR
COORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET
CR	CRASH RAIL
CRS	COURSE
CSB	CONCRETE SPLASH BLOCK
CT	CERAMIC TILE
CTRL	CONTROL
CUH	CONVECTIVE UNIT HEATER
CURT	CURTAIN
DEFS	DIRECT APPLIED EXTERIOR FINISH SYSTEM
DEG	DEGREE
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVIDE OR DIVISION
DR	DOOR OR DRAIN,
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING
EA	EACH
EL	ELEVATION
ELEC	ELECTRIC
EMER	EMERGENCY
ENGR	ENGINEER
EP	ELECTRICAL PANEL
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ	EQUAL
EQUIP	EQUIPMENT
EXP	EXPANSION OR EXPOSED
EXT	EXTERIOR, EXTERNAL, OR EXTINGUISHER
F	FILLER
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER, FINISHED END
FEC	FIRE EXTINGUISHER CABINET
FESR	FIRE EXTINGUISHER SEMI-RECESSED
FF	FINISH FACE OR FIRST FLOOR
FF&E	FURNITURE, FIXTURE, AND EQUIPMENT
FIN	FINISH(ED)
FLASH	FLASHING
FLR	FLOOR
FND	FOUNDATION
FT	FEET OR FOOT
FTG	FOOTING
FURN	FURNISH OR FURNITURE
FWC	FABRIC WALLCOVERING
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GL	GLASS
GYP BD	GYPSUM BOARD
H	HIGH OR HEIGHT
HB	HOSE BIBB
HDW	HARDWARE
HM	HOLLOW METAL
HR	HANDRAIL
HORIZ	HORIZONTAL
HT	HEIGHT
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
ID	IDENTIFICATION, INSIDE DIAMETER
IG	INSULATING GLASS
INSUL	INSULATION
INT	INTERIOR
JAN	JANITOR
KIT	KITCHEN
L	ANGLE
LAD	LADDER
LG	LONG
LIN	LINEAR
LL	LOWER LEVEL
LTG	LIGHTING
LVR	LOUVER
LYR	LAYER
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEMB	MEMBRANE
MFR	MANUFACTURER
MG	MONOLITHIC FLOAT GLASS
MID	MIDDLE
MIN	MINIMUM
MIRR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MTR	METER
MW	MICROWAVE
MWP	MEMBRANE WATERPROOFING
N	NORTH
NA	NOT APPLICABLE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NRC	NOISE REDUCTION COEFFICIENT
NRCA	NATIONAL ROOFING CONTRACTORS ASSOCIATION
OC	ON CENTER
OD	OUTSIDE DIMENSION OUTSIDE DIAMETER
OF/CI	OWNER FURNISHED/CONTRACTOR INSTALLED
OF/OI	OWNER FURNISHED/OWNER INSTALLED
OPP	OPPOSITE
OPR	OPERABLE
PAT	PATTERN
PL	PATIENT LIFT
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PNT	POINT
PREFIN	PREFINISH
PT	PAINT, PNEUMATIC TUBE, OR PRESSURE TREATED
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
QT	QUARRY TILE
QTR	QUARTER
QTY	QUANTITY
R	RADIUS
RB	RESILIENT BASE OR RUBBER BASE
RCP	REFLECTED CEILING PLAN
REF	REFERENCE OR REFRIGERATOR
REQD	REQUIRED
RESIL	RESILIENT
RET	RETURN
RM	ROOM
RO	ROUGH OPENING
REQD	REQUIRED
RESIL	RESILIENT
RET	RETURN
REV	REVISION
RFG	ROOFING
RM	ROOM
RO	ROUGH OPENING
SB	SPLASH BLOCK
SCHED	SCHEDULE
SD	SHOP DRAWINGS, SMOKE DETECTOR, OR SOAP DISPENSER;
SDG	SIDING
SECT	SECTION
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SQ IN	SQUARE INCH
SST	STAINLESS STEEL
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STOR	STORAGE
STRUCT	STRUCTURAL
SURF	SURFACE
SUSP CLG	SUSPENDED CEILING
TEL	TELEPHONE
TEMP	TEMPERATURE OR TEMPORARY
TLT	TOILET
THRU	THROUGH
TO	TOP OF
TOF	TOP OF FOOTING
TO FDN	TOP OF FOUNDATION
TOM	TOP OF MASONRY
TOW	TOP OF WALL
TPD	TOILET PAPER DISPENSER
TR	TOWEL RACK
TS	TUBE STEEL
TYP	TYPICAL
U	HEAT TRANSFER COEFFICIENT
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
VAR	VARIES
VCT	VINYL COMPOSITION TILE VITRIFIED CLAY TILE
VERT	VERTICAL
VEST	VESTIBULE
VFY	VERIFY
VIF	VERIFY IN FIELD
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W	WIDE OR WEST
W/	WITH
W/O	WITHOUT
WC	WALL COVERING OR WATER CLOSET
WD	WOOD
WT	WEIGHT

FIRE AND SAFETY NOTES

1. MAINTAINING THE INTEGRITY OF THE FIRE AND SAFETY SYSTEMS IN PLACE IN THE MEDICAL CENTER AND ALL OF ITS OUT BUILDINGS DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
2. IN ADDITION TO ALL VA MEDICAL CENTER POLICIES & REGULATIONS, ALL FEDERAL GOVERNMENT, STATE, AND LOCAL CODES AND ORDINANCES SHALL APPLY TO ALL OF THEIR CONTRACTORS AND SUB-CONTRACTORS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL PERTINENT OSHA SAFETY REQUIREMENTS.

GENERAL NOTES

1. VERIFY EXISTING CONDITIONS AND LOCATIONS IN FIELD PRIOR TO SUBMITTING PROPOSAL. FAILURE TO DO SO SHALL NOT RELIEVE THIS CONTRACTOR FROM PERFORMING THE WORK REQUIRED UNDER THIS CONTRACT.
2. ALL SUB-CONTRACTORS ARE ENCOURAGED TO VISIT AND ATTEND A PRE-BID WALK THRU TO INSPECT THE EXISTING AREA AND THOROUGHLY FAMILIARIZE THEMSELVES WITH THE ACTUAL JOB CONDITIONS BEFORE SUBMITTING BID.
3. WHILE THE SIZE AND LOCATION OF NEW WORK AND EQUIPMENT IN THE EXISTING AREA HAS BEEN INDICATED ON THE DRAWINGS AS ACCURATELY AS POSSIBLE, CONTRACTOR SHALL ADJUST HIS WORK AS REQUIRED TO AVOID EXISTING UTILITIES, FIRE ALARM, ROOF DRAINS, ACCESS COVERS, AND OTHER STRUCTURES NOT PARTICULARLY SHOWN ON PLAN AT NO EXTRA COST. BEFORE CONSTRUCTION, INSPECT PREMISES AND MAKE A DETAILED EXAMINATION OF ALL LOCATIONS WHERE NEW WORK IS TO BE INSTALLED. EXAMINE EXISTING PIPING, CONDUITS, STRUCTURAL SUPPORTING BEAMS, AND OTHER CONDITIONS.
4. ACCESS TO ALL BUILDINGS AND PARKING AREAS MUST BE MAINTAINED THROUGHOUT THE PROJECT.
5. CONTRACTOR IS TO COORDINATE ALL WORK THE THE VA'S CONTRACTING OFFICER'S REPRESENTATIVE (COR)
6. DO NOT INTERFERE WITH EXISTING BUILDING'S MECHANICAL, ELECTRICAL, AND SECURITY SYSTEMS OPERATIONS. IF IT IS NECESSARY TO SHUT DOWN FACILITY SYSTEMS AT ANY TIME, CONSULT VA COR TO MAKE ARRANGEMENTS TO DO SO DURING OFF-HOUR WORKING PERIODS AT THE VA'S CONVENIENCE. PRIOR NOTICE SHALL BE GIVEN TO THE VA AND ARCHITECT/ENGINEER (14) DAYS IN ADVANCE OF THE DESIRED SHUT-DOWN TIME. ANY PREMIUM OR OVERTIME COSTS NECESSARY TO ACCOMPLISH THE ABOVE SHALL BE INCLUDED IN THIS BID. FAILURE TO PROCEED WITHOUT PROPER PRIOR NOTIFICATION MAY RESULT IN THE ASSESSMENT OF A CREDIT TO THE CONTRACT.
7. CONTRACTOR SHALL ADHERE STRICTLY TO STATE AND FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS.
8. CONTRACTOR SHALL PARK ONLY IN THE DESIGNATED PARKING AREAS AND ARE NOT TO PARK ON THE LAWN AREAS; THE ONLY EXCEPTION IS TO LOAD AND UNLOAD SUPPLIES OR EQUIPMENT.
9. CONTRACTOR IS RESPONSIBLE FOR THE SAFEGUARDING OF THEIR TOOLS AND EQUIPMENT. ALL TOOLS AND EQUIPMENT ARE NOT TO BE LEFT UNATTENDED AND ARE TO BE SECURED AT ALL TIMES WHEN THE CONTRACTOR IS NOT PRESENT.
10. CONTRACTOR MUST CONTROL DEMOLITION AND CONSTRUCTION DUST FROM FACILITY BY ERECTING A DUST BARRIER AND VENTILATION WITH HEPA FILTERS. IF VENTING TO OUTSIDE, THE CONTRACTOR WILL INSURE NEGATIVE AIR PRESSURE IS MAINTAINED IN ENCAPSULATED WORK AREA. WHEN TRANSPORTING DEBRIS, WET DOWN SUFFICIENTLY TO PREVENT DUST SPREADING.
11. IF SCAFFOLDING IS USED, IT MUST BE USED IN ACCORDANCE WITH (OSHA) REGULATIONS AND IS TO BE ENCLOSED FOR THE FIRST EIGHT FEE ABOVE GROUND AT END OF EACH WORKING DAY, UNTIL DISMANTLED. LADDERS MUST BE REMOVED AND LOCKED UP AT THE END OF EACH WORKING DAY TO PREVENT UNAUTHORIZED PERSONS FROM HAVING ACCESS.
12. ALL CRANE LIFT OPERATIONS MUST HAVE A LIFT PLAN DRAWING AND AN OUTAGE SCHEDULE TO ALLOW THE VA TO EVACUATE TWO FLOORS BELOW LIFT SWING ARC.
13. PROTECT ALL EXISTING SURFACES FROM DAMAGE. ANY DAMAGED SURFACES SHALL BE REPLACED TO MATCH ORIGINAL ITEM, OR REPAIRED TO MATCH EXISTING OR ADJACENT MATERIAL AS APPROVED BY THE VA COR.
14. CONTRACTOR IS RESPONSIBLE FOR REPAIRING AND REPLACING ANY DAMAGED LAWN. THE RESTORATION WILL BE PERFORMED BY A LANDSCAPE CONTRACTOR THAT REGULARLY DOES SODDING AS PART OF THEIR BUSINESS. ALL DAMAGED LAWN WILL BE OVERCUT BY 6" OR MORE TO ACCOMMODATE FULL WIDTH ROLLS OF SOD. TOPSOIL TO BE TILLED AND GRADED TO A SMOOTH MATCHING GRADE OF UNDAMAGED LAWN. SOD TO BE THOROUGHLY SATURATED WITH WATER UPON PLACEMENT. THE CONTRACTOR IS RESPONSIBLE FOR WATERING NEW SOD UNTIL PROJECT ACCEPTANCE BY THE COR.
15. CLEAN ALL DEBRIS FROM CONSTRUCTION SITE TO THE SATISFACTION OF THE VA COR.
16. WORK HOURS:
    DAYTIME - NORMAL WORK THAT DOES NOT CREATE VIBRATION, LOUD NOISE OR ODORS OR REQUIRE LOADING DOCK / TRUCK SPACE.
    8 PM - 6 AM - WORK REQUIRING OUTAGES, TRUCK SPACE / CRANES.
    WEEKENDS - WORK THAT CREATES LOUD NOISE, VIBRATIONS, ODORS, OUTAGES AND/OR TRUCK SPACE / CRANES.
17. CONTRACTOR TO PROVIDE "SUBMITTAL EXCHANGE" SECURE ONLINE SYSTEM FOR EXCHANGING, REVIEWING AND ARCHIVING SUBMITTALS, RFIS, AND OTHER CONSTRUCTION COMMUNICATIONS ELECTRONICALLY.

FLOOR PLAN SYMBOLS LEGEND

- EXISTING WALLS TO REMAIN
- EXISTING WALLS TO BE REMOVED
- NEW WALL / PARTITION
- EXISTING DOOR AND FRAME TO REMAIN
- EXISTING DOOR AND FRAME TO BE REMOVED
- NEW DOOR AND FRAME (101)
- EXISTING ITEM TO REMAIN
- EXISTING ITEM TO BE REMOVED
- SECTION REFERENCE (A5.01 / SHT)
- DETAIL REFERENCE (D5.01 / SHT)
- INTERIOR ELEVATION (E5.01 / SHT)
- KEY NOTE (1)
- WALL TYPE / PARTITION TYPE (W1)
- EQUIPMENT (CW1)

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: ARCHITECTURAL LEGEND, ABBREVIATIONS, SCHEDULES & DETAILS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: KAB

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Project Number: 676-16-102

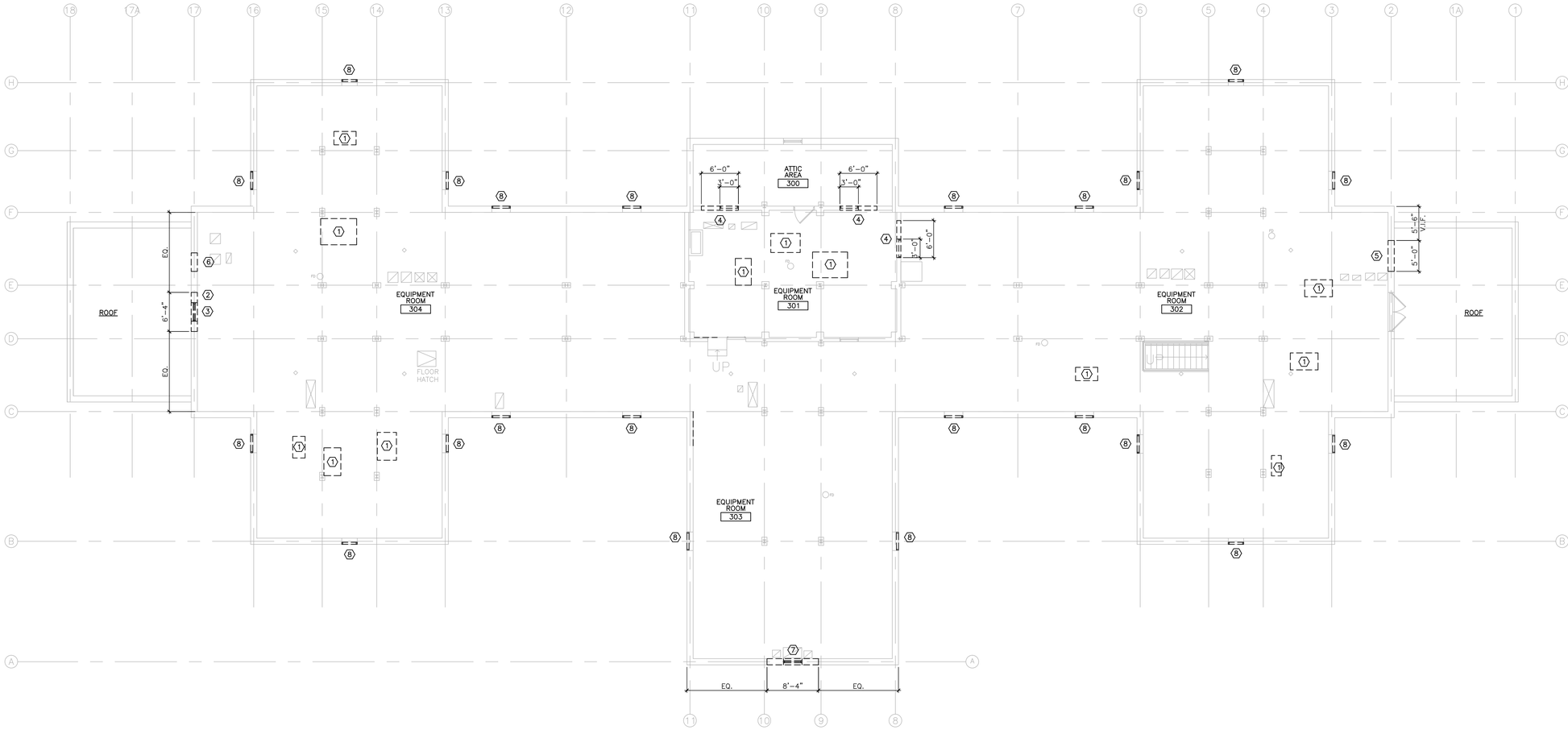
Building Number: 404

Drawing Number: A001

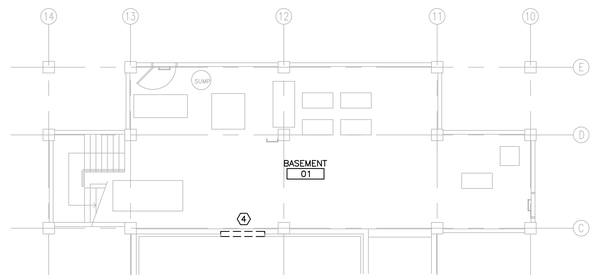
Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



1 ATTIC PLAN
1/8" = 1'-0"



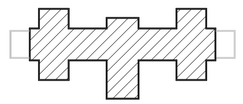
2 BASEMENT PLAN
1/8" = 1'-0"

DEMOLITION NOTES

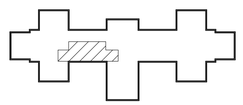
1. REFER TO SHEET G103 FOR PHASING PLANS. ALL WORK TO BE DONE IN ACCORDANCE WITH THE PHASES IDENTIFIED.
2. GENERAL CONTRACTOR TO REVIEW MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION PLANS FOR ADDITIONAL DEMOLITION WORK. DEMOLITION OF WALL, CEILING AND FLOOR ASSEMBLIES NECESSARY TO FACILITATE MEP SYSTEM DEMOLITION IS PART OF CONTRACTOR'S SCOPE OF WORK.
3. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL DEMOLITION WORK WITH NEW CONSTRUCTION WORK.
4. ALL DEMOLISHED MATERIAL BECOMES THE PROPERTY AND RESPONSIBILITY OF THE CONTRACTOR, WITH THE EXCEPTION OF SPECIFIED ITEMS DESIGNATED EITHER IN THE PLANS OR VERBALLY REQUESTED BY THE COR TO BE RETAINED BY THE VA. OFFSITE DISPOSAL OF THE DEMOLISHED ITEMS IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. MAINTAIN CONTINUOUS UTILITY SERVICE TO ALL SPACES IN THE BUILDING NOT AFFECTED BY THIS WORK. COORDINATE WITH VA COR ANY DISRUPTION IN SERVICES REQUIRED TO PERFORM WORK.
6. UNLESS NOTED OTHERWISE, ALL DASHED ITEMS ARE TO BE REMOVED.

KEYED NOTES

1. REMOVE EXISTING EQUIPMENT PAD. PATCH CONCRETE FLOOR SURFACE TO MATCH EXISTING ADJACENT SURFACE.
2. PROVIDE NEW OPENING IN EXTERIOR WALL TO ACCOMMODATE THE INSTALLATION OF NEW DOUBLE MAN-DOOR. SALVAGE BRICK FOR RE-USE.
3. REMOVE EXISTING WINDOW.
4. REMOVE EXISTING LOUVER TEMPORARILY TO PROVIDE ACCESS TO BASEMENT DURING CONSTRUCTION. SALVAGE FOR REINSTALLATION IN SAME LOCATION.
5. PROVIDE NEW OPENING IN EXTERIOR WALL TO ACCOMMODATE THE INSTALLATION OF NEW MECHANICAL LOUVER. SALVAGE BRICK FOR RE-USE.
6. PROVIDE TEMPORARY OPENING IN EXISTING EXTERIOR WALL TO ACCOMMODATE THE INSTALLATION OF TEMPORARY EXHAUST FAN. SALVAGE BRICK FOR RE-USE.
7. PROVIDE TEMPORARY OPENING IN EXISTING EXTERIOR WALL TO ACCOMMODATE THE REMOVAL AND REPLACEMENT OF 404-AHU-4. SALVAGE BRICK AND EXISTING WINDOW FOR RE-USE.
8. REMOVE EXISTING LOUVER.



ATTIC KEY PLAN



BASEMENT KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

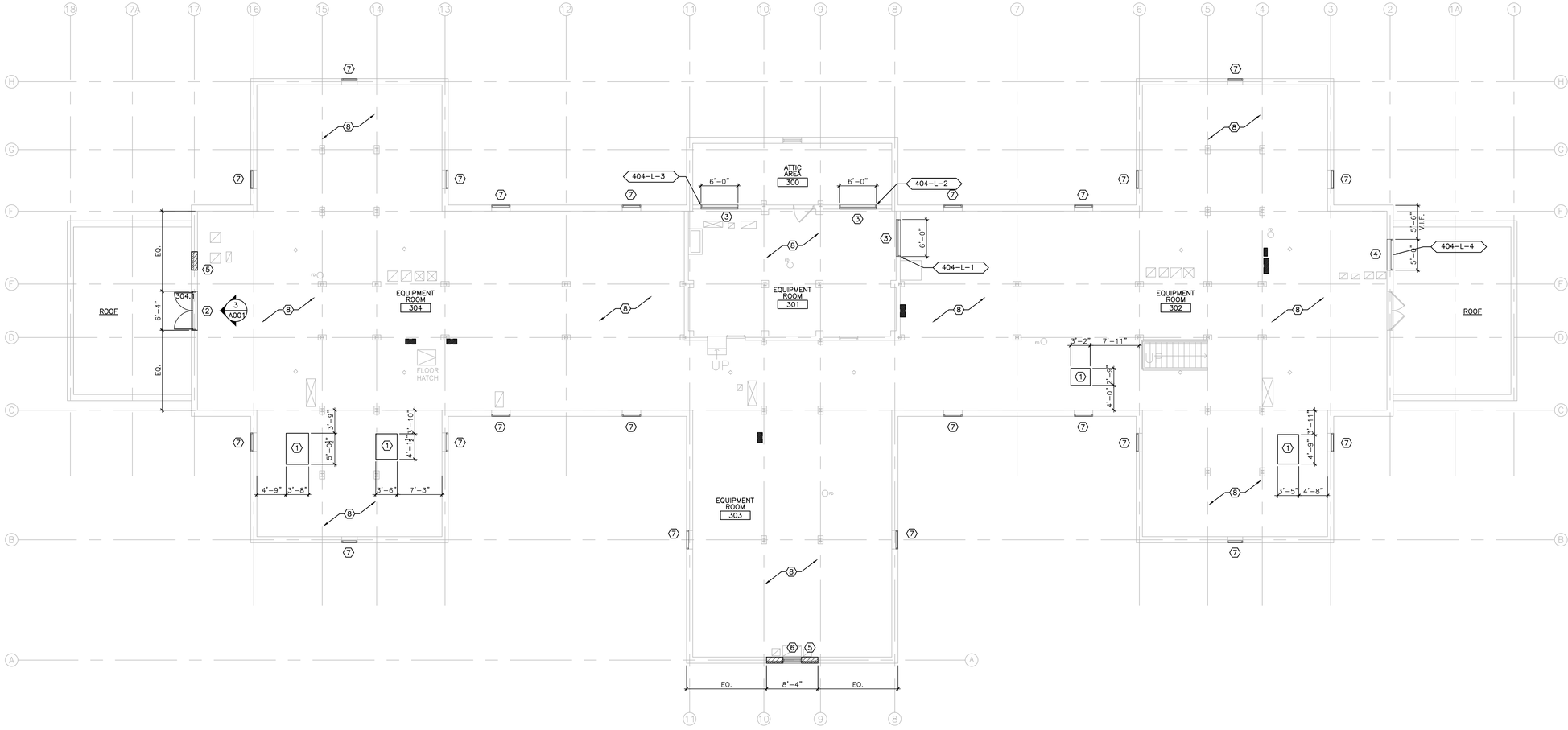
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	ARCHITECTURAL DEMOLITION
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	BAM
Drawn By:	KAB
Project Number	676-16-102
Building Number	404
Drawing Number	AD101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



1 ATTIC PLAN
1/8" = 1'-0"

GENERAL PLAN NOTES

1. REFER TO SHEET G103 FOR PHASING PLANS. ALL WORK TO BE DONE IN ACCORDANCE WITH THE PHASES IDENTIFIED.
2. GENERAL CONTRACTOR TO REVIEW MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION PLANS FOR ADDITIONAL NEW WORK.
3. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL NEW CONSTRUCTION WORK.
4. MAINTAIN CONTINUOUS UTILITY SERVICE TO ALL SPACES IN THE BUILDING NOT AFFECTED BY THIS WORK. COORDINATE WITH VA COR ANY DISRUPTION IN SERVICES REQUIRED TO PERFORM WORK.

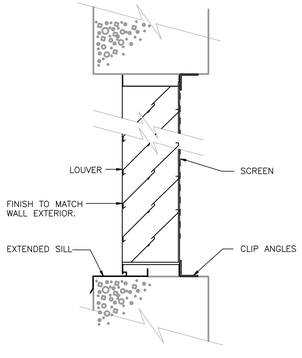
KEYED NOTES

1. PROVIDE NEW CONCRETE EQUIPMENT PAD WITH REINFORCEMENT. SEE DETAIL 5/A001 FOR FURTHER INFORMATION.
2. PROVIDE NEW DOUBLE MAN-DOOR IN EXISTING EXTERIOR WALL. SEE SHEET A001 FOR DETAILS AND SCHEDULE.
3. PROVIDE NEW LOUVER IN ENLARGED OPENING. NEW MORTAR AT ADJACENT EXTERIOR BRICK VENEER WALL SHALL MATCH EXISTING HISTORIC MORTAR.
4. PROVIDE NEW LOUVER IN NEW WALL OPENING. NEW MORTAR AT ADJACENT EXTERIOR BRICK VENEER SHALL MATCH EXISTING HISTORIC MORTAR IN COLOR, COMPOSITION, HARDNESS, AND STRENGTH.
5. INFILL TEMPORARY OPENING IN WALL TO MATCH EXISTING ADJACENT CONSTRUCTION. RE-USE BRICKS SALVAGED FROM DEMOLITION. NEW MORTAR SHALL MATCH EXISTING HISTORIC MORTAR IN COLOR, COMPOSITION, HARDNESS, AND STRENGTH.
6. REINSTALL EXISTING WINDOW SALVAGED FROM DEMOLITION.
7. PROVIDE NEW ALUMINUM FRAMED INSECT SCREEN IN EXISTING OPENING. SEE DETAIL 6/A001 FOR FURTHER INFORMATION.
8. EXISTING CONCRETE FLOOR TO BE CLEANED AND SEALED.
9. REINSTALL EXISTING LOUVER AFTER NEW AHU-8 AND RELATED WORK IS COMPLETED. SEAL WEATHERTIGHT.

LOUVER SCHEDULE (L)

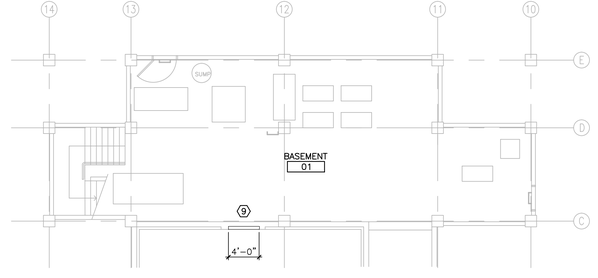
TAG (L-)	SERVES	LOCATION	AIRFLOW (CFM)	HEIGHT (IN)	WIDTH (IN)	MIN. FREE AREA (SQ FT)	MAX. VEL. (FPM)	APD (IN. W.G.)	MATERIAL	COLOR	FINISH	REMARKS
404-L-1	AHU-2,5 OA	SEE PLANS	5,345	42	72	10.5	550	0.10	ALUMINUM	TBD	KYNAR	SEE NOTES
404-L-2	AHU-2,5 OA	SEE PLANS	5,345	42	72	10.5	550	0.10	ALUMINUM	TBD	KYNAR	SEE NOTES
404-L-3	AHU-4 OA	SEE PLANS	3,330	42	72	10.5	550	0.10	ALUMINUM	TBD	KYNAR	SEE NOTES
404-L-4	AHU-3 OA	SEE PLANS	4,370	42	60	8.7	550	0.10	ALUMINUM	TBD	KYNAR	SEE NOTES

NOTES: 1. BASIS OF DESIGN IS: GREENHECK EDJ-601.
2. PROVIDE BIRDSCREEN AND MOTORIZED DAMPER.
3. SEE DETAIL 3 THIS SHEET.

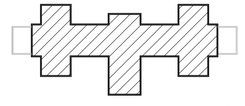


3 LOUVER DETAIL
NTS

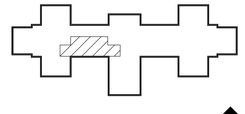
NOTES:
1. LOUVER/DAMPER ASSEMBLIES TO BE ASSEMBLED AT LOUVER MANUFACTURER FACTORY.
2. CLIP ANGLES AND EXTENDED SILL TO BE PROVIDED BY LOUVER MANUFACTURER.
3. MOTOR ACTUATORS TO BE SIZED AND INSTALLED BY LOUVER MANUFACTURER.
4. INSTALLATION OF LOUVER TO BE IN ACCORDANCE WITH LOUVER MANUFACTURER'S RECOMMENDATIONS.



2 BASEMENT PLAN
1/8" = 1'-0"



ATTIC KEY PLAN



BASEMENT KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	ARCHITECTURAL NEW WORK
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	KAB
Project Number	676-16-102
Building Number	404
Drawing Number	AS101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

1 THIRD FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

GENERAL PLAN NOTES

1. REFER TO SHEET GC101 AND GC102 FOR PHASING PLANS. ALL WORK TO BE DONE IN ACCORDANCE WITH THE PHASES IDENTIFIED.
2. GENERAL CONTRACTOR TO REVIEW MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION PLANS FOR ADDITIONAL NEW WORK.
3. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL NEW CONSTRUCTION WORK.
4. MAINTAIN CONTINUOUS UTILITY SERVICE TO ALL SPACES IN THE BUILDING NOT AFFECTED BY THIS WORK. COORDINATE WITH VA COR ANY DISRUPTION IN SERVICES REQUIRED TO PERFORM WORK.

KEYED NOTES

(1) REMOVE EXISTING CEILING SYSTEM AS REQUIRED TO PROVIDE NEW PLUMBING WORK. SEE PLUMBING DRAWINGS. WHEN WORK IS COMPLETE, PATCH CEILING TO MATCH EXISTING ADJACENT CEILING.

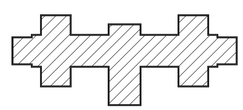
(2) PROVIDE OPENING IN EXISTING METAL STUD PARTITION TO ACCOMMODATE NEW PLUMBING WORK. SEE PLUMBING DRAWINGS. WHEN WORK IS COMPLETE, PATCH PARTITION AND PROVIDE FINISHES TO MATCH EXISTING ADJACENT PARTITION.

LEGEND

EXISTING GYP. BD. CEILING.

EXISTING ACOUSTICAL TILE CEILING SYSTEM.

EXISTING ACOUSTICAL TILE CEILING SYSTEM TO BE REMOVED FOR NEW PLUMBING WORK. PATCH TO MATCH EXISTING CEILING WHEN PLUMBING WORK IS COMPLETE.



THIRD FLOOR KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: ARCHITECTURAL REFLECTED CEILING PLAN

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: HFB

Drawn By: KAB

Project Number: 676-16-102

Building Number: 404

Drawing Number: AS201

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

KEYED NOTES

1. TEMPORARILY REMOVE EXISTING LOUVER FOR MECHANICAL WORK AND REINSTALL WITHIN EXISTING WALL OPENING.
2. PROVIDE TEMPORARY OPENING IN EXISTING EXTERIOR WALL TO ACCOMMODATE THE REMOVAL AND REPLACEMENT OF 404-AHU-4. SALVAGE BRICK AND EXISTING WINDOW. WHEN AHU INSTALLATION IS COMPLETE, INFILL OPENING TO MATCH EXISTING CONSTRUCTION USING SALVAGED BRICK AND HISTORIC MORTAR MIX. REINSTALL EXISTING WINDOW.
3. REMOVE EXISTING LOUVER. PROVIDE NEW ALUMINUM FRAMED INSECT SCREEN IN EXISTING OPENING. SEE DETAIL 6/A001.
4. REMOVE EXISTING LOUVER AND ADJACENT EXTERIOR WALL TO ACCOMMODATE THE INSTALLATION OF NEW ENLARGED MECHANICAL LOUVER. SALVAGE BRICK FOR RE-USE.

1 NORTH ELEVATION
1/8" = 1'-0"

2 SOUTH ELEVATION
1/8" = 1'-0"

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: ARCHITECTURAL ELEVATIONS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: HFB

Drawn By: KAB

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Project Number: 676-16-102

Building Number: 404

Drawing Number: A401

Office of Facilities Management

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1 EAST ELEVATION

1/8" = 1'-0"

2 WEST ELEVATION

1/8" = 1'-0"

KEYED NOTES

1. REMOVE EXISTING LOUVER AND ADJACENT EXTERIOR WALL TO ACCOMMODATE THE INSTALLATION OF NEW ENLARGED MECHANICAL LOUVER. SALVAGE BRICK FOR RE-USE.
2. PROVIDE TEMPORARY OPENING IN EXISTING EXTERIOR WALL TO ACCOMMODATE THE INSTALLATION OF TEMPORARY LOUVER DURING PHASE 2 OF HVAC WORK. SALVAGE EXISTING BRICK. WHEN TEMPORARY LOUVER IS NO LONGER NEEDED, INFILL OPENING TO MATCH EXISTING CONSTRUCTION USING SALVAGED BRICK AND HISTORIC MORTAR MIX.
3. PROVIDE NEW OPENING IN EXTERIOR WALL TO ACCOMMODATE THE INSTALLATION OF NEW DOUBLE MAN-DOOR. SALVAGE BRICK FOR RE-USE. SEE DETAILS AND SCHEDULE ON SHEET A001.
4. REMOVE EXISTING WINDOW. PATCH ADJACENT WALL TO MATCH EXISTING CONSTRUCTION.
5. REMOVE EXISTING LOUVER. PROVIDE NEW ALUMINUM FRAMED INSECT SCREEN IN EXISTING OPENING. SEE DETAIL 6/A001.
6. PROVIDE NEW OPENING IN EXTERIOR WALL TO ACCOMMODATE THE INSTALLATION OF NEW MECHANICAL LOUVER. SALVAGE BRICK FOR RE-USE.

three inches = one foot 6" 0 1
one and one half inches = one foot 6" 0 2
one inch = one foot 6" 0
three quarters inch = one foot 6" 0 2
one half inch = one foot 6" 0 4
three eighths inch = one foot 6" 0 4
one quarter inch = one foot 6" 0 4 8
one eighth inch = one foot 6" 0 8 16

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: ARCHITECTURAL ELEVATIONS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: BAM | Drawn By: KAB

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Project Number: 676-16-102

Building Number: 404

Drawing Number: A402

Office of Facilities Management

Department of Veterans Affairs

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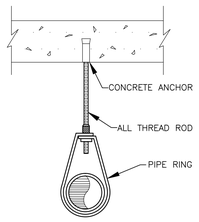
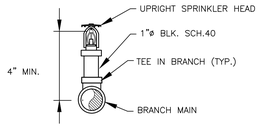


1 HANGER DETAIL
NTS



2 UPRIGHT SPRINKLER HEAD INSTALLATION DETAIL
NTS

SYSTEM DESIGN SCHEDULE

HAZARD CLASSIFICATION	DENSITY/AREA	MAX. HD. SPACING	HOSE DEMAND	OCCUPANCY
LIGHT	0.10 GPM/1500 S.F.	225 S.F ↓ 130 S.F	100 GPM	OFFICES RESIDENT/PATIENT (INCLUDING TOILET ROOMS) PUBLIC AREAS NURSES STATIONS EXAM/TREATMENT PROCEDURE MEDICATION/DIETARY LOCKERS STAFF WORK AREAS CAFETERIA SEATING SHELL SPACE
ORDINARY/GROUP 1	0.15 GPM/1500 S.F.	130 S.F	250 GPM	LAUNDRIES KITCHEN CENTRAL SERVICE MECHANICAL EQUIP. ROOM W/O GAS-FIRED EQUIP. EXTERIOR CANOPY STORAGE, UP TO 8 FEET ELECTRICAL EQUIPMENT COMMUNICATION EQUIPMENT
ORDINARY/GROUP 2	0.20 GPM/1500 S.F. ↓ 0.25 GPM/ROOM	130 S.F. ↓ 100 S.F.	250 GPM	STORAGE, UP TO 12 FEET (COMMODITY, CLASS COULD INCREASE DENSITY & SPACING) PRINTING/MAILING REPAIR GARAGE MECHANICAL EQUIP. ROOM WITH GAS-FIRED EQUIP. EMERGENCY GENERATOR ROOM

NOTE: FOR AREAS PROTECTED BY DOUBLE INTERLOCK PREACTION & DRY SYSTEMS, INCREASE DESIGN AREA BY 30%

LEGEND

- EXISTING MATERIAL/EQUIPMENT TO BE REMOVED
- EXISTING MATERIAL/EQUIPMENT TO REMAIN
- NEW MATERIAL/EQUIPMENT
- ELBOW DOWN
- ELBOW UP
- TEE DOWN
- TEE UP
- FP — SPRINKLER PIPING
- SPRINKLER HEAD
- BUTTERFLY VALVE, MANUAL
- SPRINKLER RISER
- POINT OF CONNECTION
- FLOW CONTROL VALVE WITH TAMPER SWITCH
- GATE VALVE
- FLOW INDICATOR
- ALARM CHECK VALVE
- ALARM, FIRE, MANUAL PULL STATION: MOUNTED 48" AFF
- FA 30 — ALARM, SPEAKER/STROBE, ONE ASSEMBLY STROBE CANDELLA INTENSITY
- FA 30 — ALARM, STROBE ASSEMBLY STROBE CANDELLA INTENSITY
- FA — ALARM, SPEAKER ASSEMBLY
- TS — ALARM, TAMPER SWITCH
- 2 H — SMOKE DETECTOR H=SMOKE AND HEAT DETECTOR
- HD — HEAT DETECTOR
- DUCT SMOKE DETECTOR
- DH — ELECTROMAGNETIC TYPE DOOR HOLDER OUTLET
- CM — FIRE ALARM CONTROL MODULE
- MM — FIRE ALARM MONITOR MODULE
- RTS — FIRE ALARM REMOTE TEST SWITCH/INDICADING STATION – INSTALL IN CEILING, UNLESS NOTED OTHERWISE.
- WALL MOUNTED HORN/STROBE. MOUNT 7'-6" AFF.
- WALL MOUNTED STROBE ONLY. MOUNT 7'-6" AFF
- S — SPEAKER, CEILING MOUNTED
- P — FIRE ALARM PULL STATION
- TS — TAMPER SWITCH
- FS — FLOW SWITCH
- MM — FIRE ALARM PULL STATION
- NAC — NOTIFICATION APPLIANCE CIRCUIT
- CEILING MOUNTED STROBE ONLY.
- FIRE DETECTOR; LETTER INDICATES AS FOLLOWS:

  BLANK–SMOKE DETECTOR
  H–HEAT SMOKE
  I–IONIZATION SMOKE
  P–PHOTOELECTRIC SMOKE
  IH–IONIZATION AND HEAT SMOKE
  IP–IONIZATION AND PHOTOELECTRIC SMOKE
  PH–PHOTOELECTRIC AND HEAT SMOKE
  IPH–IONIZATION, PHOTOELECTRIC, AND HEAT

- UPRIGHT SPRINKLER HEAD (NEW)
- UPRIGHT SPRINKLER HEAD (EXISTING)
- PENDENT SPRINKLER HEAD (NEW)
- PENDENT SPRINKLER HEAD (EXISTING)

WATER FLOW TEST

STATIC PRESSURE: 76 PSI

RESIDUAL PRESSURE: 60 PSI

ACTUAL FLOW: 1012 GPM

TEST PERFORMED: OCTOBER 14, 2016

GENERAL NOTES

- FIRE SPRINKLER CONTRACTOR SHALL PROVIDE A HYDRAULICALLY CALCULATED, WET PIPE SPRINKLER SYSTEM WITHIN THE SUITE. SECURE AND PAY FOR ALL NECESSARY PERMITS AND INSPECTIONS.
- THE HYDRAULIC CALCULATIONS AND SYSTEM SHALL CONFORM TO THE REQUIREMENTS OF APPLICABLE SECTIONS OF THE NFPA STANDARDS VERIFIED BY ACTUAL TEST AT THE SITE, THE AVAILABLE WATER FLOW RATE, AND THE RESIDUAL PRESSURE. WHEN SUBMITTING SHOP DRAWINGS, INCLUDE COPIES OF WATER SYSTEM TEST REPORTS AND ALL HYDRAULIC CALCULATIONS WITH SYSTEM CURVES. INDICATE LOCATION OF WATER FLOWS AND PRESSURE TESTS, AND SHOW THESE TEST RESULTS AS BASIS FOR THE CALCULATIONS.
- FIRE SPRINKLER WORK SHALL INCLUDE CONNECTION TO EXISTING MAIN, WITH ALL REQUIRED DEVICES, INCLUDING DETECTOR CHECK VALVE, AND MISCELLANEOUS EQUIPMENT AS REQUIRED.
- COORDINATE LOCATION OF ALL MAINS, LATERALS AND PENDANT DROPS WITH MECHANICAL DRAWINGS AND REFLECTED CEILING PLANS. PROVIDE TWO COMPLETE SETS OF SHOP DRAWINGS, STAMPED BY THE FIRE PROTECTION AUTHORITY, TO THE CONSTRUCTION MANAGER PRIOR TO FABRICATION OR INSTALLATION OF THE SPRINKLER SYSTEMS.
- SPRINKLER PIPING SHALL BE CONCEALED ABOVE CEILING FINISHED AREAS AND SPRINKLER HEADS SHALL BE CHROME–PLATED. PIPING IN OTHER AREAS MAY BE EXPOSED AND SPRINKLER HEADS UPRIGHTS OR PENDANT TYPE, AS REQUIRED, NATURAL FINISH. THE GENERAL SPRINKLER PIPING SHALL BE INSTALLED AT MAXIMUM HEIGHT THROUGHOUT THE BUILDING STRUCTURE.
- PROVIDE SEISMIC BRACING AS REQUIRED TO MEET LOCAL CODES. PENDANT DROPS SHALL BE ADEQUATELY SUPPORTED/BRACED FROM STRUCTURE TO PREVENT PIPING FROM MOVING.
- COORDINATE WITH SPECIFICATIONS FOR MATERIALS, VALVES, EQUIPMENT, ETC.
- PRIOR TO CONNECTING THE OVERHEAD SPRINKLER PIPING, FLUSH UNDERGROUND MAIN AND STANDPIPE CONNECTIONS IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNERS INSURANCE AND /OR THE LOCAL REGULATORY AGENCY AND MEET WITH THEIR APPROVAL.
- HYDRAULICALLY TEST THE FIRE SPRINKLER SYSTEM BEFORE AND AFTER INSTALLATION, IN THE PRESENCE OF THE LOCAL FIRE MARSHAL AND PROVE TO BE TIGHT. UPON COMPLETION OF THE FIRE SPRINKLER SYSTEM, SUBMIT CERTIFICATE WHICH INDICATES THAT THE WORK HAS BEEN FLUSHED AND TESTED IN ACCORDANCE WITH NFPA 13 AND 14 AND THAT THE SYSTEM IS OPERATIONAL, COMPLETE, AND HAS NO DEFECTS.
- THE FIRE PROTECTION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR LAYOUT DETAILS, CALCULATIONS AND PIPE SIZING AS REQUIRED BY ALL AUTHORITIES.
- FIRE PROTECTION CONTRACTOR SHALL FIELD VERIFY EXACT CONNECTION LOCATION TO THE EXISTING SPRINKLER SYSTEM OF ADEQUATE SIZE SUPPLY MAIN FOR THE REMODELED AREA.
- FIRE PROTECTION CONTRACTOR SHALL PERFORM ALL NECESSARY WATER FLOW TESTS TO VERIFY THAT THE WATER SUPPLY WILL MEET THE FIRE PROTECTION SYSTEM DEMANDS.
- SUPPORT HANGERS SHALL BE SOLELY USED FOR SUPPORTING COMPONENTS OF THE FIRE SUPPRESSION SYSTEM.
- NO PIPES, CONDUITS, DUCTWORK, WIRING, OR CABLES SHALL BE SUPPORTED OR TOUCH ANY SPRINKLER LINES OR ITS COMPONENTS.
- FIRE ALARM INSTALLER SHALL PROTECT AND MAINTAIN EXISTING FIRE ALARM SYSTEM EQUIPMENT AND DEVICES AND SHALL REMAIN IN OPERATION DURING ALL PHASES OF CONSTRUCTION. WORK TO BE COMPLETED SHALL BE COORDINATED WITH THE VA FIRE DEPARTMENT PRIOR TO DEMOLITION AND INSTALLATION.

CODE SUMMARY

APPLICABLE PORTIONS OF THE FOLLOWING NATIONAL CODES AND STANDARDS SHALL BE REFERENCED:

- INTERNATIONAL BUILDING CODE, 2009 EDITION.
- INTERNATIONAL EXISTING BUILDING CODE (IEBC), 2009 EDITION
- VA FIRE PROTECTION DESIGN MANUAL
- NATONAL FIRE PROTECTION ASSOCIATION, NFPA 101, LIFE SAFETY CODE (LSC), 2009 EDITION.
- NFPA 10, STANDARD FOR PORTABLE FIRE EXTINGUISHERS, 2010 EDITION.
- NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS, 2010 EDITION.
- NFPA 70, NATIONAL ELECTRICAL CODE, 2011 EDITION.
- NFPA 72, NATIONAL FIRE ALARM CODE, 2010 EDITION.
- NFPA 80, STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES, 2010 EDITION.
- NFPA 90A, STANDARD FOR THE INSTALLATION OF AIR–CONDITIONING AND VENTILATING SYSTEMS, 2009 EDITION.
- NFPA 101
- NFPA 110, STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS, 2010 EDITION.
- ARCHITECTURAL BARRIERS ACT ACCESSIBILITY STANDARDS (ABAAS)

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AVG	AVERAGE
CFM	CUBIC FEET PER MINUTE
ELEV	ELEVATION
FDC	FIRE DEPARTMENT CONNECTION
FHV	FIRE HOSE VALVE
FM	FIRE MAIN
FR	FIRE RISER
FVC	FIRE VALVE CABINET
GALS	GALLONS
GPH	GALLONS PER HOUR
GV	GATE VALVE
MAX	MAXIMUM
MIN	MINIMUM
NP	NOT PERMITTED
NC	NONCOMBUSTIBLE
OS&Y	OUTSIDE SCREW AND YOKE
PSIG	POUNDS PER SQUARE INCH GAUGE
SOV	SOLENOID VALVE
SQFT	SQUARE FEET
VLV	VALVE

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: FIRE PROTECTION LEGEND, ABBREVIATIONS, SCHEDULES, AND DETAILS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: JMD

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Project Number: 676-16-102

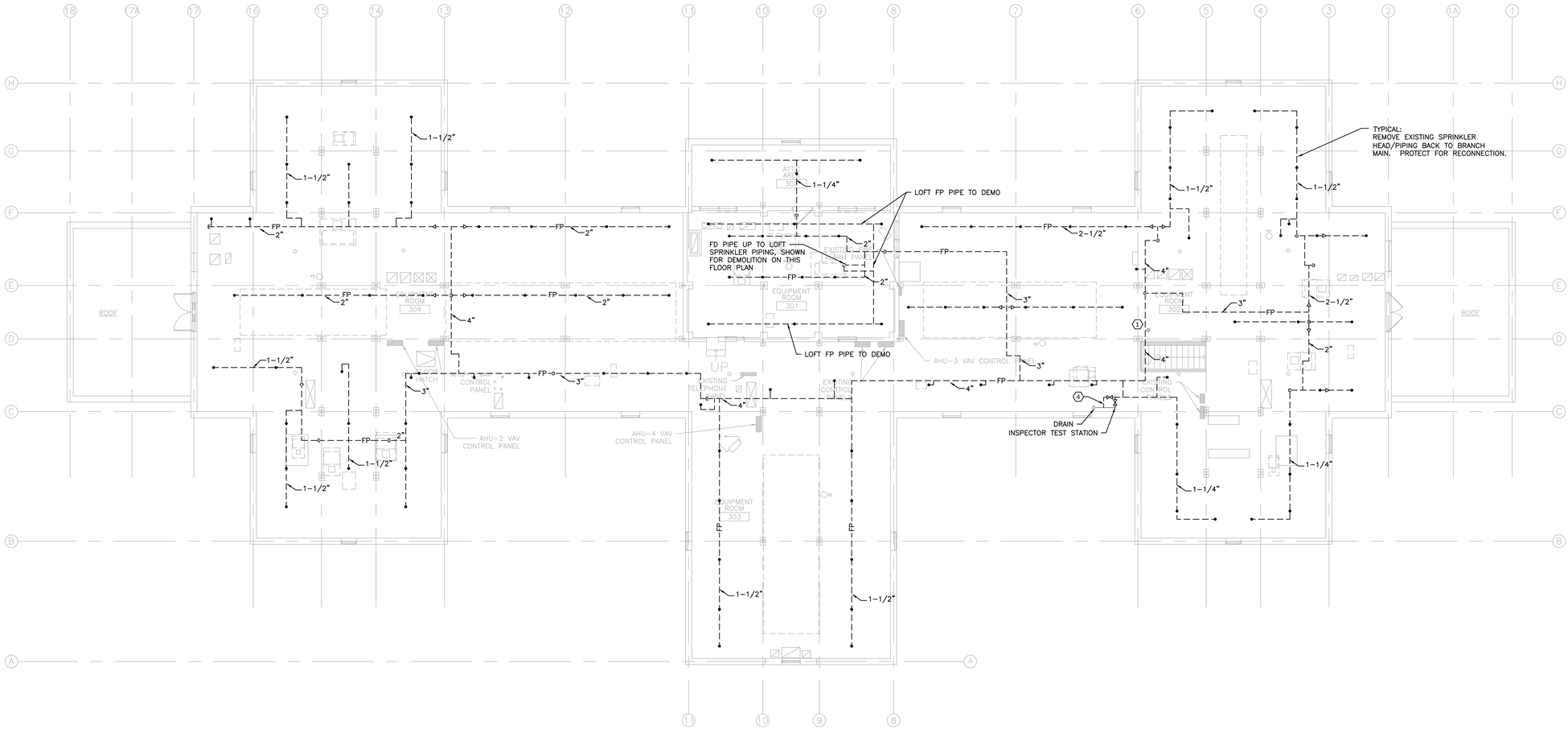
Building Number: 404

Drawing Number: F001

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



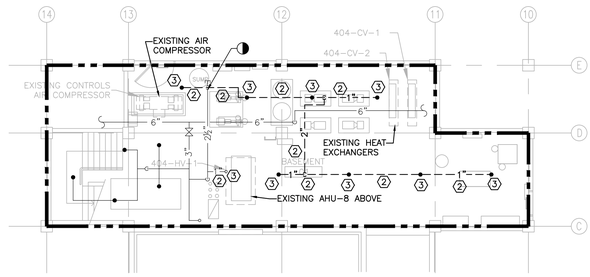
1 ATTIC PLAN
1/8" = 1'-0"

GENERAL NOTES

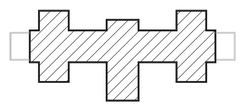
1. EXISTING PIPING SHOWN IS EXISTING AND FOR REFERENCE ONLY. EXISTING PIPING ARE BASED ON RECORD DRAWINGS AND CASUAL FIELD OBSERVATIONS. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND MAKING MODIFICATION AS REQUIRED FOR VARIANCES.
2. PROTECT EXISTING DEVICES FROM DAMAGE DURING CONSTRUCTION.

KEYED NOTES

1. 4" FP RISER, CONTROL VALVE AND AND FLOW SWITCH TO REMAIN. PROTECT FOR FUTURE RECONNECTION.
2. REMOVE SPRINKLER HEADS AND BRANCH PIPING AS REQUIRED FOR REMOVAL OF HEAT EXCHANGERS, AHU-8, AND AIR COMPRESSOR. COORDINATE WITH MECHANICAL CONTRACTOR FOR ACCESS REQUIREMENTS.
3. APPROXIMATELY 9 SPRINKLER HEADS REQUIRE RELOCATION. FOLLOW PIPE SCHEDULE METHOD PER NFPA 13. FOUR (4) HEADS ALLOWED PER BRANCH.
4. REMOVE PIPING TO WITHIN 12" OF FLOOR OR FIRST JOINT ABOVE FLOOR.



2 BASEMENT PLAN
1/8" = 1'-0"



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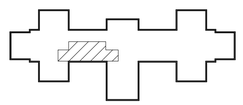


BASEMENT KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

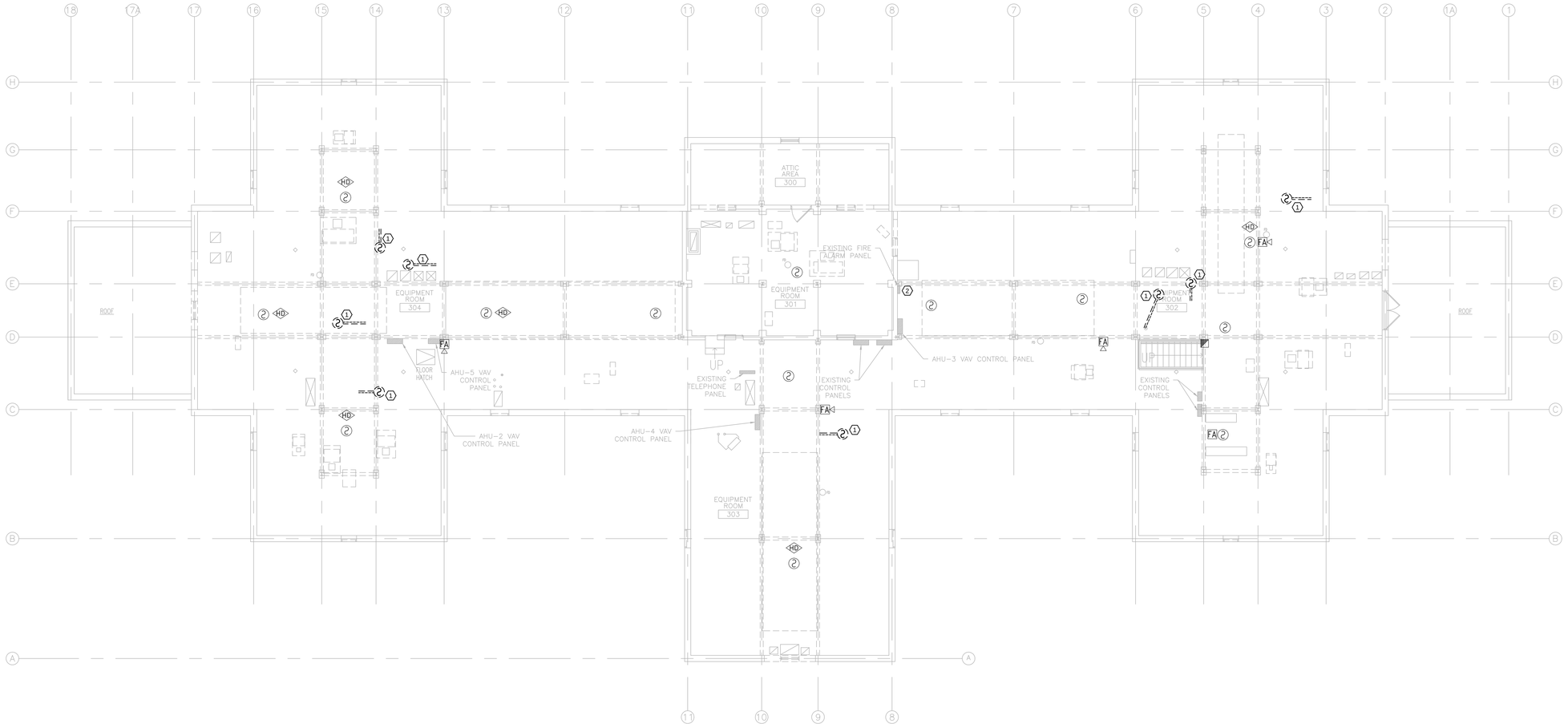
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	FIRE PROTECTION SUPPRESSION DEMOLITION
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	
Drawn By:	
Project Number	676-16-102
Building Number	404
Drawing Number	FD101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



GENERAL NOTES

1. REFER TO SHEET F001 FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS.
2. DUCT SMOKE DETECTORS TO BE DEMOLISHED COORDINATE WITH MECHANICAL CONTRACTOR.
3. FIRE ALARM DEVICES TO REMAIN UNLESS OTHERWISE NOTED.
4. PROTECT EXISTING DEVICES FROM DAMAGE DURING CONSTRUCTION.
5. EXISTING FACP IS A SILENT KNIGHT FARENHYT IFP-1000 AND IS LOCATED ON THE FIRST FLOOR NEAR THE MAIN ENTRANCE.

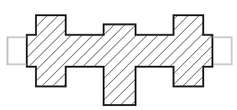
KEYED NOTES

(1) DISCONNECT AND REMOVE EXISTING DUCT SMOKE DETECTOR. PROTECT EXISTING CONDUIT AND WIRE. REFER TO SHEET FA101 FOR ADDITIONAL INFORMATION.

(2) EXISTING FIRE ALARM DISTRIBUTED POWER MODULE AND PULLBOX LOCATION. EXISTING POWER MODULE IS A SILENT KNIGHT, FARENHYT RPS-100. EXISTING PULLBOX PROVIDES ACCESS BETWEEN FLOORS.

1 ATTIC PLAN

1/8" = 1'-0"



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500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: FIRE PROTECTION DETECTION AND ALARM DEMOLITION

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: MM

Drawn By: MDG

Project Number: 676-16-102

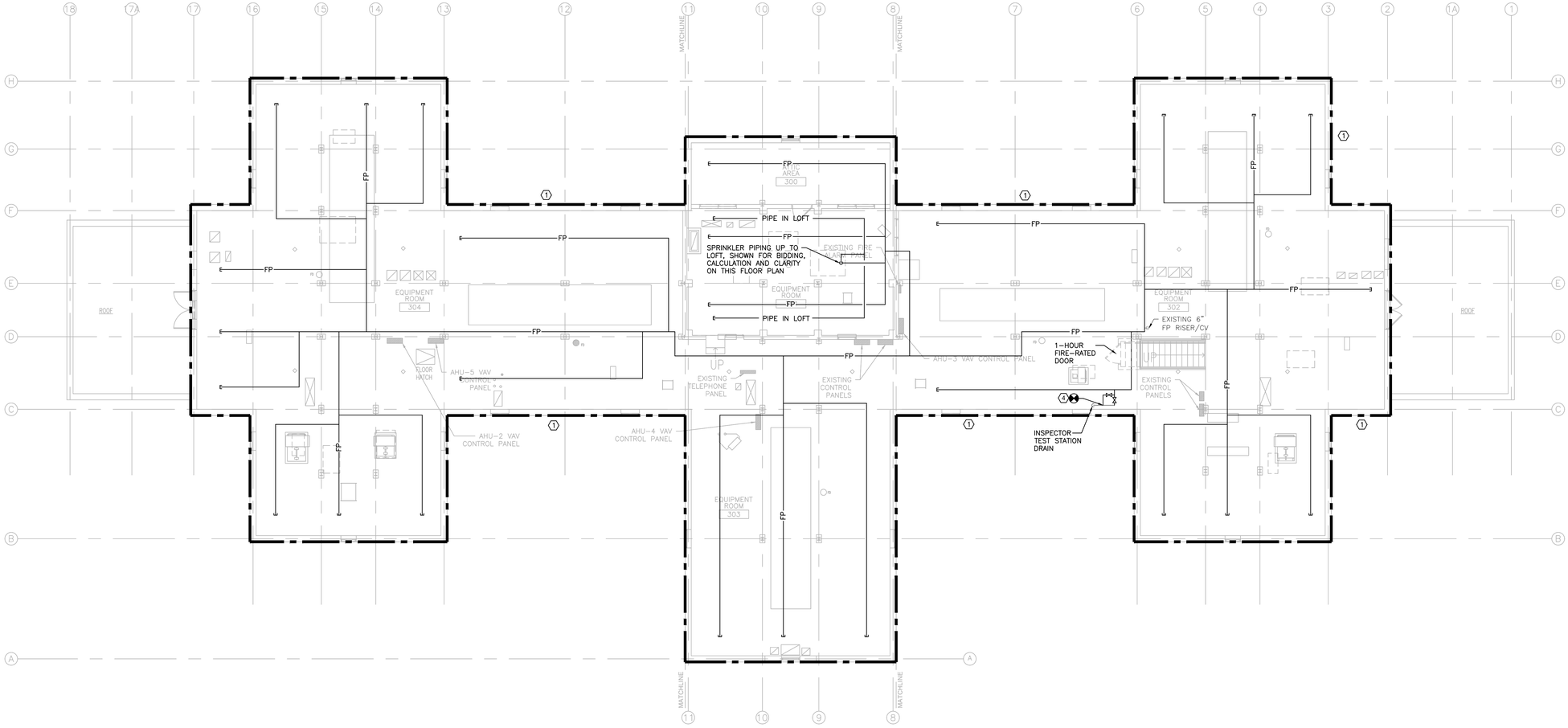
Building Number: 404

Drawing Number: FD102

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



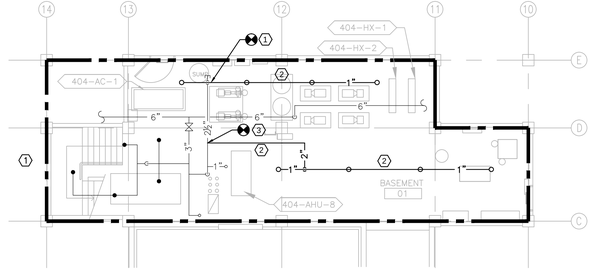
1 ATTIC PLAN
1/8" = 1'-0"

GENERAL NOTES

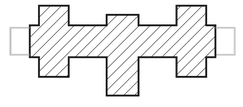
1. EXISTING PIPING SHOWN IS EXISTING AND FOR REFERENCE ONLY.
2. PROVIDE UPRIGHT SPRINKLER HEADS IN AREAS WITH NO CEILING.
3. FIRE SPRINKLER CONTRACTOR TO COORDINATE WITH CEILINGS, LIGHTS, DATA, ETC.
4. ALL NEW CONTROL DEVICES TO BE TIED INTO EXISTING FIRE ALARM SYSTEM LOCATED IN AREA.

KEYED NOTES

1. CONNECT NEW SPRINKLER MAIN IN TO EXISTING MAIN. PROVIDE ALL NECESSARY PIPING, FITTINGS, HANGERS, AND ACCESSORIES PER CODE.
2. FOLLOW NFPA 13 PIPE SCHEDULE METHOD FOR NEW SPRINKLER HEADS. APPROXIMATELY 8 NEW HEADS, AND 100 FEET OF NEW PIPE.
3. CUT IN NEW DRAIN TO EXISTING DRAIN.
4. CONNECT NEW DRAIN TO EXISTING DRAIN.



2 BASEMENT PLAN
1/8" = 1'-0"



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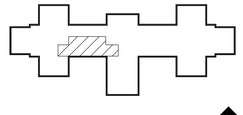

BASEMENT KEY PLAN

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Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: FIRE PROTECTION SUPPRESSION NEW WORK

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By:

Drawn By:

Project Number: 676-16-102

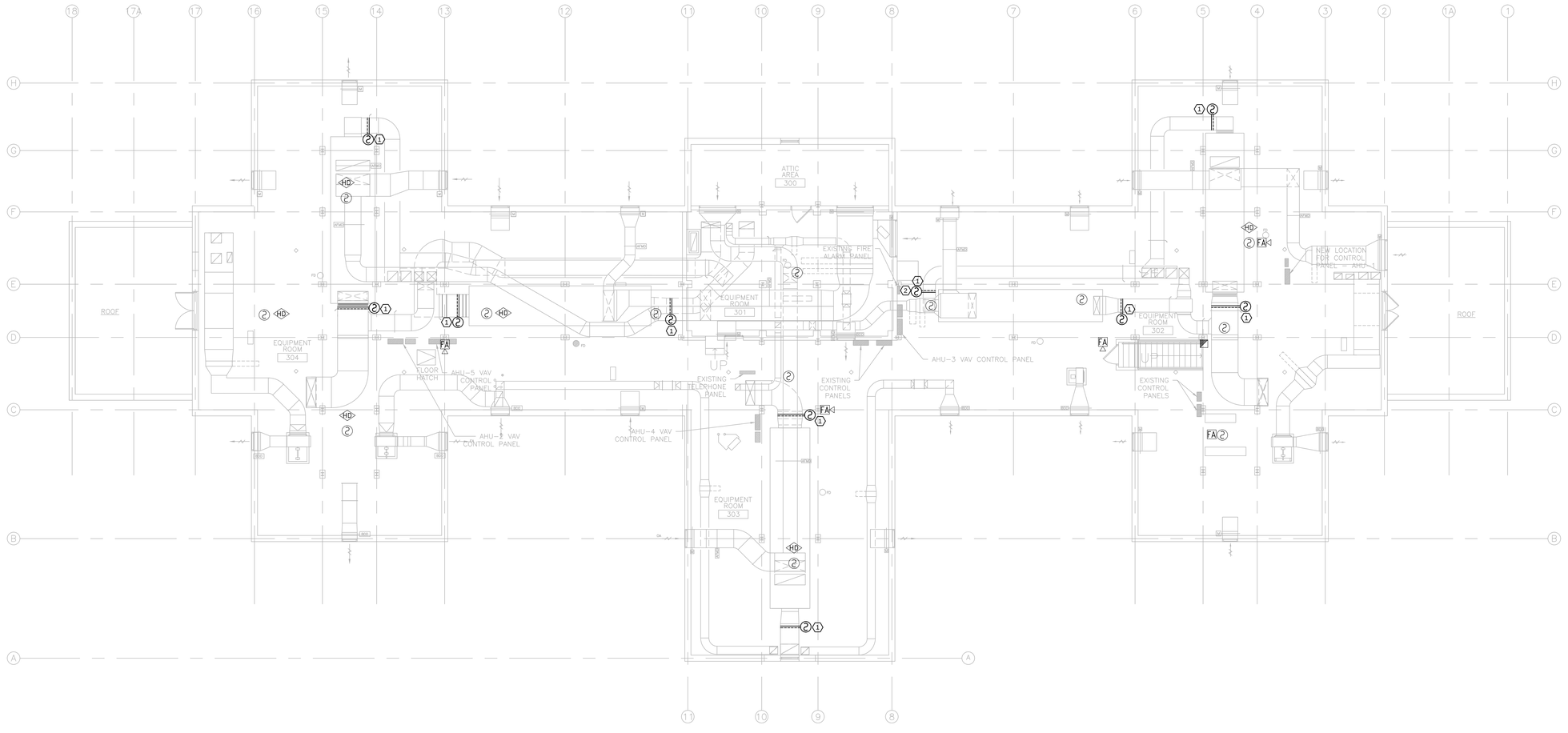
Building Number: 404

Drawing Number: FX101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



1 ATTIC PLAN
1/8" = 1'-0"

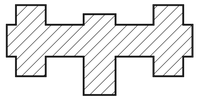
GENERAL NOTES

1. REFER TO SHEET F001 FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS.
2. EXISTING FACP IS A SILENT KNIGHT FARENHYT IFP-1000 AND IS LOCATED ON THE FIRST FLOOR NEAR THE MAIN ENTRANCE.

KEYED NOTES

(1) PROVIDE NEW DUCT SMOKE DETECTORS. EXTEND EXISTING CONDUIT AND WIRE TO LOCATION. FIELD VERIFY SAMPLING TUBE SIZE WITH MECHANICAL CONTRACTOR PRIOR TO ORDERING.

(2) EXISTING FIRE ALARM DISTRIBUTED POWER MODULE AND PULLBOX LOCATION. EXISTING POWER MODULE IS A SILENT KNIGHT, FARENHYT RPS-100. EXISTING PULLBOX PROVIDES ACCESS BETWEEN FLOORS.



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VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: FIRE PROTECTION DETECTION AND ALARM NEW WORK

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: MM

Drawn By: MG

Project Number: 676-16-102

Building Number: 404

Drawing Number: FA101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

three inches = one foot 6
one and one half inches = one foot 1 0 6
one inch = one foot 0 6
three quarters inch = one foot 2 0 6
one half inch = one foot 0 4
three eighths inch = one foot 4 0 8
one quarter inch = one foot 4 0 8
one eighth inch = one foot 16 8 4 0

GENERAL NOTES

1. PLUMBING CONTRACTOR SHALL CONFIRM ELEVATIONS, LOCATIONS, SIZES AND CONNECTION POINTS OF EXISTING PIPING AND EQUIPMENT AT JOB SITE.
2. PLUMBING CONTRACTOR SHALL COORDINATE THE INSTALLATION OF HIS WORK WITH EXISTING CONDITIONS AND WITH THE WORK OF OTHER TRADES.
3. PLUMBING CONTRACTOR SHALL PROVIDE PIPE SLEEVES AND FIRE STOPPING FOR ALL UTILITY PIPING THROUGH FIRE RATED WALLS.
4. PLUMBING CONTRACTOR SHALL COORDINATE AND FIELD VERIFY ALL THE WORK AND AND MANUFACTURER'S REPRESENTATIVE. THE ENTIRE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE LOCAL CODES PERTAINING TO SUCH SYSTEMS. MECHANICAL CONTRACTOR SHALL CONFIRM ALL CODE REQUIREMENTS BEFORE BEGINNING WORK.
5. PLUMBING CONTRACTOR SHALL PROVIDE PLUMBING FIXTURES AS SCHEDULED OR APPROVED EQUAL.
6. COORDINATE ROUTING OF PIPING ABOVE CEILING IN ALL LOCATIONS WITH THE INSTALLATION OF DUCTWORK, CONDUIT, CABLE TRAY, EXISTING PIPING, DUCTWORK, AND STRUCTURE.

ABBREVIATIONS

A/E	ARCHITECT / ENGINEER
AD	AREA DRAIN
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AG	AIR GAP
AP	ACCESS PANEL
AS	AUTOMATIC SPRINKLER
ASD	ADJUSTABLE SPEED DRIVES
ASD	AUTOMATIC SPRINKLER DRAIN
ASR	AUTOMATIC SPRINKLER RISER
AV	ACID VENT
AW	ACID WASTE
BFP	REDUCED PRESSURE BACKFLOW PREVENTER
BHP	BREAK HORSEPOWER
BT	BATHTUB
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CELSIUS
CGA	COMPRESSED GAS ASSOCIATION
CI	CAST IRON
CO	CLEANOUT
CS	CLINICAL SINK
CV	CONTROL VALVE
CW	COLD WATER
DCW	DOMESTIC COLD WATER
DFU	DRAINAGE FIXTURE UNITS
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RETURN
DHWR	DOMESTIC WATER RETURN
DHWS	DOMESTIC HOT WATER SUPPLY
DI	DEIONIZED WATER
DN	DOWN
DOE	DEPARTMENT OF ENERGY
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWR	DRINKING WATER RETURN
DWS	DRINKING WATER SUPPLY
DWV	DRAIN WASTE VENT
EL	ELEVATION
EPA	ENVIROMENTAL PROTECTION AGENCY
EPACT	ENERGY POLICY ACT
ESC	ESCUTCHEON
ESH	EMERGENCY SHOWER
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EWS	EYE WASH STATION
EX	EXISTING
F	FAHRENHEIT
FCO	FLOOR CLEANOUT
FCW	FILTERED COLD WATER
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT (HOSE) CONNECTION
FM	FLOW METER
FS	FLOOR SINK
FS	FLOW SWITCH
FU	FIXTURE UNITS
GAL	GALLON
GCO	GRADE CLEANOUTS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GRS	GAS REGULATOR STATION
GT	GREASE TRAP
GVTR	GAS VENT THROUGH ROOF
GWH	GAS FIRED WATER HEATER
H&CW	HOT AND COLD WATER
HB	HOSE BIBB
HD	HUB DRAIN
HEX	HEAT EXCHANGER
HP	HORSEPOWER
HS	HAND SINK
HST	HOT WATER STORAGE TANK (DOMESTIC)
HW	HOT WATER
HWB	HOT WATER BOILER
HWCP	HOT WATER CIRCULATING PUMP
HWP	HOT WATER PUMP
HYD	HYDRANT
ICW	INDUSTRIAL COLD WATER
INV	INVERT
IPC	INTERNATIONAL PLUMBING CODE
IRW	IRRIGATION WATER
IW	INDIRECT WASTE
IWH	INSTANTANEOUS WATER HEATER
IWR	INDUSTRIAL WATER RETURN
IWS	INDUSTRIAL WATER SUPPLY
KW	KILOWATT
KWHR	KILOWATT-HOUR
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LNG	LIQUID NATURAL GAS
LOX	LIQUID OXYGEN
LW	LOW WATER
M	METER
MA	MEDICAL AIR
MAV	MANUAL AIR VENT
MBH	1000 BTUH
MED	MEDICAL
MER	MECHANICAL EQUIPMENT ROOM
MH	MANHOLE
MSB	MOP SERVICE BASIN
MV	MEDICAL VACUUM
N2	NITROGEN
N20	NITROUS OXIDE
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM.	NOMINAL
NPW	NON POTABLE WATER
NTC	NOT TO SCALE
O2	OXYGEN
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OR	OPERATING ROOM
OVFL	OVERFLOW
PA	PASCAL
PD	PRESSURE DROP OR DIFFERENCE
PG	PRESSURE GAGE
PP	PLUMBING PUMP
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
PTRV	PRESSURE TEMPERATURE RELIEF VALVE
PW	POTABLE WATER
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
RL	ROOF LEADER
RO	REVERSE OSMOSIS WATER
RWL	RAIN WATER LEADER
S	SINK
SAN	SANITARY SEWER
SCFM	STANDARD CUBIC FOOT/MINUTE
SCW	SOFTENED COLD WATER
SDMH	STORM DRAIN MANHOLE
SP	SUMP PUMP
SPR	SPRINKLER LINE
SQFT	SQUARE FEET
SS	STAINLESS STEEL
ST	STORAGE TANK
ST	STORM
ST OVFL	STORM OVERFLOW
SW	STORM WATER
TCV	TEMPERATURE CONTROL VALVE
TD	TEMPERATURE DIFFERENCE
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TSTAT	THERMOSTAT
TWR	TEMPERED WATER RETURN
TWS	TEMPERED WATER SUPPLY
TYP	TYPICAL
UPC	UNIFORM PLUMBING CODE
V	VENT
VAC	VACUUM
VB	VACUUM BREAKER
VCO	VACUUM CLEANER OUTLET
VP	VACUUM PUMP
VS	VENT STACK
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WG	WATER GAGE
WH	WALL HYDRANT
WH	WATER HEATER
WHA	WATER HAMMER ARRESTER
WL	WATER LINE
WM	WATER METER
WPD	WATER PRESSURE DROP
WS	WASTE STACK
WSFU	WATER SUPPLY FIXTURE UNITS
YCO	YARD CLEANOUT
YH	YARD HYDRANT

LEGEND

- DOMESTIC COLD WATER, COLD WATER
- DOMESTIC HOT WATER, HOT WATER
- DOMESTIC HOW WATER RETURN, HOT WATER RETURN
- VENT
- VENT, BELOW GRADE
- D — DRAIN
- SAN — SANITARY SEWER
- SAN — SANITARY SEWER, BELOW GRADE
- ST — STORM WATER
- ST — STORM WATER, BELOW GRADE
- NG — NATURAL GAS
- NG — NATURAL GAS, BELOW GRADE
- # / X — DETAIL NUMBER / DRAWING NUMBER WHERE DRAWN
- X / X — SECTION LETTER / DRAWING NUMBER WHERE SHOWN
- P-X — EQUIPMENT ABBREVIATION (PUMP); PUMP NUMBER; TYPICAL UNIT NO.
- # — WSFU FOR SUPPLY PIPE NOTED
- x DFU — DFU FOR DRAINAGE PIPE NOTED (x EQUALS THE NUMBER OF DFU)

- DIRECTION OF PIPE PITCH (DOWN)
- DIRECTION OF FLOW
- ANCHOR
- REDUCER OR INCREASER
- ECCENTRIC REDUCER
- TOP CONNECTION, 45° OR 90°
- BOTTOM CONNECTION, 45° OR 90°
- SIDE CONNECTION
- CAPPED OUTLET
- RISE OR DROP IN PIPE
- UNION
- PIPE UP
- PIPE DOWN
- STRAINER
- THERMOMETER
- PRESSURE GAGE
- FE — FLOW ELEMENT
- CO — CLEAN OUT
- HOSE BIB
- SHOCK ARRESTOR
- GATE VALVE
- GLOBE VALVE
- GATE VALVE WITH 3/4 " HOSE ADAPTER
- CHECK VALVE
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- MODULATING CONTROL VALVE
- TWO POSITION CONTROL VALVE
- THREE-WAY MODULATING CONTROL VALVE
- THREE-WAY TWO POSITION CONTROL VALVE
- PRESSURE REGULATING VALVE
- AUTOMATIC FLOW CONTROL VALVE
- PRESSURE RELIEF VALVE
- MANUAL AIR VENT
- TEST PLUG (PRESSURE/TEMPERATURE)
- AV — AUTOMATIC AIR VENT
- POINT OF CONNECTION
- POINT OF DEMOLITION
- M — TWO POSITION CONTROL VALVE (BALL VALVE) SOLENOID OPERATED, POWER FROM TIMER

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: PLUMBING LEGEND AND ABBREVIATIONS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: JMD

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Project Number: 676-16-102

Building Number: 404

Drawing Number: P001

Office of Facilities Management

Department of Veterans Affairs

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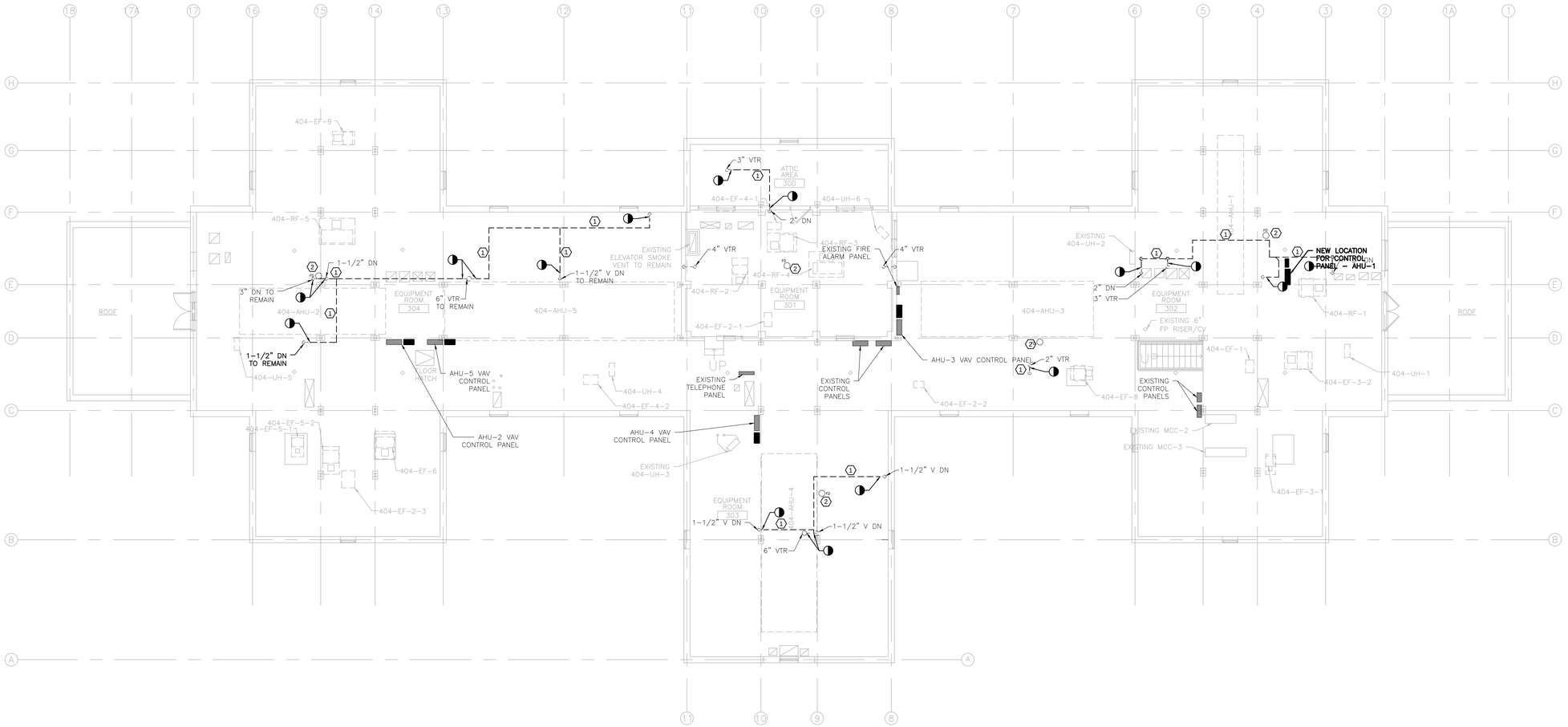


GENERAL NOTES

1. REFER TO SHEET GC101 & GC102 FOR PHASING PLANS. ALL WORK TO BE DONE IN ACCORDANCE WITH THE PHASES IDENTIFIED.
2. EXISTING PIPING AND INVERT ELEVATION ARE BASED ON RECORD DRAWINGS. PLUMBING CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND MAKING MODIFICATION AS REQUIRED FOR VARIANCES.

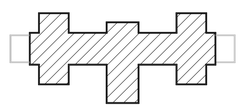
KEYED NOTES

(1) REMOVE VENT PIPING AS INDICATED. TEMPORARILY SEAL OPEN VENT PIPING AND PROVIDE A TEMPORARY FLEXIBLE CONNECTION FROM STACK PIPE END TO VTR LOCATION.

(2) TEMPORARILY SEAL FLOOR DRAIN TO PREVENT FROM DEBRIS ENTERING.

1 ATTIC PLAN

1/8" = 1'-0"



ATTIC KEY PLAN

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Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: PLUMBING DEMOLITION

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: HFB

Drawn By: JMD

Project Number: 676-16-102

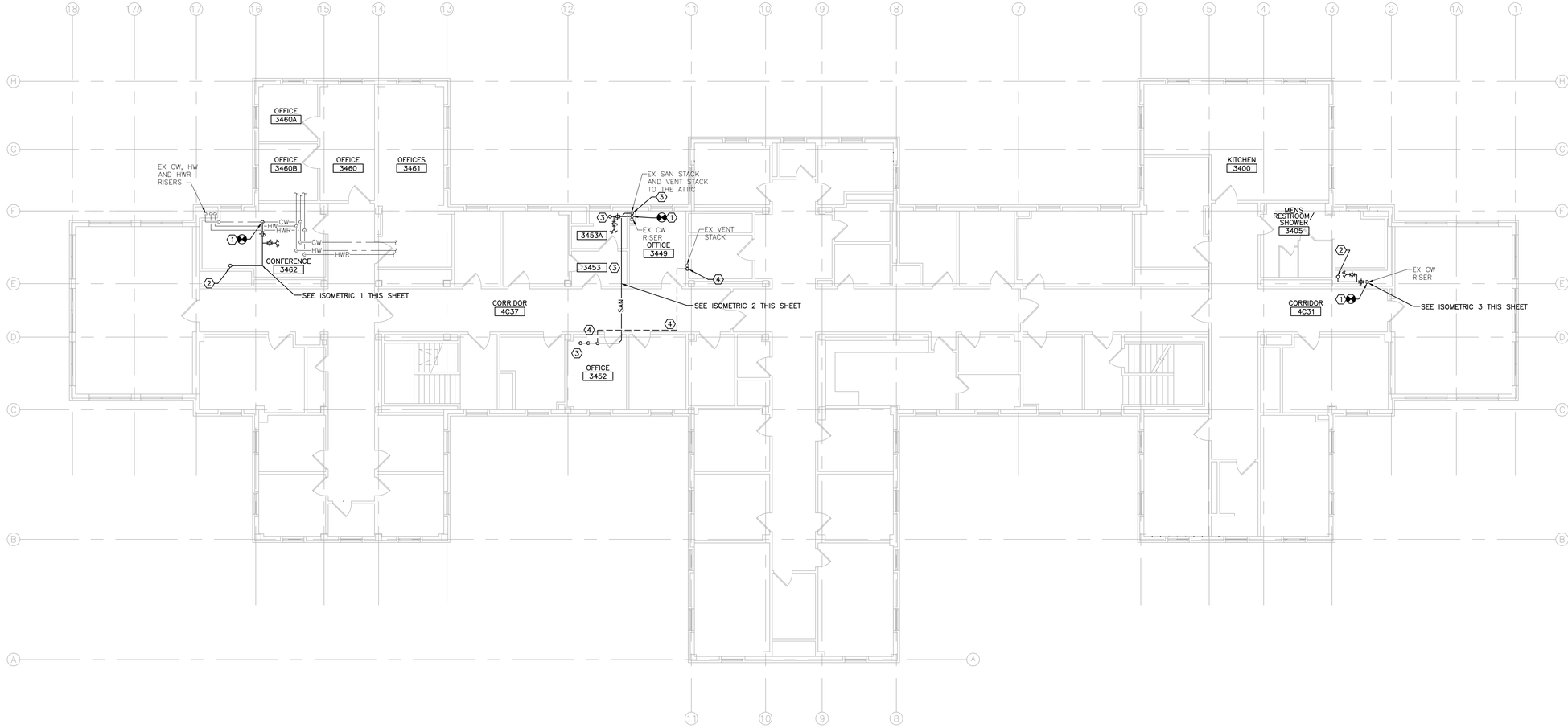
Building Number: 404

Drawing Number: PD101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



GENERAL NOTES

1. REFER TO SHEET GC101 & GC102 FOR PHASING PLANS. ALL WORK TO BE DONE IN ACCORDANCE WITH THE PHASES IDENTIFIED.
2. SANITARY AND STORM PIPING TO BE INSTALLED AT A MINIMUM 1/8" PER FOOT SLOPE.
3. SEE ISOMETRIC DIAGRAMS FOR PIPE SIZES, ISOLATION VALVE LOCATIONS AND CAPACITY INFORMATION.
4. EXISTING PIPING AND INVERT ELEVATION ARE BASED ON RECORD DRAWINGS. PLUMBING CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND MAKING MODIFICATION AS REQUIRED FOR VARIANCES.

KEYED NOTES

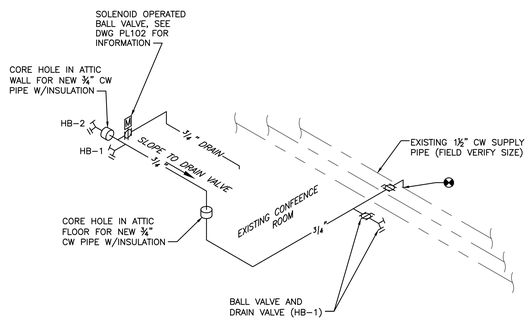
(1) CONNECT TO EXISTING DOMESTIC COLD WATER SUPPLY CAPPED 1" STUB ABOVE CONFERENCE ROOM.

(2) ROUTE ¾" CW SUPPLY UP TO ATTIC.

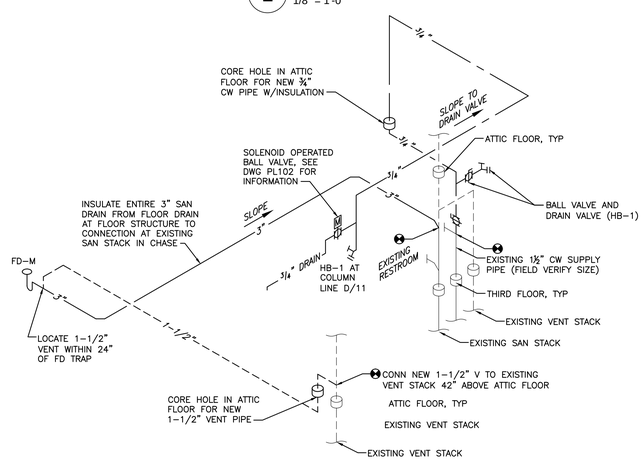
(3) PROVIDE NEW 3" FD, ROUTE 3" SAN TO EXISTING PIPE CHASE AND CONNECT TO EXISTING 3" SAN STACK. INSULATE ENTIRE LENGTH OF NEW SANITARY PIPE AND SEAL AIR TIGHT.

(4) CUT IN NEW 1½" VENT AND ROUTE TO VENT STACK, ROUTE UP TO ATTIC FOR CONNECTION.

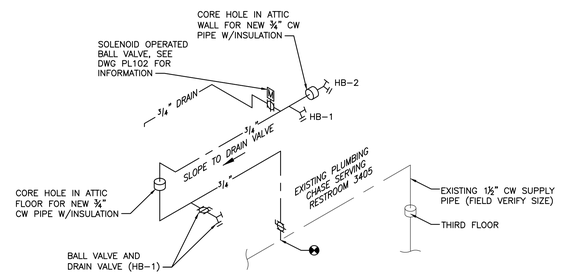
1 THIRD FLOOR PLAN
1/8" = 1'-0"



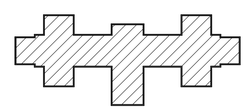
2 WATER ISOMETRIC
NTS



3 WATER, SANITARY AND VENT ISOMETRIC
NTS



4 WATER ISOMETRIC
NTS



THIRD FLOOR KEY PLAN

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Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

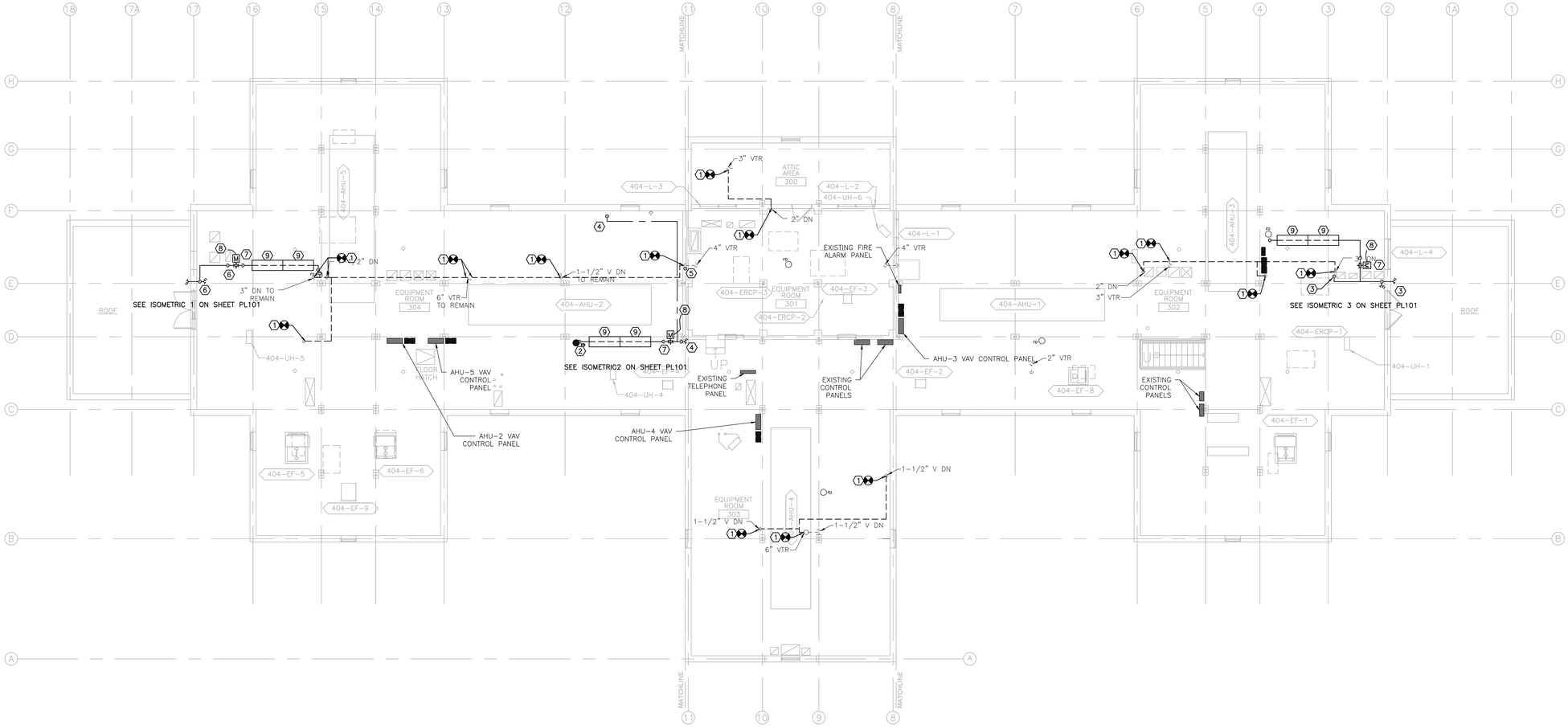
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	PLUMBING NEW WORK
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	JMD
Project Number	676-16-102
Building Number	404
Drawing Number	PL101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



1 ATTIC PLAN
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET GC101 & GC102 FOR PHASING PLANS. ALL WORK TO BE DONE IN ACCORDANCE WITH THE PHASES IDENTIFIED.
2. SANITARY AND STORM PIPING TO BE INSTALLED AT A MINIMUM 1/8" PER FOOT SLOPE.
3. SEE ISOMETRIC DIAGRAMS FOR PIPE SIZES, ISOLATION VALVE LOCATIONS AND CAPACITY INFORMATION.
4. EXISTING PIPING AND INVERT ELEVATION ARE BASED ON RECORD DRAWINGS. PLUMBING CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND MAKING MODIFICATION AS REQUIRED FOR VARIANCES.

KEYED NOTES

(1) CONNECT VENTS TO EXISTING VENT RISERS. VENT SIZES AS SHOWN ON DEMOLITION PLAN. REMOVE AND DISPOSE OF TEMPORARY VENT PIPES, PROVIDE SPECIFIED VENT MATERIAL PER SPECIFICATIONS.

(2) PROVIDE NEW FLOOR DRAIN (FD-M PER SPECIFICATIONS) FOR AHU-2. CUT HOLE IN FLOOR, AVOID STRUCTURE, SEAL WATER-TIGHT. CONNECT TO EXISTING SANITARY PIPING ON THIRD FLOOR.

(3) ¾" COLD WATER SUPPLY UP THROUGH FLOOR FROM THIRD FLOOR PLUMBING CHASE. ROUTE PIPE UP TO ROOF STRUCTURE, PROVIDE 1 – ¾" HB INSIDE AND 1 – ¾" EXTERIOR FREEZE-PROOF WALL HYDRANT.

(4) ¾" COLD WATER SUPPLY UP THROUGH FLOOR FROM THIRD FLOOR PLUMBING CHASE, ROUTE PIPE UP TO ROOF STRUCTURE, PROVIDE 1 – ¾" HB AS SHOWN.

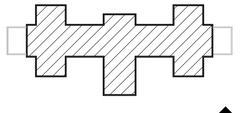
(5) CONNECT 1½" V FROM NEW THIRD FLOOR FD TO EXIST VENT STACK.

(6) ¾" COLD WATER SUPPLY UP THROUGH FLOOR FROM THIRD FLOOR PLUMBING CHASE. ROUTE PIPE TO EXTERIOR WALL, PROVIDE 1 – ¾" HB INSIDE AND 1 – ¾" EXTERIOR FREEZE-PROOF WALL HYDRANT.

(7) PROVIDE SOLENOID OPERATED BALL VALVE (W-1), SIMILAR TO VALWORX SERIES 5676, STOCK NUMBER 567668, 2-PIECE FULL PORT BALL VALVE WITH TYPE 4X WEATHERPROOF ENCLOSURE, HEAVY DUTY MOTOR, MANUAL OVERRIDE, LIMIT SWITCHES AND VISUAL POSITION INDICATOR, 24VDC AND 4-20mA SIGNAL.

(8) BUILDING CONTROLS CONTRACTOR SHALL PROVIDE CONTROL (4-20mA) AND POWER (24 VDC) TO SOLENOID OPERATED BALL VALVE (W-1). PLUMBING CONTRACTOR SHALL COORDINATE WITH CONTROLS CONTRACTOR AND VERIFY REQUIREMENTS FOR THE BALL VALVE MATCH THE REQUIREMENTS THE CONTROLS CONTRACTOR IS PROVIDING FOR FULLY FUNCTIONAL OPERATION OF THE POWERED BALL VALVE (W-1). PROGRAM VALVE TO FULLY OPEN FOR 2 MINUTES THEN FULLY CLOSE ONCE PER DAY, EVERYDAY. OWNER SHALL HAVE OPTION TO RE-PROGRAM VALVE OPERATION. SEE DRAWING M702 FOR W-1 CONTROLS DIAGRAM AND INFORMATION.

(9) PROVIDE ¾" COPPER DRAIN FROM SOLENOID OPERATED BALL VALVE (W-1) TO NEAREST FLOOR DRAIN, SECURE DRAIN TO FLOOR SUPPORTS SIMILAR TO MIFAB RT1B EPDM RUBBER PIPE SUPPORT, PROVIDE ELBOW DOWN AT FLOOR DRAIN AND PROVIDE PIPE FLOOR COVER AT WALK WAY SIMILAR TO SAFEGUARD 20" WIDE BY 3" HIGH BY 60" LONG ANTI-SLIP PIPE & CABLE COVER.



ATTIC KEY PLAN

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Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: PLUMBING NEW WORK AND ISOMETRIC DIAGRAMS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: HFB

Drawn By: JMD

Project Number: 676-16-102

Building Number: 404

Drawing Number: PL102

Office of Facilities Management

Department of Veterans Affairs

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LEGEND

HPS	HIGH PRESSURE STEAM (60 PSIG AND ABOVE)
HPR	HIGH PRESSURE STEAM CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM (16 PSIG THRU 59 PSIG)
MPR	MEDIUM PRESSURE STEAM CONDENSATE RETURN
LPS	LOW PRESSURE STEAM (15 PSIG AND BELOW)
LPR	LOW PRESSURE STEAM CONDENSATE RETURN
PC	CONDENSATE PUMP DISCHARGE
HWS	HOT WATER HEATING SUPPLY
HWR	HOT WATER HEATING RETURN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RHG	REFRIGERANT HOT GAS
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
GCS	CHILLED GLYCOL–WATER SUPPLY
GCR	CHILLED GLYCOL–WATER RETURN
MW	MAKE–UP WATER
D	DRAIN LINE
V	VENT LINE
X	EXISTING PIPE TO BE REMOVED

	DIRECTION OF PIPE PITCH (DOWN)
	DIRECTION OF FLOW
	ANCHOR
	REDUCER OR INCREASER
	ECCENTRIC REDUCER
	TOP CONNECTION, 45° OR 90°
	BOTTOM CONNECTION, 45° OR 90°
	SIDE CONNECTION
	CAPPED OUTLET
	RISE OR DROP IN PIPE
	UNION
	PIPE UP
	PIPE DOWN
	INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
	FLOAT & THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
	THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
	THERMOMETER
	PRESSURE GAGE
FE	FLOW ELEMENT
	REFRIGERANT SIGHT GLASS
	TEST PLUG (PRESSURE/TEMPERATURE)
AV	AUTOMATIC AIR VENT
MV	MANUAL AIR VENT
	GATE VALVE – THREADED/FLANGED
	GLOBE VALVE – THREADED/FLANGED
	GATE VALVE WITH 3/4" HOSE ADAPTER
	CHECK VALVE
	WYE STRAINER
	FLEXIBLE CONNECTION
	ANGLE GLOBE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	MODULATING CONTROL VALVE
	MODULATING CONTROL BUTTERFLY VALVE
	TWO POSITION CONTROL VALVE
	THREE–WAY MODULATING CONTROL VALVE
	THREE–WAY TWO POSITION CONTROL VALVE
	PRESSURE REGULATING VALVE
	PRESSURE SAFETY VALVE
	AUTOMATIC BALANCING CONTROL VALVE
	WATER BALANCE DEVICE
	CIRCUIT SETTER VALVE
	GATE VALVE WITH GLOBE–VALVED BYPASS
	PLUG VALVE
	CONTROL VALVE (CV) – FLOAT–OPERATED
	PRESSURE REDUCING VALVE (PRV)
M	FLOW METER

T	ROOM THERMOSTAT/TRANSMITTER – WALL MOUNT
M	ROOM HUMIDISTAT (MOISTURE)/TRANSMITTER – WALL MOUNT
TT	TEMPERATURE TRANSMITTER
TT	TEMPERATURE TRANSMITTER, AVERAGING ELEMENT
MT	MOISTURE (HUMIDITY) TRANSMITTER
PT	PRESSURE TRANSMITTER
SPS	STATIC PRESSURE SENSOR
FT	FLOW TRANSMITTER
IT	CURRENT TRANSMITTER
CT	CONDUCTIVITY TRANSMITTER
SD	SMOKE DETECTOR
PDT	PRESSURE DIFFERENTIAL TRANSMITTER
PDS	PRESSURE DIFFERENTIAL SWITCH
HS	HAND SWITCH (HAND–OFF–AUTO SWITCH)
ZC	VALVE OR DAMPER POSITION CONTROLLER
KR	LOCAL RECORDING TIME CLOCK (RUNTIME)
TSL	TEMPERATURE SWITCH, LOW (FREEZESTAT)
TSH	TEMPERATURE SWITCH, HIGH (FREEZESTAT)
LC	LEVEL CONTROLLER
LT	LEVEL TRANSMITTER
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
EPT	ELECTRONIC TO PNEUMATIC TRANSDUCER
AT CO2	CARBON DIOXIDE TRANSMITTER
AT CO	CARBON MONOXIDE TRANSMITTER
AT OC	OCCUPANCY SENSOR
LTCP	LOCAL TEMPERATURE CONTROL PANEL
HVAC	HVAC CONTROL PANEL
VSMC	VARIABLE SPEED MOTOR CONTROLLER
ECC	INTEGRATE CONTROL POINT ON REMOTE GRAPHICS WORKSTATION AT ENERGY CONTROL CENTER
TC	TEMPERATURE CONTROLLER. SEE SEQUENCE OF OPERATION
PC	PRESSURE CONTROLLER. SEE SEQUENCE OF OPERATION
SC	SPEED CONTROLLER. SEE SEQUENCE OF OPERATION
FC	FLOW CONTROLLER. SEE SEQUENCE OF OPERATION
FSH	FLOW SWITCH HIGH
FSL	FLOW SWITCH LOW
KC	TIME CLOCK CONTROLLING EQUIPMENT ON A SCHEDULE
	TEMPERATURE SENSING ELEMENT FOR TRANSMITTING TEMPERATURE TO EMCS (PROVIDE 12 INCHES [200mm] MINIMUM LENGTH IN DUCT WHEN SPACE PERMITS.)
A	SENSOR WITH AVERAGING ELEMENT TO TRANSMIT TEMPERATURE TO EMCS
	MOTOR STARTER
M	ELECTRIC OPERATED CONTROL DAMPER/OR VALVE

UP DN	SUPPLY DUCT (UP & DOWN)
UP DN	EXHAUST DUCT (UP & DOWN)
UP DN	RETURN DUCT (UP & DOWN)
	ROUND AND SQUARE 4–WAY CEILING DIFFUSERS
	SQUARE 3–WAY CEILING DIFFUSERS
	SQUARE 2–WAY CEILING DIFFUSERS
	SQUARE 1–WAY CEILING DIFFUSERS
	LINEAR SLOT DIFFUSER
	SUPPLY TOP REGISTER OR GRILLE (WALL TYPE)
	EXHAUST OR RETURN CEILING REGISTER OR GRILLE
	EXHAUST OR RETURN BOTTOM REGISTER OR GRILLE (WALL TYPE)
	EXHAUST OR RETURN REGISTER OR TOP GRILLE (WALL TYPE)
	VANED ELBOW & AIR SPLIT TYPE DUCT TAKE–OFF
	CONNECTION OF NEW TO EXISTING
R	INCLINED RISE, IN DIRECTION OF AIR FLOW
D	INCLINED DROP, IN DIRECTION OF AIR FLOW
	LIMIT OF DEMOLITION
FC	FLEXIBLE CONNECTION, EQUIPMENT, VIBRATION, OR SEISMIC
	VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
	VANED ELBOW (SHORT RADIUS)
	STANDARD RADIUS ELBOW (LONG RADIUS)
10x8	NEW DUCT (INSIDE DIMENSIONS: WIDTH x DEPTH)
	EXISTING DUCT TO REMAIN
	EXISTING DUCT TO BE REMOVED
	LOUVER (LOUVER SPECIFIED IN ARCHITECTURAL SECTION.)
	FLEXIBLE DUCTWORK (INSULATED)
	DUCT WITH SOUND LINING
VD	MANUAL VOLUME DAMPER
FD	FIRE DAMPER
BDD	BACK DRAFT DAMPER
F/S DPR N	COMBINATION FIRE/SMOKE DAMPER
2 4 1/2	POINT OF CHANGE IN DUCT CONSTRUCTION BY STATIC PRESSURE CLASS. THE NUMBER ASSIGNS PRESSURE CLASS (IN. OF WATER) WHICH WILL ACCOMMODATE MAXIMUM OPERATING PRESSURE IN THE DUCT SUBSECTION. THE SYMBOL CONTINUES THE ASSIGNMENT UNTIL THE DUCT TERMINATES OR ANOTHER SYMBOL APPEARS. A "N" SUPERSCRIPT INDICATES NEGATIVE PRESSURE.
	AUTOMATIC CONTROL DAMPER MODULATING
	AUTOMATIC CONTROL DAMPER TWO POSITION
	STAINLESS STEEL DUCT

	MANUAL SPLITTER DAMPER
45° SUPPLY	STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP)
45° RETURN	
	DUCT MOUNTED COIL (HOT WATER OR STEAM COIL)
	DUCT MOUNTED COIL (ELECTRIC)

DRAWING SYMBOLS

2 / H4	DETAIL NUMBER / DRAWING NUMBER WHERE DRAWN
A / H7	SECTION LETTER / DRAWING NUMBER WHERE SHOWN
SF 3	EQUIPMENT ABBREVIATION (SUPPLY FAN) / SUPPLY FAN NO. 3 / TYPICAL UNIT NO.

GENERAL NOTES

1. LEGEND IS A STANDARD LEGEND. NOT ALL SYMBOLS AND ABBREVIATIONS SHOWN MAY BE USED ON THIS PROJECT.
2. FOR LOCATIONS AND SIZES OF WALL OPENINGS SEE ARCHITECTURAL DRAWINGS.
3. INSTALLATION SHALL PROVIDE READY ACCESS TO VALVES, DAMPERS, COILS, AIR FILTERS, AIR FLOW MEASURING STATIONS, AND OTHER DEVICES. ACCESS DOORS SHALL BE INSTALLED TO PROVIDE ADEQUATE CLEARANCES FOR DIRECT ACCESS.
4. PROVIDE LOCAL MECHANICAL VENTILATION DURING WELDING, AND A DUCT TO OUTSIDE.
5. DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.
6. EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
7. LOCATIONS, SIZES, CLEARANCES AND CONFIGURATIONS OF EQUIPMENT SHOWN ARE BASED ON SPECIFIC SCHEDULED MANUFACTURERS AND MODEL NUMBERS. SUBSTITUTION OF SUCH EQUIPMENT MANUFACTURERS WILL REQUIRE THE CONTRACTORS PRIOR VERIFICATION OF CONFORMANCE PER THE REQUIREMENTS OF LOCATION, SIZE CLEARANCES AND CONFIGURATION AS COMPARED TO SPACE ALLOCATED TO HOUSE SPECIFIC EQUIPMENT.
8. SUPPLY AND RETURN AIR DUCTWORK SHALL BE CONSTRUCTED, INSTALLED, AND INSULATED AS SPECIFIED; INSPECT DUCTWORK, SUPPORTS AND INSULATION FOR DAMAGE OR FAULTY INSTALLATION. REPLACE, OR REPAIR AS REQUIRED SO THAT FINAL INSTALLATION IS ADEQUATELY SEALED FROM LEAKS, FREE OF DEFECTS, AND IN ACCORDANCE WITH SPECIFICATIONS
9. WHERE FLEXIBLE DUCTWORK IS USED, MAXIMUM ALLOWABLE LENGTH SHALL BE 5 FEET.
10. ACOUSTICAL DUCT LINER IS NOT PERMITTED ON THIS PROJECT.
11. NEW CONTROLS TO BE COMPATIBLE WITH EXISTING DDC SYSTEM AT THE FACILITY.
12. TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
13. FOR TYPICAL STEAM AND WATER PIPING CONNECTIONS TO EQUIPMENT, SEE STANDARD EQUIPMENT DETAILS.
14. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
15. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
16. STEAM HEADER SET PRESSURE: 30 PSIG
17. ALL PRESSURES LISTED ARE GAGE PRESSURE UNLESS OTHERWISE NOTED.

ABBREVIATIONS

A/E	ARCHITECT / ENGINEER
AAHX	AIR TO AIR HEAT EXCHANGER
AB	AIR BLENDER
AAV	AUTOMATIC AIR VENT
ACC	AIR COOLED CONDENSER
ACCH	AIR COOLED CHILLER
ACCU	AIR–COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
ACD	AUTOMATIC CONTROL DAMPER,MODULATING
ACD–TP	AUTOMATIC CONTROL DAMPER,TWO POSITION
AD	ACCESS DOOR
AF	AFTER FILTER
AFCV	AIR FLOW CONTROL VALVE
AFF	ABOVE FINISHED FLOOR
AFMD	AIR FLOW MEASURING DEVICE
AFW	AIR FOIL WHEEL (FAN)
AHU	AIR–HANDLING UNIT
AMP	AMPERSE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
AS	AIR SEPARATOR
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AW	AIR WASHER
AXF	AXIAL FLOW
B	BOILER
BD	BUTTERFLY DAMPER
BDD	BACKDRAFT DAMPER
BDR	BASE BOARD RADIATOR
BFP	BACKFLOW PREVENTER
BFT	BOILER PLANT FIRE TUBE
BG	BOTTOM GRILLE
BHP	BRAKE HORSEPOWER
BHW	HOT WATER HEATING BOILER
BHX	BOILER BLOWDOWN HEAT EXCHANGER
BIW	BACKWARD INCLINED WHEEL (FAN)
BMT	BONE MARROW TRANSPLANT
BR	BOTTOM REGISTER
BSC	BIOLOGICAL SAFETY CABINETS
BT	BLOWOFF TANK
BTC	BLOWOFF TANK CONTROL VALVE
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWT	BOILER PLANT WATER TUBE
C	CENTIGRADE (CELCIUS)
CC	COOLING COIL
CCD	COOLING COIL CONDENSATE DRAIN
CD	CEILING DIFFUSER
CD–1	CONSTRUCTION DOCUMENTS (SUBMISSION1)
CD–2	CONSTRUCTION DOCUMENTS (SUBMISSION2)
CENT	CENTRIFICAL
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFT	CUBIC FEET
CFP	CHEMICAL FEED PUMP
CG	CEILING GRILLE
CH	CHILLER
CHP	CHILLED WATER PUMP
CHW	CHILLER WATER
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CI	CAST IRON
CM	CARBON MONOXIDE
CM	CUBIC METER
CM/S	CUBIC METER PER SECOND
CO	CLEAN OUT
CO2	CARBON DIOXODE
COMP	COMPRESSOR UNIT
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CR	CEILING REGISTER
CS	CONDENSATE STORAGE TANK
CSG	CLEAN STEAM GENERATOR
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONSTANT VOLUME
CW	COLD WATER (POTABLE)
CWCC	CHILLED WATER COOLING COIL
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN (TO COOLING TOWER)
CWS	CONDENSER WATER SUPPLY (FROM COOLING TOWER)
D	DAMPER – AUTOMATIC
D–1	OUTDOOR AIR DAMPER
D–2	RETURN AIR DAMPER
D–3	RELIEF AIR DAMPER
DB	DECIBELS
Db	DRY–BULB TEMPERATURE
DD–1	DESIGN DEVELOPMENT (SUBMISSION1)
DD–2	DESIGN DEVELOPMENT (SUBMISSION2)
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE
DF	DIFFUSER
DIA	DIAMETER
DIW	DEIONIZED WATER
DP	DEW POINT TEMPERATURE
DP	DIFFUSER PLATE
DPA	DIFFERENTIAL PRESSURE ASSEMBLY
DPS	DIFFERENTIAL PRESSURE SENSOR
DX	DIRECT EXPANSION
DXCC	DIRECT EXPANSION COOLING COIL
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	EVAPORATIVE COOLER
ECC	ENGINEERING CONTROL CENTER
ECU	EVAPORATIVE CONDENSER UNIT
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EGS	EMERGENCY GAS SHUTOFF
EGT	ENTERING GLYCOL TEMPERATURE
EH	EXHAUST HOOD
EJ	EXPANSION JOINT
EMD	END OF MAIN DRIP (STEAM)
ENT	ENTERING
ER	EXHAUST REGISTER
ERC	ELECTRIC REHEAT COIL
ERP	ELECTRIC RADIANT PANEL
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETO	ETHYLENE OXIDE
EUH	ELECTRIC UNIT HEATER
EWC	EVAPORATIVE WATER COOLER
EWT	ENTERING WATER TEMPERATURE
EX.	EXISTING
F	FAHRENHEIT
F&T	FLOAT AND THERMOSTATIC
F/SDPR	COMBINATION FIRE SMOKE DAMPER
FA	FREE AREA
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT (4 PIPE)
FCUC	FAN COIL UNIT COOLING ONLY
FCUH	FAN COIL UNIT HEATING ONLY
FCW	FORWARD CURVED WHEEL (FAN)
FD	FLOOR DRAIN
FD	FIRE DAMPER
FF	FINAL FILTER
FHX	FLUE GAS/FEEDWATER HEAT EXCHANGER
FM	FLOW METER
FOP	FUEL OIL PUMP
FOT	FUEL OIL TANK
FOHX	FUEL OIL HEAT EXCHANGER
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FPTU	FAN POWERED TERMINAL UNIT
FR	FLOOR REGISTER
FRP	FIBER REINFORCED POLYESTER
FS	FLOW SWITCH
FSTAT	FREEZESTAT
FT	FEET
FT–LB	FOOT–POUND
FTR	FIN TUBE RADIATION
FV	FACE VELOCITY
GA	GAUGE
GAL	GALLONS
GH	GRAVITY HOOD
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GS	GALVANIZED STEEL
H	HUMIDIFER
H&CW	HOT & COLD WATER
HAC	HOUSEKEEPING AID CLOSET
HB	HOSE BIBB
HC	HEATING COIL
HD	HEAD
HD	HOOD
HOA	HAND/OFF/AUTOMATIC
HP	HEAT PUMP
HP	HORSEPOWER
HPDT	HIGH PRESSURE DRIP TRAP
HPR	HIGH PRESSURE RETURN (STEAM CONDENSATE)
HPS	HIGH PRESSURE SUPPLY (STEAM)
HRC	HEAT RECOVERY COIL
HRD	HEAT RECOVERY DEVICE
HRP	HYDRONIC RADIANT (CEILING) PANEL
HRW	HEAT RECOVERY WHEEL
HSTAT	HUMIDISTAT
HTM	HUMIDIFIER TERMINAL
HUM	HUMIDIFIER UNIT MOUNTED
HVU	HEATING AND VENTILATING UNIT
HW	HOT WATER
HWC	HOT WATER COIL
HWHC	HOT WATER HEATING COIL
HWP	HEATING HOT WATER PUMP
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
HWUH	HOT WATER UNIT HEATER
HVD	HOISTWAY VENT DAMPER
HX	HEAT EXCHANGER
HZ	HERTZ
I/O	INPUT/OUTPUT
IAQ	INDOOR AIR QUALITY
IBT	INVERTED BUCKET TRAP
ICF	IN–LINE CENTRIFUGAL FAN
ICU	INTENSIVE CARE UNIT
ID	INSIDE DIAMETER
IFB	INTEGRAL FACE AND BYPASS
IN	INCHES
IN HG	INCHES OF MERCURY
IN WC	INCH WATER COLUMN
IN WG	INCH WATER GAUGE
IN–LB	INCH–POUND
IPLV	INTERGRATED PART LOAD VALUE
IRH	INTRARED HEATER
IS	INSECT SCREEN
IU	INDUCTION UNIT
IV	INLET VANES
J	INTENTIALLY LEFT BLANK
kg	KILOGRAM
kg/HR	KILOGRAM PER HOUR
kPa	KILOPASCAL
kW	KILOWATT
kWh	KILOWATT HOUR
L	LITER
L/h	LITERS PER HOUR (OR LITERS/HOUR)
L/m	LITERS PER MINUTE (OR LITERS/MINUTE)
L/s	LITERS PER SECOND (OR LITERS/SECOND)
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUNDS PER HOUR
LF	LINEAR FOOT (FEET)
LGT	LEAVING GLYCOL TEMPERATURE
LH	LATENT HEAT
LPG	LIQUID PROPANE GAS
LPR	LOW PRESSURE RETURN (STEAM CONDENSATE)
LPRC	LOW PRESSURE STEAM RETURN (CLEAN)
LLHX	LIQUID TO LIQUID HEAT EXCHANGER
LPS	LOW PRESSURE STEAM
LPSC	LOW PRESSURE STEAM (CLEAN)
LSD	LINEAR SLOT DIFFUSER
LTCP	LOCAL TEMPERATURE CONTROL PANEL
LVG	LEAVING
LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
M	METER, SI UNIT
M/s	METERS PER SECOND (OR METERS/SECOND)
MA	MIXED AIR
MAT	MIXED AIR TEMPERATURE
MAU	MAKE–UP AIR UNIT
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MB	MIXING BOX
MBH	1000 BTUH
MCA	MINIMUM BRANCH CIRCUIT AMPACITY
MER	MECHANICAL EQUIPMENT ROOM
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MH	MANHOLE
MHP	MOTOR HORSEPOWER
MIN	MINIMUM
MM	MILLIMETER
MOV	MOTOR OPERATED VALVE
MPR	MEDIUM PRESSURE RETURN (STEAM CONDENSATE)
MPS	MEDIUM PRESSURE STEAM
MRI	MAGNETIC RESONANCE IMAGING
MTD	MEAN TEMPERATURE DIFFERENCE
MVD	MANUAL VOLUME DAMPER
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NG	NATURAL GAS
NGFM	NATURAL GAS FLOWMETER
NO	NORMALLY OPEN
NOAA	NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
NOM	NOMINAL
NPLV	NON–STANDARD PART LOAD VALUE
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAG	OUTSIDE AIR GRILLE
OAI	OUTSIDE AIR INTAKE
OD	OUTSIDE DIAMETER
OFM	OIL FLOWMETER
OR	OPERATING ROOM
P	PUMP
PA	PASCAL
PC	PUMPED CONDENSATE
PCF	POUNDS PER CUBIC FOOT (FEET)
PD	PRESSURE DROP
PEF	PROPELLER (TYPE) EXHAUST FAN
PF	PRE–FILTER
PG	PRESSURE GAGE
PGW	PROPYLENE GLYCOL–WATER (SOLUTION)
PHC	PREHEAT COIL
PPM	PARTS PER MILLION
PRS	PRESSURE REGULATING (VALVE) STATION
PRV	PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH – ABSOLUTE
PSIG	POUNDS PER SQUARE INCH – GAGE
PSS	PRIMARY SECONDARY SYSTEM
PSV	PRESSURE SAFETY VALVE
PTAC	PACKAGED TERMINAL AIR CONDITIONER
R/E	RETURN OR EXHAUST
RA	RETURN AIR
RAD	HOUSEKEEPING AID CLOSET
RAF	RADIO FREQUENCY
RAHX	ROTARY AIR HEAT EXCHANGER
RAT	RETURN AIR TEMPERATURE
RCCH	REMOTE CONDENSER CHILLER
RCU	RECIPROCATING CHILLER UNIT
RD	REFRIGERANT DISCHARGE
RDS	ROOM DATA SHEETS
REA	RELIEF AIR
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID LINE
RLA	RUN LOAD AMPERE
RO	REVERSE OSMOSIS
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
RV	RELIEF VALVE
SA	SUPPLY AIR
SAD	SOUND ATTENUATING DEVICE
SAT	SUPPLY AIR TEMPERATURE
SC	SHADING COEFFICIENT
SCFM	STANDARD CUBIC FEET PER MINUTE
SCI	SPINAL CODE INJURY
SCR	SILICON CONTROLLED RECTIFIER
SD	SMOKE DETECTOR
SD	SUPPLY AIR DIFFUSER
SD–1	SCHEMATIC DESIGN (SUBMISSION1)
SD–2	SCHEMATIC DESIGN (SUBMISSION2)
SDPR	SMOKE DAMPER
SDR	SMOKE DAMPER (RETURN)
SDS	SMOKE DAMPER (SUPPLY)
SEN	SENSIBLE HEAT
SF	SUPPLY FAN
SG	SUPPLY AIR GRILLE
SH	STEAM HUMIDIFIER
SHC	STEAM HEATING COIL
SI	SQUARE INCHES
SP	STATIC PRESSURE
SP GR	SPECIFIC GRAVITY
SPD	SUPPLY PROCESS AND DISTRIBUTION
SPRV	STEAM PRESSURE REDUCING VALVE
SPS	STATIC PRESSURE SENSOR
SQ FT	SQUARE FOOT (FEET)
SR	SUPPLY AIR REGISTER
SS	STAINLESS STEEL
SSHX	STEAM TO STEAM HEAT EXCHANGER
SSR	SOLID SEPARATOR
ST	STEAM TRAP
SUH	STEAM UNIT HEATER
SV	STEAM PRESSURE REDUCING VALVE
SVS	STEAM VENT SILENCER
SWHX	STEAM TO WATER HEAT EXCHANGER
T & PCV	TEMPERATURE AND PRESSURE CONTROL VALVE
TAB	TESTING, ADJUSTING, BALANCE
TD	TEMPERATURE DIFFERENCE
TDH	TOTAL DYNAMIC HEAD
TDS	TOTAL DISSOLVED SOLIDS
TG	TRANSFER GRILLE
TP	TRAP
TR	TOP REGISTER
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TU	TERMINAL UNIT
TWU	THRU–WALL UNIT
UC	UNDER CUT
UC	UNIT COOLER
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
URV	UPBLAST UNIT VENTILATOR
V	VALVE
VAF	VANE–AXIAL FAN
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VFD	VARIABLE FREQUENCY DRIVE
VHA	VETERANS HEALTH ADMINISTRATION
VI	VIBRATION ISOLATOR
VP	VACUUM PUMP
VPS	VARIABLE PRIMARY SYSTEM
VSD	VARIABLE SPEED DRIVE
W	WATTS
Wb	WET–BULB (TEMPERATURE)
WC	WATER COOLED
WCCH	WATER COOLED CHILLER
WCCU	WATER COOLED CONDENSING UNIT
WCPU	WATER COOLED PACKAGED UNIT
WEF	WALL EXHAUST FAN
WF	WATER FILTER
WFCV	WATER FLOW CONTROL VALVE
WFM	WATER FLOWMETER
WG	WATER GAGE
WPD	WATER SIDE PRESSURE DROP

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: MECHANICAL LEGEND, ABBREVIATIONS, AND NOTES

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: EAO

Project Number: 676-16-102

Building Number: 404

Drawing Number: M001

Office of Facilities Management

Department of Veterans Affairs

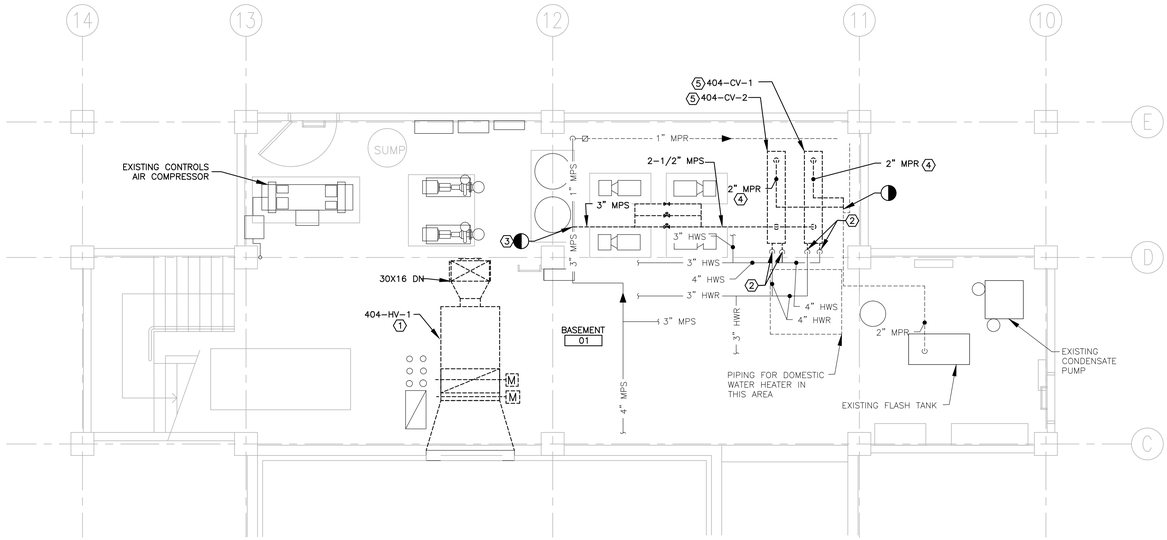
VA FORM 08–6231, OCT 1978

GENERAL NOTES

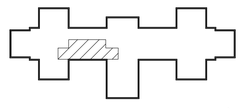
1. REFER TO SHEET GC101 AND GC102 FOR PHASING PLANS. ALL WORK TO BE DONE IN ACCORDANCE WITH THE PHASES IDENTIFIED.
2. SEE SHEET M001 FOR NOTES, LEGEND, AND ABBREVIATIONS.

KEYED NOTES

1. REMOVE 404–HV–1, DUCTWORK, AND ACCESSORIES COMPLETE AS INDICATED.
2. REMOVE HOT WATER PIPING BACK TO AND INCLUDING THE ISOLATION VALVE LOCATED IN VERTICAL PORTION OF THE PIPING.
3. REMOVE MPS PIPING, VALVING, AND ACCESSORIES COMPLETE BACK TO MAIN. PROTECT ENDS FOR FUTURE RECONNECTION.
4. REMOVE MPR PIPING, TRAPS, STRAINER AND ACCESSORIES COMPLETE TO POINT INDICATED. PROTECT ENDS FOR FUTURE RECONNECTION.
5. REMOVE HEAT EXCHANGER, SUPPORT RACK, AND ACCESSORIES COMPLETE.



1 BASEMENT PLAN
1/4" = 1'-0"



BASEMENT KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

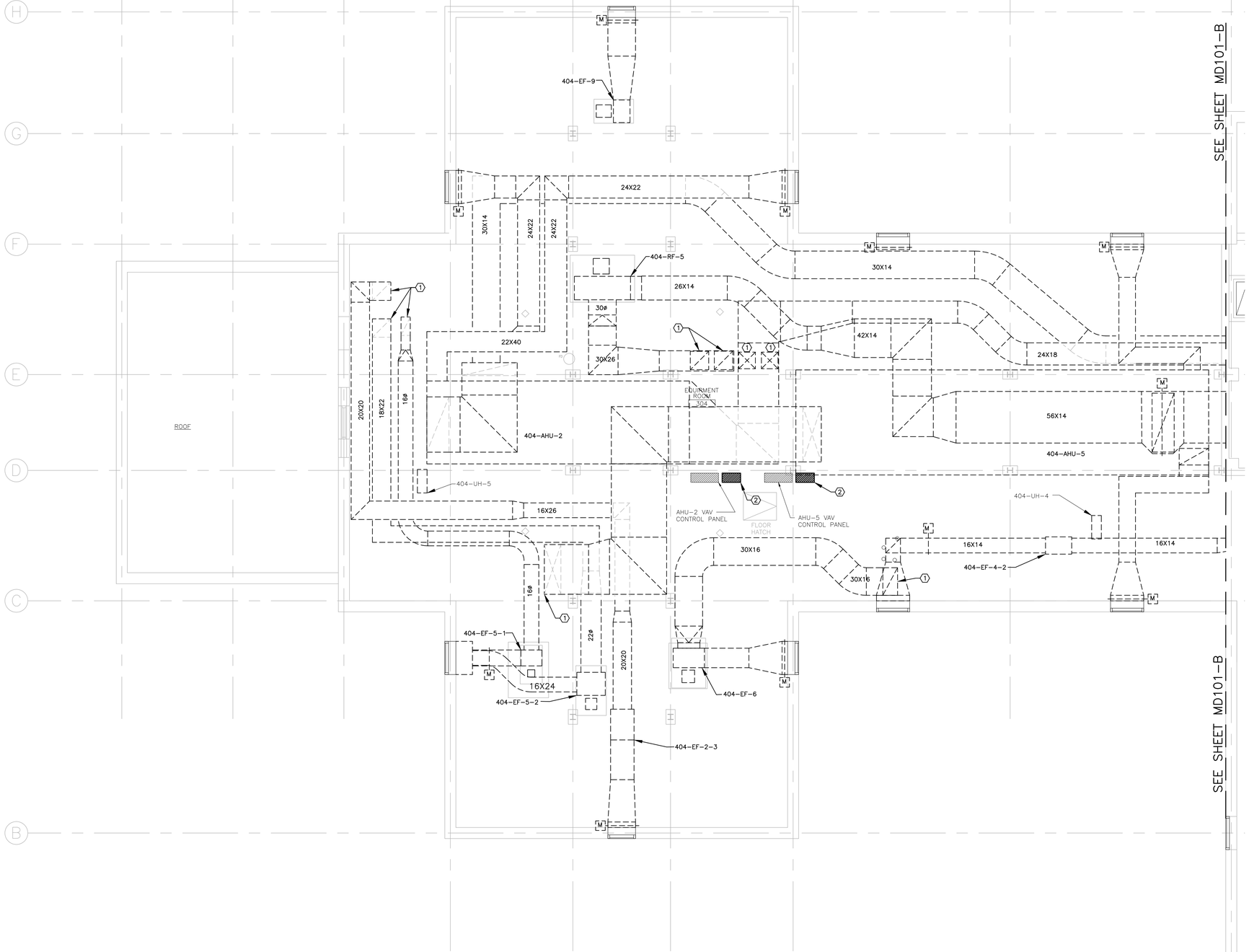
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	MECHANICAL BASEMENT DEMOLITION
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	EAO
Project Number	676-16-102
Building Number	404
Drawing Number	MD101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08–6231, OCT 1978



1 PARTIAL ATTIC PLAN
1/4" = 1'-0"

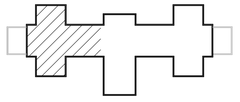
GENERAL NOTES

1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. ALL WORK SHOWN DASHED TO BE DEMOLISHED COMPLETE.
4. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.

KEYED NOTES

(1) REMOVE DUCTWORK TO 6" ABOVE FLOOR. PROTECT ENDS OF DUCTWORK FOR FUTURE RECONNECTION.

(2) REMOVE AHU CONTROL PANEL INCLUDING WIRING AND TUBING. MODIFY EXISTING SUPPORT AS REQUIRED FOR NEW PANEL TO BE MOUNTED.



ATTIC KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: MECHANICAL PARTIAL ATTIC DEMOLITION - DUCTWORK

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: EAO

Project Number: 676-16-102

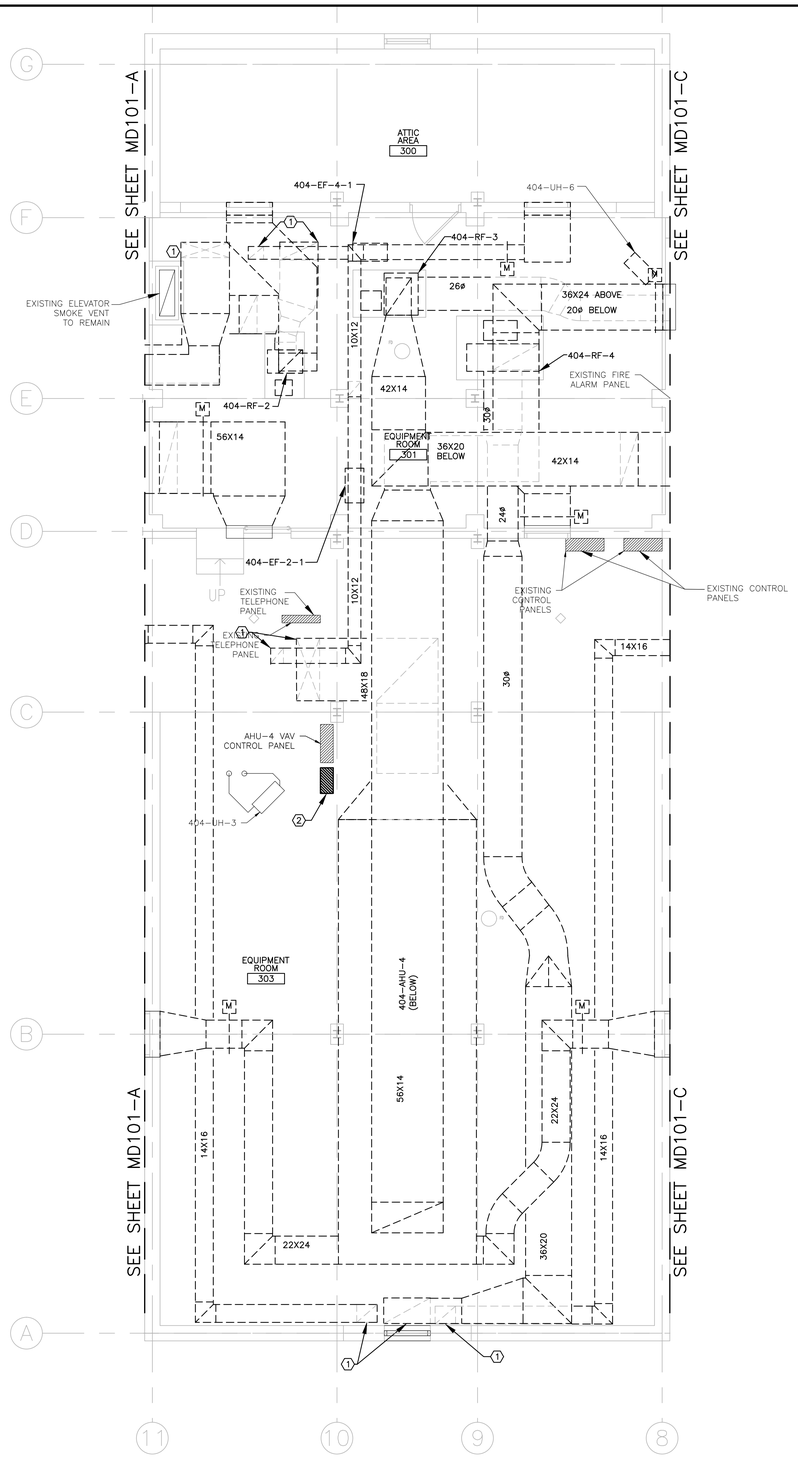
Building Number: 404

Drawing Number: MD102-A

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



1 PARTIAL ATTIC PLAN
1/4" = 1'-0"

GENERAL NOTES

1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. ALL WORK SHOWN DASHED TO BE DEMOLISHED COMPLETE.
4. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.

KEYED NOTES

(1) REMOVE DUCTWORK TO 6" ABOVE FLOOR. PROTECT ENDS OF DUCTWORK FOR FUTURE RECONNECTION.

(2) REMOVE AHU CONTROL PANEL INCLUDING WIRING AND TUBING. MODIFY EXISTING SUPPORT AS REQUIRED FOR NEW PANEL TO BE MOUNTED.

ATTIC KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: MECHANICAL PARTIAL ATTIC DEMOLITION - DUCTWORK

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: EAO

Project Number: 676-16-102

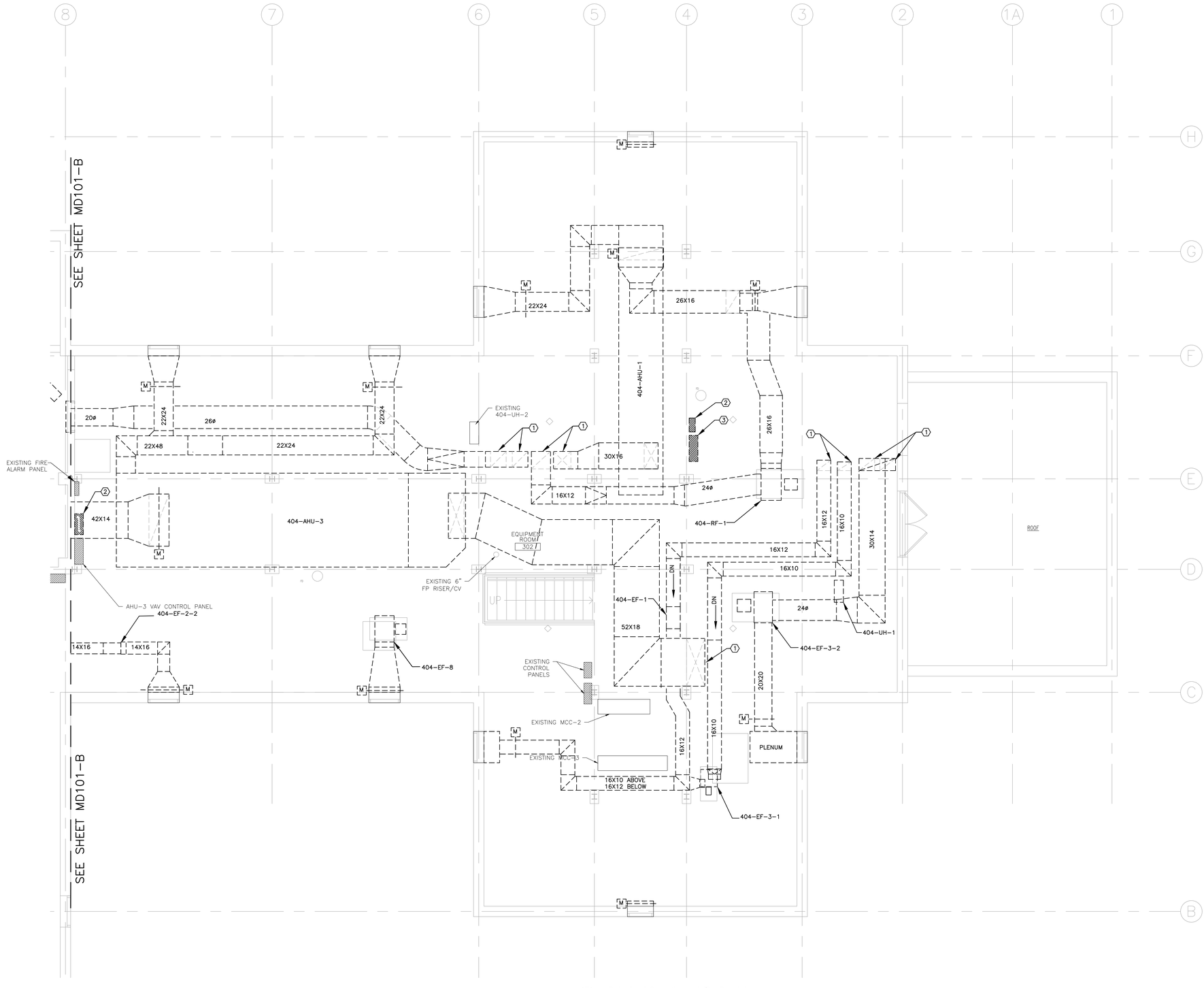
Building Number: 404

Drawing Number: MD102-B

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



1 PARTIAL ATTIC PLAN
1/4" = 1'-0"

GENERAL NOTES

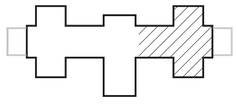
1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. ALL WORK SHOWN DASHED TO BE DEMOLISHED COMPLETE.
4. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.

KEYED NOTES

(1) REMOVE DUCTWORK TO 6" ABOVE FLOOR. PROTECT ENDS OF DUCTWORK FOR FUTURE RECONNECTION.

(2) REMOVE AHU CONTROL PANEL INCLUDING WIRING AND TUBING. MODIFY EXISTING SUPPORT AS REQUIRED FOR NEW PANEL TO BE MOUNTED.

(3) CONTROL PANEL TO BE RELOCATED.



ATTIC KEY PLAN

FULLY SPRINKLERED

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Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: MECHANICAL PARTIAL ATTIC DEMOLITION - DUCTWORK

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: HFB

Drawn By: EAO

Project Number: 676-16-102

Building Number: 404

Drawing Number: MD102-C

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

GENERAL NOTES

1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. REMOVE ALL BRANCH PIPING SERVING THE CHILLED WATER COILS AND STEAM COILS IN THE EXISTING AIR HANDLING UNITS, AND STEAM HUMIDIFIERS LOCATED IN THE DUCTWORK BACK TO THE PIPING MAINS.
4. ALL WORK SHOWN DASHED TO DEMOLISHED COMPLETE.
5. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.

KEYED NOTES

(1) REMOVE UNIT HEATER AND PIPING BACK TO 6" ABOVE FLOOR. SAVE UNIT HEATER FOR LATER REINSTALLATION.

1 PARTIAL ATTIC PLAN

1/4" = 1'-0"

ATTIC KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

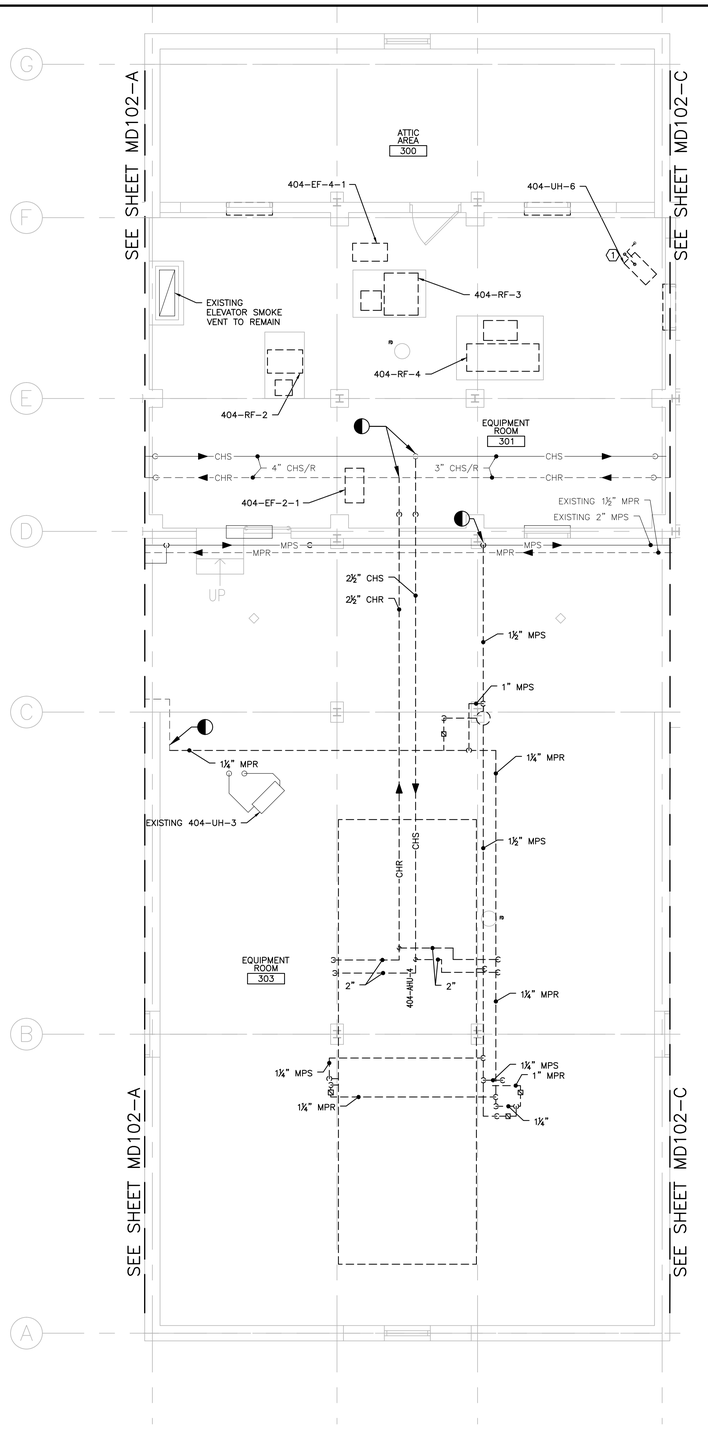
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	MECHANICAL PARTIAL ATTIC DEMOLITION - PIPING
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	EAO
Project Number	676-16-102
Building Number	404
Drawing Number	MD103-A

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



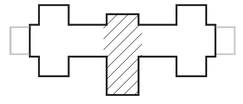
1 PARTIAL ATTIC PLAN
1/4" = 1'-0"

GENERAL NOTES

1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. REMOVE ALL BRANCH PIPING SERVING THE CHILLED WATER COILS AND STEAM COILS IN THE EXISTING AIR HANDLING UNITS, AND STEAM HUMIDIFIERS LOCATED IN THE DUCTWORK BACK TO THE PIPING MAINS.
4. ALL WORK SHOWN DASHED TO DEMOLISHED COMPLETE.
5. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.

KEYED NOTES

(1) REMOVE UNIT HEATER AND PIPING BACK TO 6"' ABOVE FLOOR. SAVE UNIT HEATER FOR LATER REINSTALLATION.



ATTIC KEY PLAN

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Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

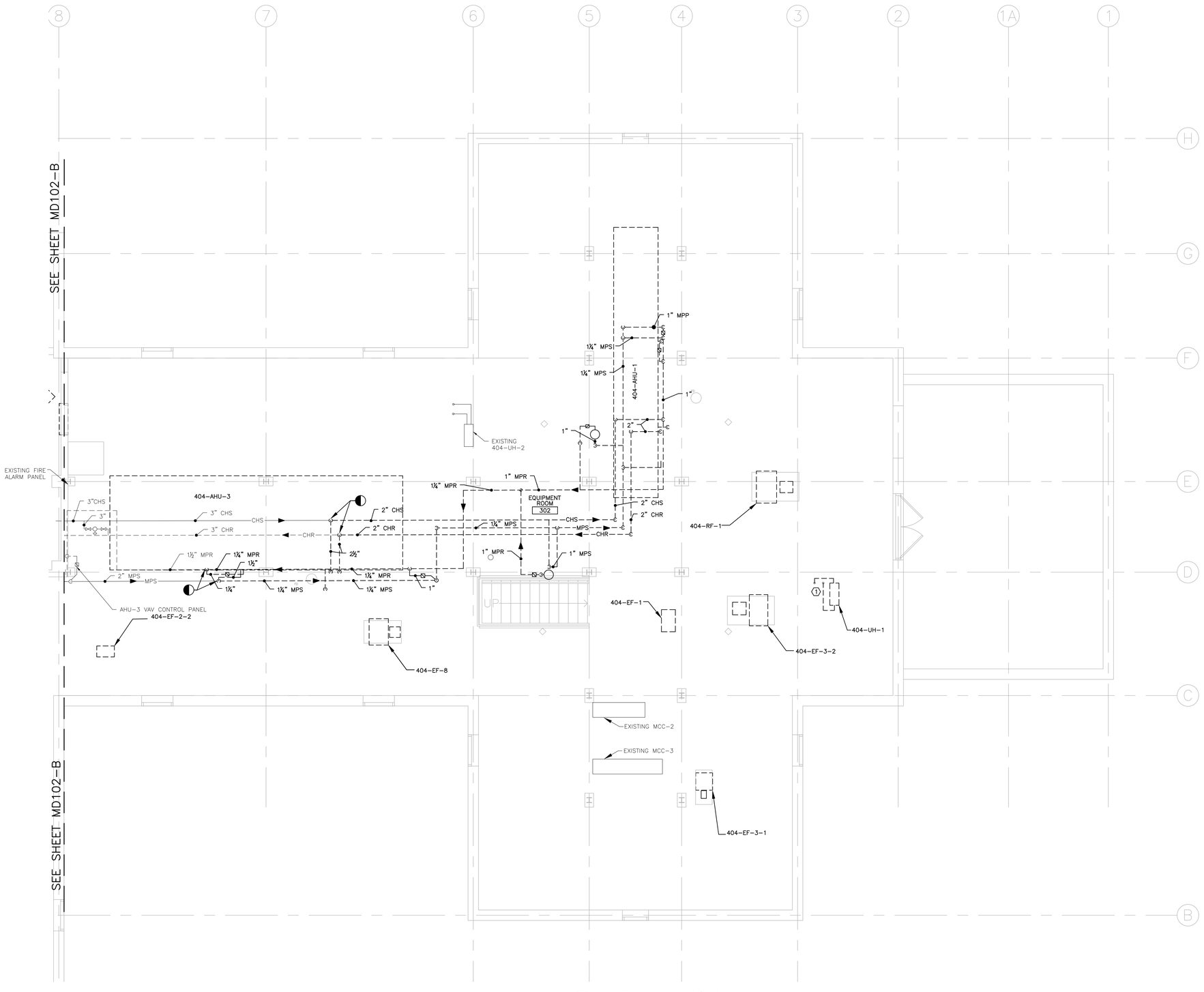
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	MECHANICAL PARTIAL ATTIC DEMOLITION - PIPING
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	EAO
Project Number	676-16-102
Building Number	404
Drawing Number	MD103-B

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



GENERAL NOTES

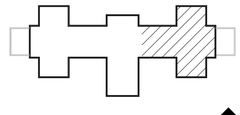
1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. REMOVE ALL BRANCH PIPING SERVING THE CHILLED WATER COILS AND STEAM COILS IN THE EXISTING AIR HANDLING UNITS, AND STEAM HUMIDIFIERS LOCATED IN THE DUCTWORK BACK TO THE PIPING MAINS.
4. ALL WORK SHOWN DASHED TO DEMOLISHED COMPLETE.
5. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.

KEYED NOTES

(1) REMOVE UNIT HEATER AND PIPING BACK TO 6" ABOVE FLOOR. SAVE UNIT HEATER FOR LATER REINSTALLATION.

1 PARTIAL ATTIC PLAN

1/4" = 1'-0"



ATTIC KEY PLAN

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Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

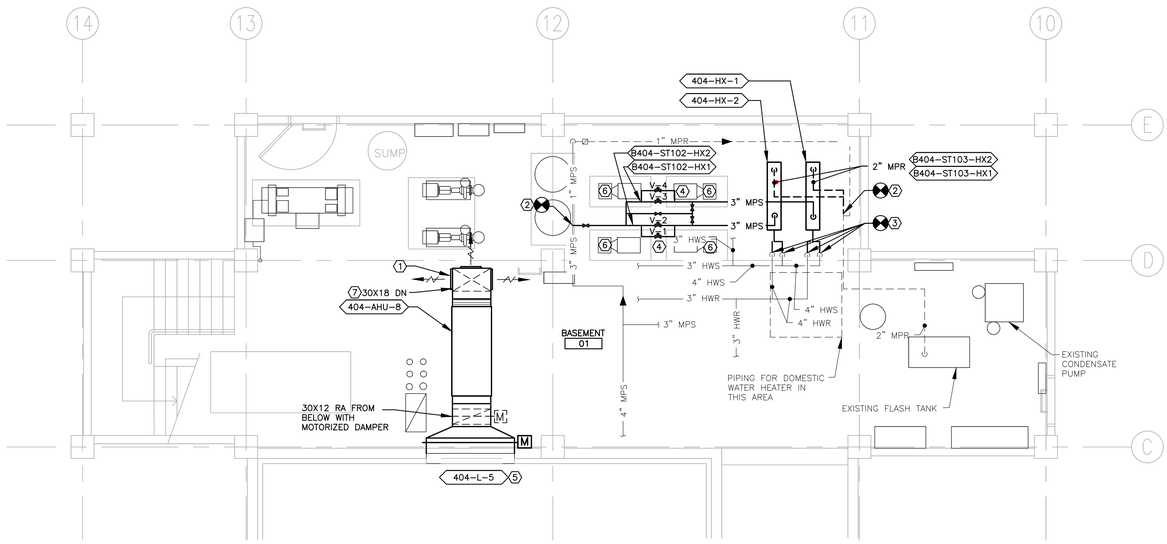
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	MECHANICAL PARTIAL ATTIC DEMOLITION - PIPING
Project Title	Replace HVAC & AC B404
Project Number	676-16-102
Building Number	404
Drawing Number	MD103-C
Approved: Project Director	
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	EAO

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



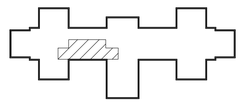
1 BASEMENT PLAN
1/4" = 1'-0"

GENERAL NOTES

1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.

KEYED NOTES

1. PROVIDE (3) 16X20 DUCT MOUNTED GRILLES. EACH GRILLE TO BE BALANCED AT 1430 CFM.
2. CONNECT TO EXISTING MPS/MPR PIPING.
3. CONNECT TO EXISTING HWS/HWR PIPING. PROVIDE NEW ISOLATION VALVE IN VERTICAL.
4. PROVIDE NEW 1/3 AND 2/3 CAPACITY CONTROL VALVES, AND BYPASS VALVE ON MPS PIPING. SEE DETAIL 11/M501 AND 1/M702.
5. SEE DETAIL 10/M501 FOR LOUVER CONNECTION.
6. EXISTING HOT WATER PUMP TO REMAIN.
7. BOTTOM OF DUCT IS 6'-1" AFF.



BASEMENT KEY PLAN

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VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

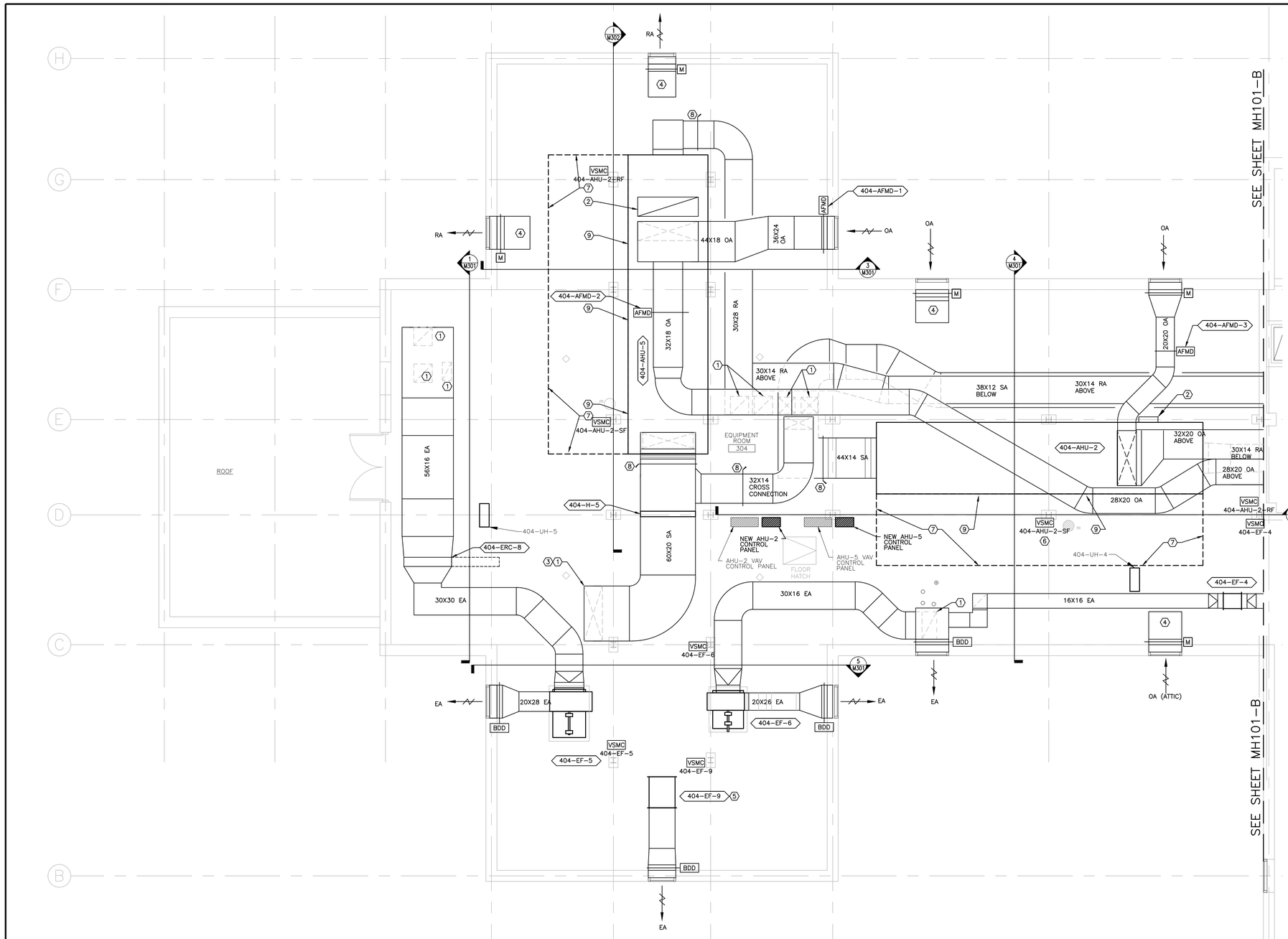
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	MECHANICAL BASEMENT NEW WORK
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	EAO
Project Number	676-16-102
Building Number	404
Drawing Number	MH101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



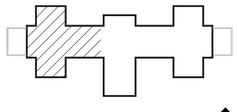
1 PARTIAL ATTIC PLAN
1/4" = 1'-0"

GENERAL NOTES

1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.
4. FOR THE NEW AIR HANDLING UNITS, MAX WIDTH ALLOWED IS 8'-0" AND MAX HEIGHT ALLOWED IS 5'-0". MAX LENGTH FOR AHU-2 IS 30'-0". MAX LENGTH FOR AHU-5 IS 27'-0". BID SHALL BE BASED ON UNITS MEETING THIS CRITERIA.
5. ALL NEW AIR HANDLING UNITS SHALL BE BROKEN DOWN TO FIT THROUGH ATTIC ACCESS DISASSEMBLE AND RE-ASSEMBLE IN PLACE.
6. SEE SHEET M703 FOR AIRFLOW DIAGRAMS.

KEYED NOTES

1. CONNECT NEW DUCT TO EXISTING RISERS AT FLOOR.
2. RELIEF AIR FROM AIR HANDLING UNITS TO BE DISCHARGED INTO THE ATTIC SPACE.
3. TRANSITION FROM 60X20 TO 54X18 IN VERTICAL.
4. RELIEF/OUTDOOR AIR PLENUM. SEE DETAIL 6/M501.
5. PROVIDE SCREEN AT FAN INLET.
6. REINSTALL UNIT HEATER.
7. REQUIRED AHU MAINTENANCE CLEAR SPACE.
8. INSTALL MANUAL DAMPER.
9. SHIPPING SPLIT.



ATTIC KEY PLAN

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Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

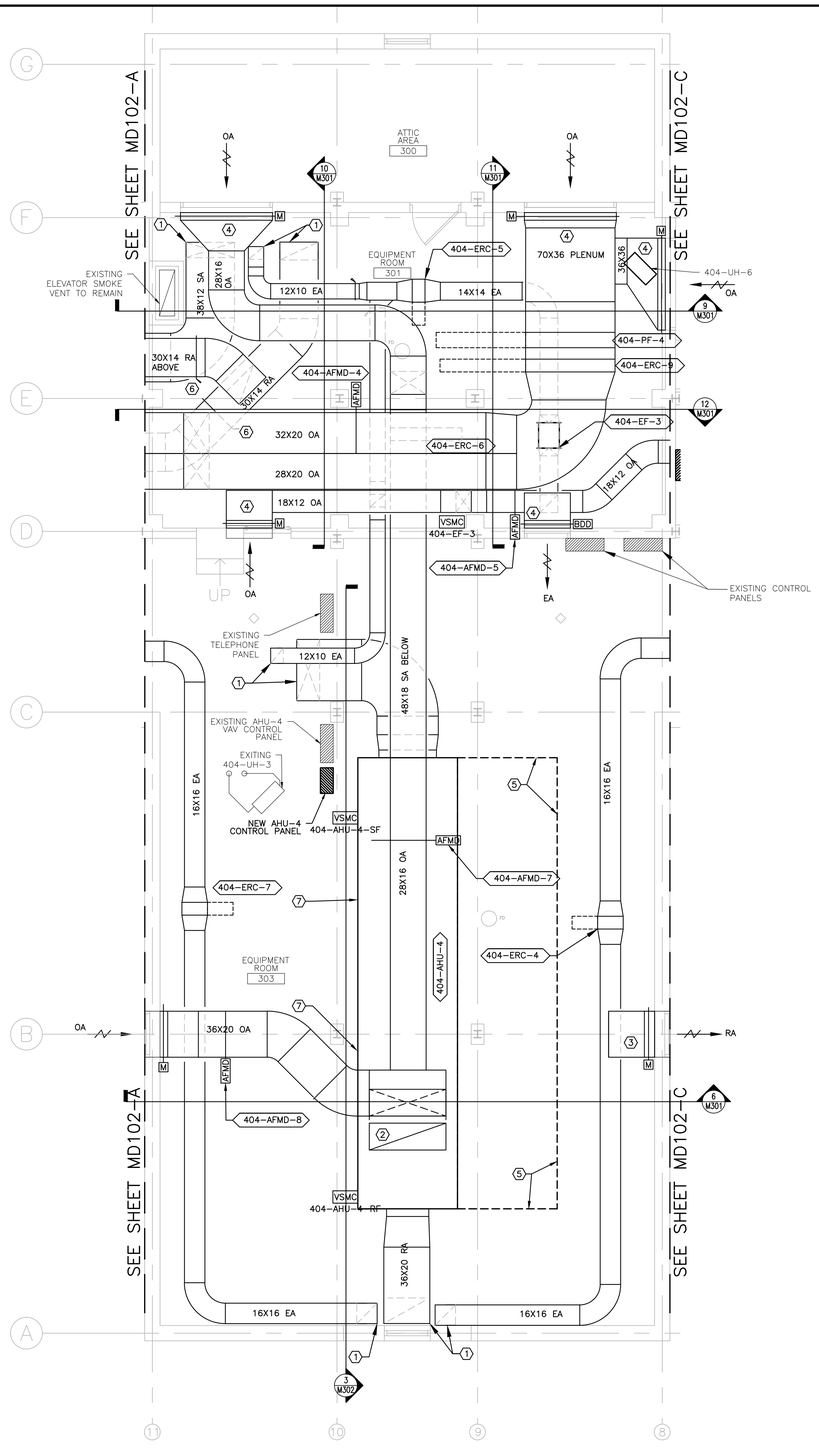
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	MECHANICAL PARTIAL ATTIC NEW WORK - DUCTWORK
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	EAO
Project Number	676-16-102
Building Number	404
Drawing Number	MH102-A

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



1 PARTIAL ATTIC PLAN

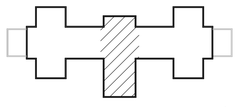
1/4" = 1'-0"

GENERAL NOTES

1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.
4. FOR THE NEW AIR HANDLING UNITS, MAX WIDTH ALLOWED IS 8'-0" AND MAX HEIGHT ALLOWED IS 5'-0". MAX LENGTH ALLOWED FOR AHU-4 IS 30'-0". BID SHALL BE BASED ON UNITS MEETING THIS CRITERIA.
5. AIR HANDLING UNITS MAY NEED TO BE BROKEN DOWN INTO COMPONENTS TO GET INTO ATTIC SPACE FOR INSTALLATION.
6. SEE SHEET M703 FOR AIRFLOW DIAGRAMS.

KEYED NOTES

1. CONNECT NEW DUCT TO EXISTING RISERS AT FLOOR.
2. RELIEF AIR FROM AIR HANDLING UNITS TO BE DISCHARGED INTO THE ATTIC SPACE.
3. RELIEF/OUTDOOR AIR PLENUM. SEE DETAIL 6/M501.
4. SEE DETAIL 10/M501.
5. REQUIRED AHU MAINTENANCE CLEAR SPACE.
6. INSTALL MANUAL DAMPER IN 30X14 RA DUCTWORK.
7. SHIPPING SPLIT.



ATTIC KEY PLAN

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500 E VETERANS ST
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CONSULTANTS:

PROJECT LEADER:

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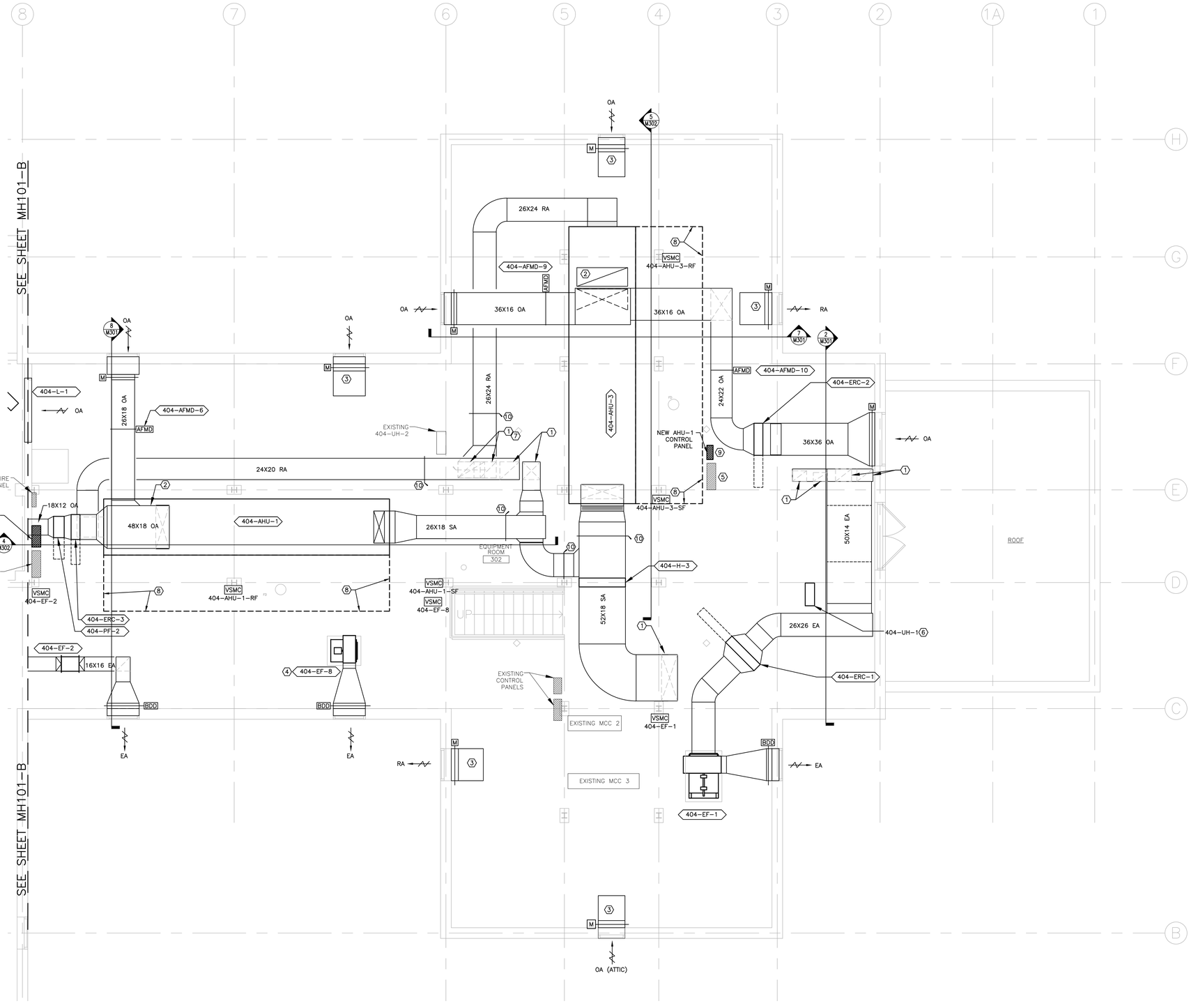
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	MECHANICAL PARTIAL ATTIC NEW WORK - DUCTWORK
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	EAO
Project Number	676-16-102
Building Number	404
Drawing Number	MH102-B

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



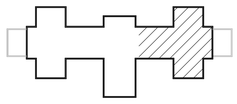
1 PARTIAL ATTIC PLAN
1/4" = 1'-0"

GENERAL NOTES

1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.
4. FOR THE NEW AIR HANDLING UNITS, MAX WIDTH ALLOWED IS 8'-0" AND MAX HEIGHT ALLOWED IS 5'-0". MAX LENGTH FOR AHU-1 IS 28'-0". MAX LENGTH FOR AHU-3 IS 26'-0". BID SHALL BE BASED ON UNITS MEETING THIS CRITERIA.
5. AIR HANDLING UNITS MAY NEED TO BE BROKEN DOWN INTO COMPONENTS TO GET INTO ATTIC SPACE FOR INSTALLATION.
6. SEE SHEET M703 FOR AIRFLOW DIAGRAMS.

KEYED NOTES

1. CONNECT NEW DUCT TO EXISTING RISERS AT FLOOR.
2. RELIEF AIR FROM AIR HANDLING UNITS TO BE DISCHARGED INTO THE ATTIC SPACE.
3. RELIEF/OUTDOOR AIR PLENUM. SEE DETAIL 6/M501.
4. PROVIDE SCREEN AT FAN INLET.
5. RELOCATED CONTROL PANEL FOR VAV'S ON AHU-1.
6. REINSTALL UNIT HEATER.
7. PROVIDE 18X30 CROSS CONNECTION WITH MANUAL DAMPER BETWEEN RETURN DUCTS.
8. REQUIRED AHU MAINTENANCE CLEAR SPACE.
9. NEW CONTROL PANEL FOR AHU-1.
10. INSTALL MANUAL DAMPER.



ATTIC KEY PLAN

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Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: MECHANICAL PARTIAL ATTIC NEW WORK - DUCTWORK

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: HFB

Drawn By: EAO

Project Number: 676-16-102

Building Number: 404

Drawing Number: MH102-C

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

GENERAL NOTES

1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.
4. SEE SHEET M704 FOR FLOW DIAGRAMS.

KEYED NOTES

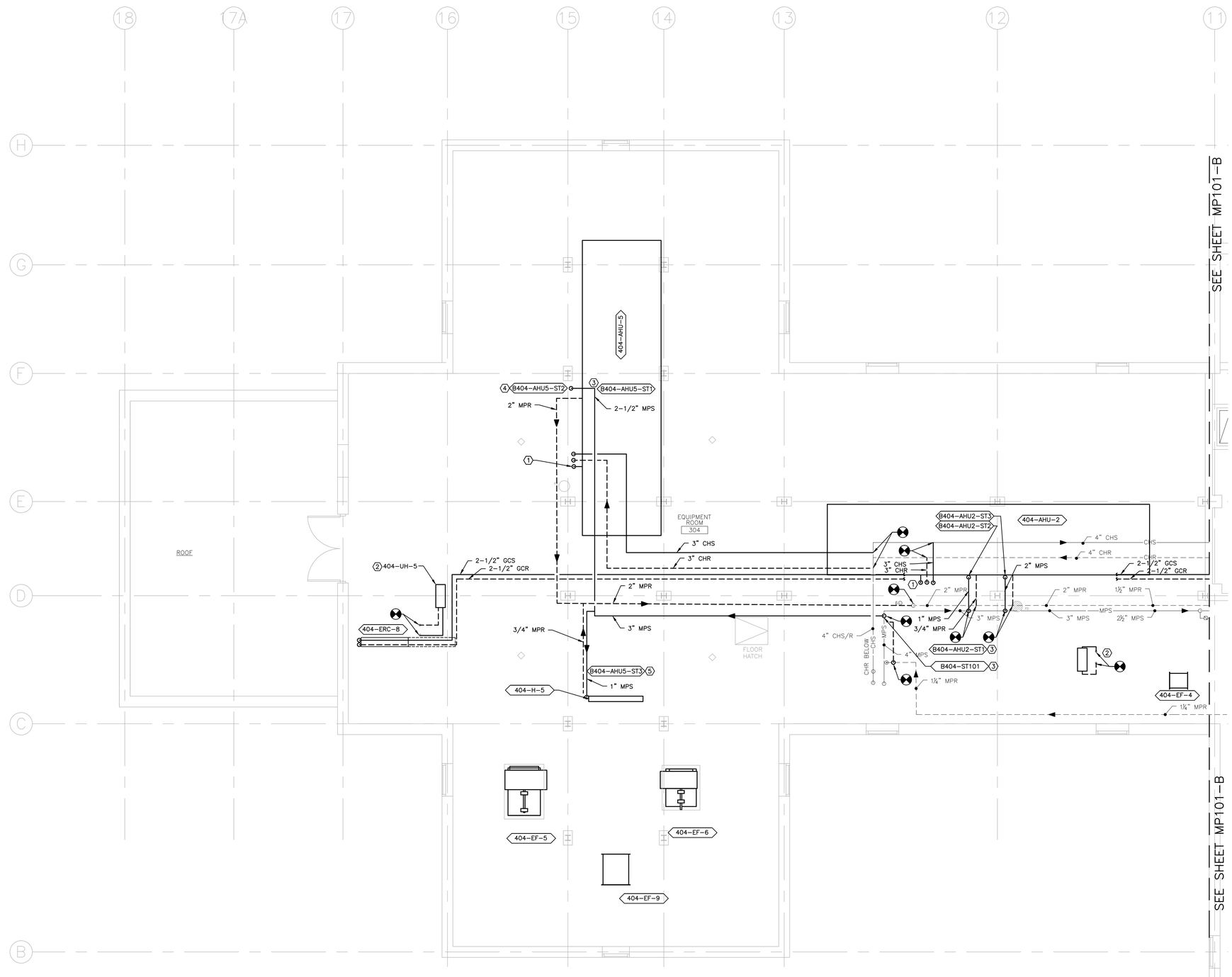
(1) ROUTE COOLING COIL CONDENSATE TO NEAREST FLOOR DRAIN. SEE DETAIL 2/M501.

(2) RECONNECT HWS AND HWR PIPING TO RELOCATED UNIT HEATER. SEE DETAIL 8/M502.

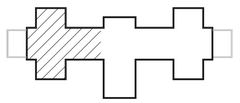
(3) END OF MAIN TRAP. SEE DETAIL 9/M501.

(4) SEE DETAIL 7/M501.

(5) SEE DETAIL 8/M501.



1 PARTIAL ATTIC PLAN
1/4" = 1'-0"



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VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

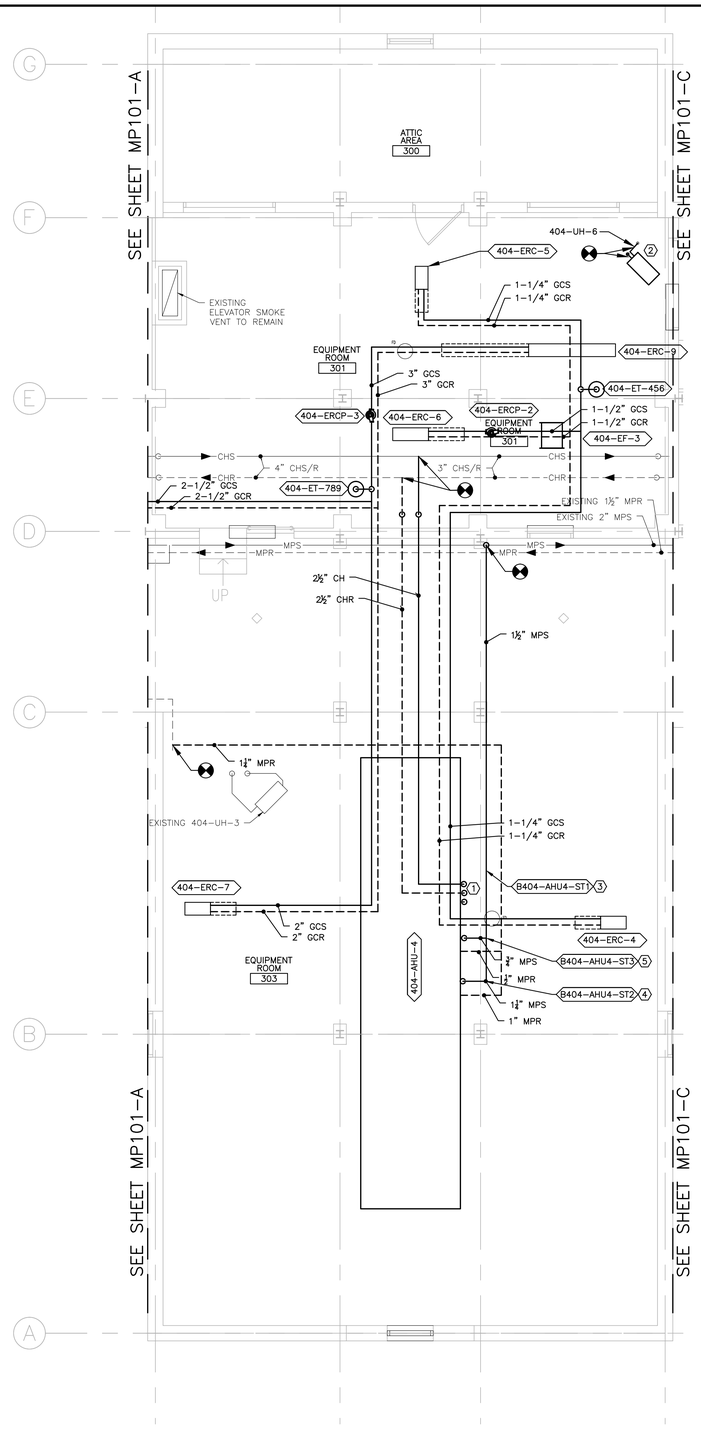
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title	MECHANICAL PARTIAL ATTIC NEW WORK - PIPING
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	EAO
Project Number	676-16-102
Building Number	404
Drawing Number	MP102-A

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



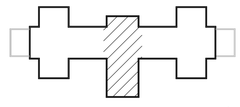
1 PARTIAL ATTIC PLAN
1/4" = 1'-0"

GENERAL NOTES

1. SEE SHEET M001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. SEE SHEET GC101 AND GC102 FOR PHASING PLANS.
3. PROTECT ALL DEVICES AND EQUIPMENT TO REMAIN DURING CONSTRUCTION.
4. SEE SHEET M704 FOR FLOW DIAGRAMS.

KEYED NOTES

1. ROUTE COOLING COIL CONDENSATE TO NEAREST FLOOR DRAIN. SEE DETAIL 2/M501.
2. RECONNECT HWS AND HWR PIPING TO RELOCATED UNIT HEATER. SEE DETAIL 8/M502.
3. END OF MAIN TRAP. SEE DETAIL 9/M501.
4. SEE DETAIL 7/M501.
5. SEE DETAIL 8/M501.



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CONSULTANTS:

PROJECT LEADER:

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Milwaukee, Wisconsin 53202

Drawing Title	MECHANICAL PARTIAL ATTIC NEW WORK - PIPING
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	HFB
Drawn By:	EAO
Project Number	676-16-102
Building Number	404
Drawing Number	MP102-B

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

GENERAL NOTES

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2. RECONNECT HWS AND HWR PIPING TO RELOCATED UNIT HEATER. SEE DETAIL 8/M502.
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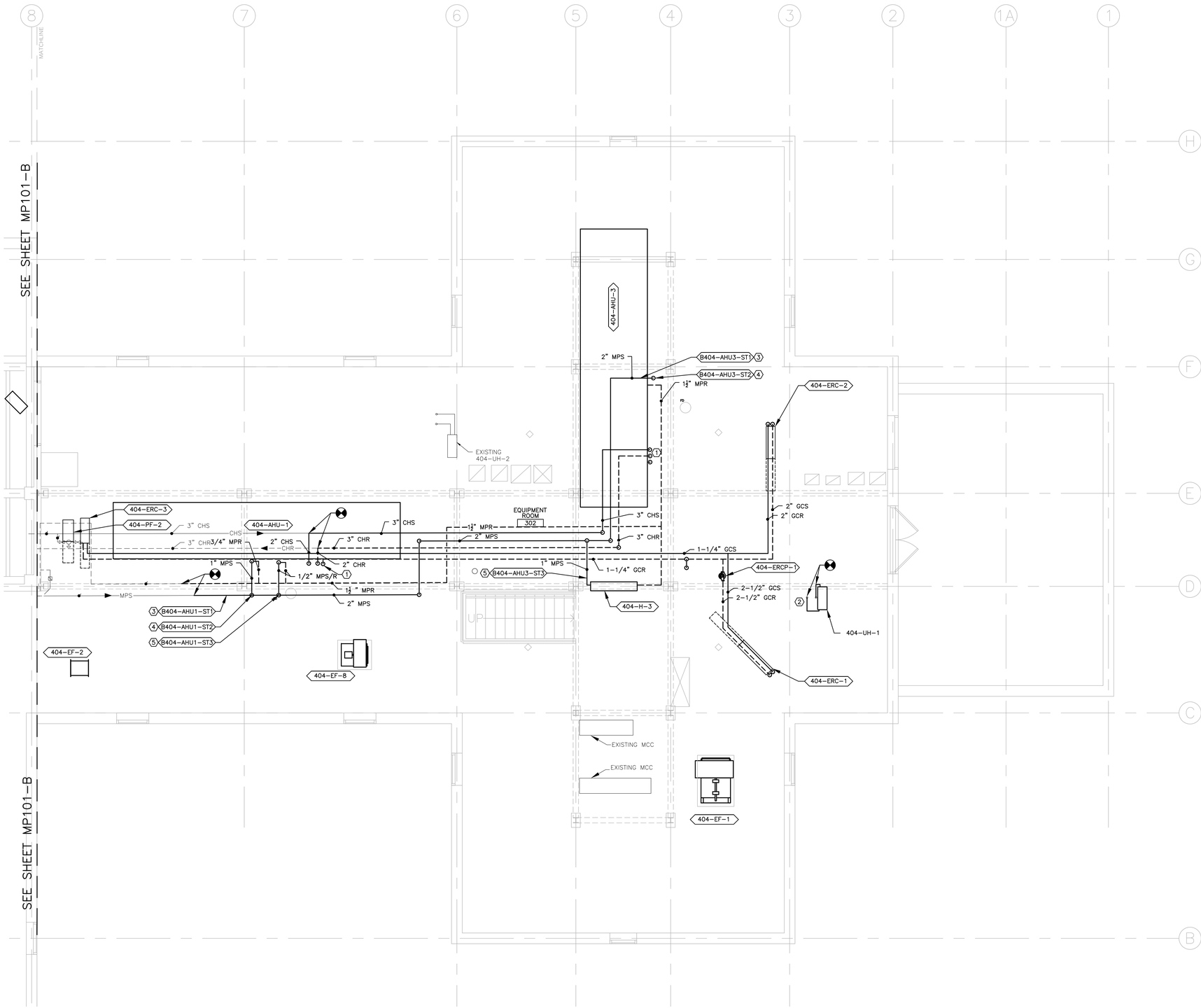
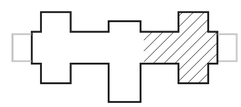


1 PARTIAL ATTIC PLAN
1/4" = 1'-0"



ATTIC KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: MECHANICAL PARTIAL ATTIC NEW WORK - PIPING

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: EAO

Project Number: 676-16-102

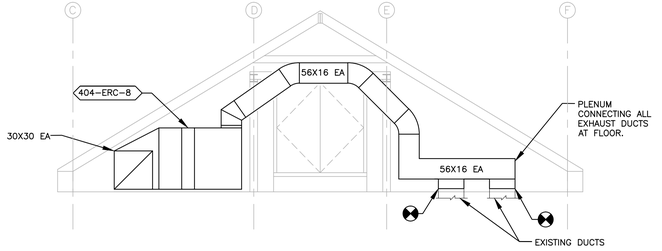
Building Number: 404

Drawing Number: MP102-C

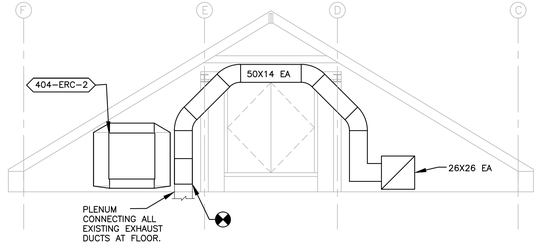
Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



1 SECTION
1/4" = 1'-0"



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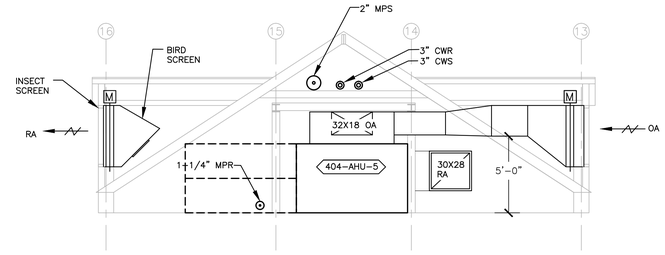
1/4" = 1'-0"



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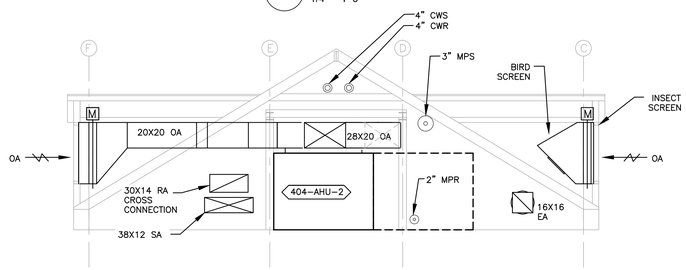
1/4" = 1'-0"



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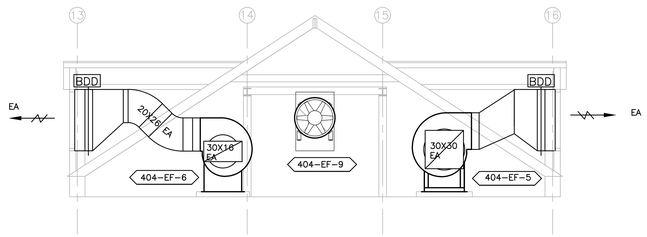
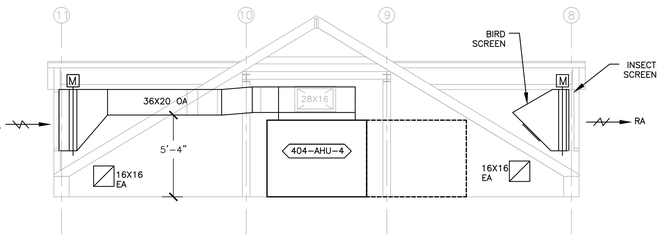
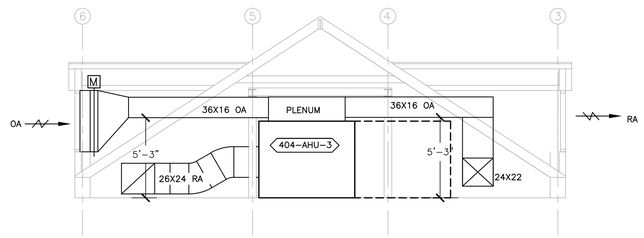


5 SECTION
1/4" = 1'-0"



6 SECTION
1/4" = 1'-0"



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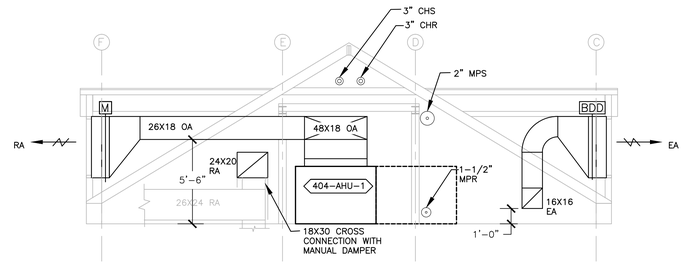
1/4" = 1'-0"



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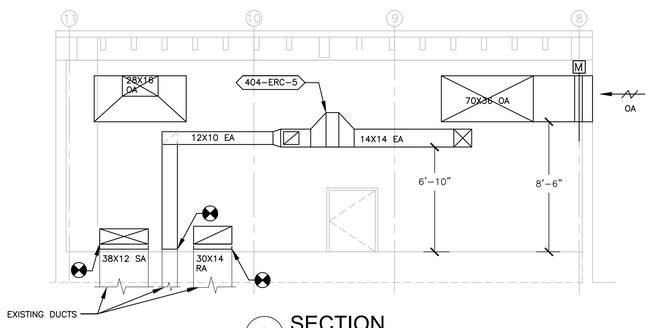
1/4" = 1'-0"



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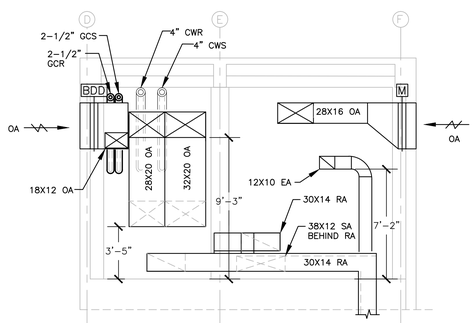
1/4" = 1'-0"



10 SECTION
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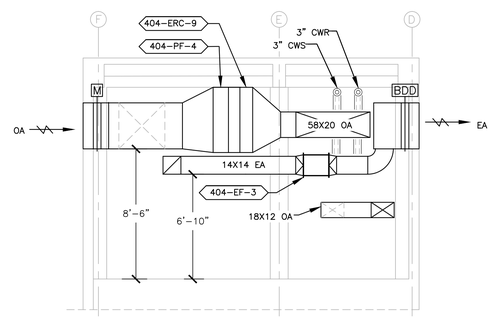
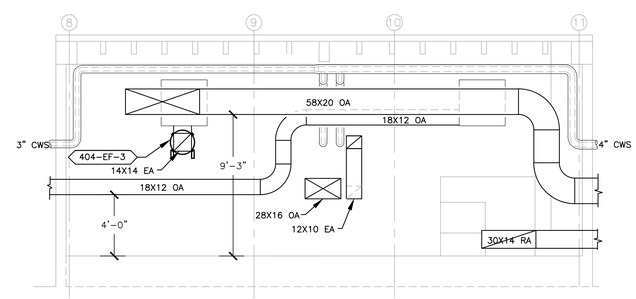


11 SECTION
1/4" = 1'-0"



12 SECTION
1/4" = 1'-0"

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: MECHANICAL SECTIONS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: EAO

FULLY SPRINKLERED
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Project Number: 676-16-102

Building Number: 404

Drawing Number: M301

Office of Facilities Management

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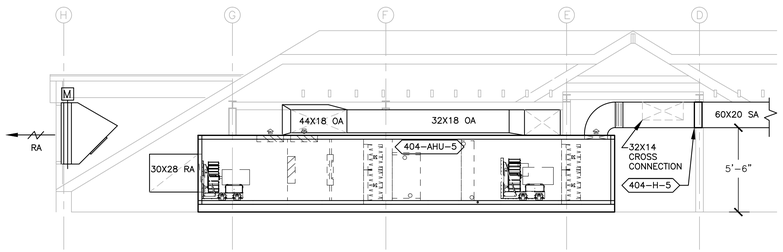
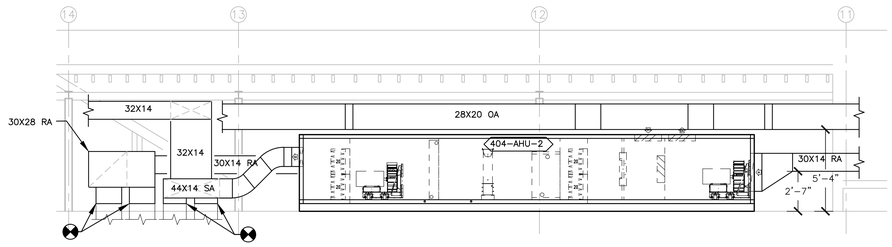


1 SECTION
1/4" = 1'-0"



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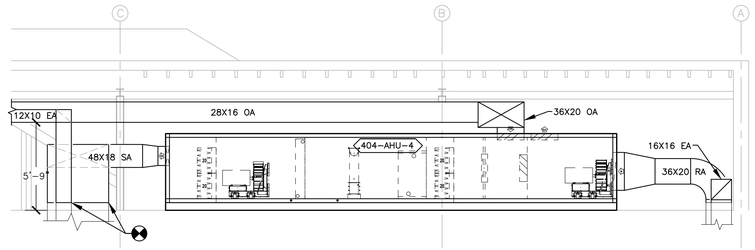
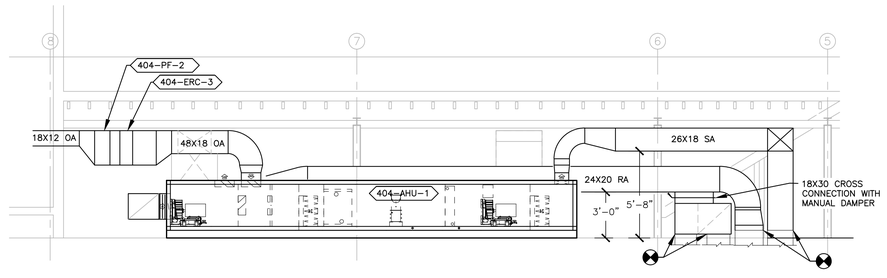
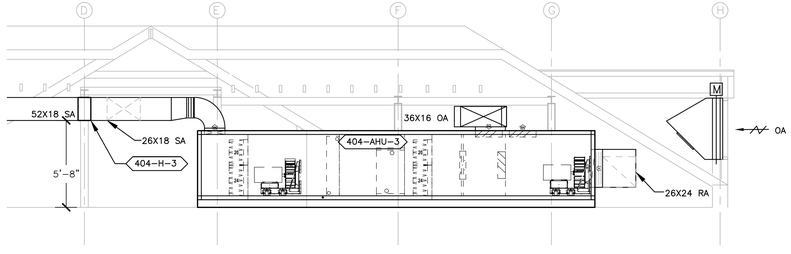


3 SECTION
1/4" = 1'-0"



4 SECTION
1/4" = 1'-0"



5 SECTION
1/4" = 1'-0"

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: MECHANICAL SECTIONS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: EAO

FULLY SPRINKLERED
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Project Number: 676-16-102

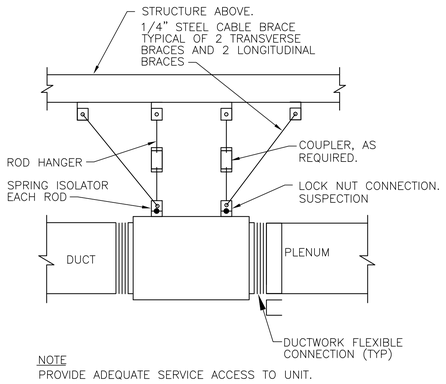
Building Number: 404

Drawing Number: M302

Office of Facilities Management

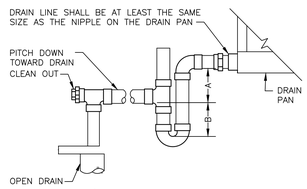
Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



NOTE
PROVIDE ADEQUATE SERVICE ACCESS TO UNIT.

1 INLINE FAN SUPPORT DETAIL
NTS

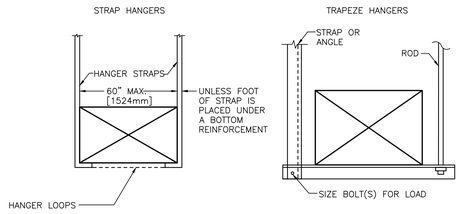


DESIGNER'S NOTE:

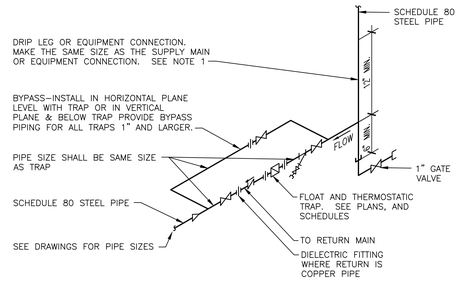
UNIT TYPE	A	B
DRAW THRU	2" PLUS X	X
BLOW THRU	1" MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

2 AIR HANDLING UNIT DRAIN TRAP DETAIL
NTS

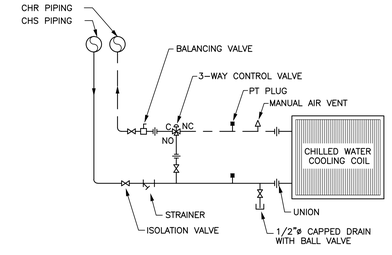


3 RECTANGULAR DUCT HANGERS DETAIL
NTS

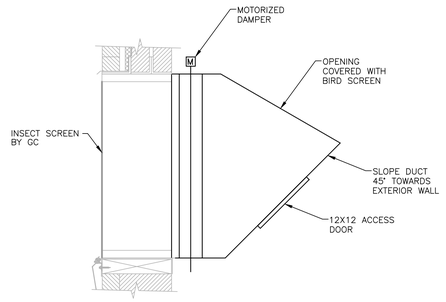


NOTE:
1. ALL DRIP POINTS ON STEAM MAINS SHALL BE PROVIDED WITH A 12" MINIMUM HIGH DRIP LEG FROM BOTTOM OF STEAM MAIN TO TRAP INLET. DRIP LEG SHALL HAVE 6" SCALE POCKET BELOW TRAP INLET.

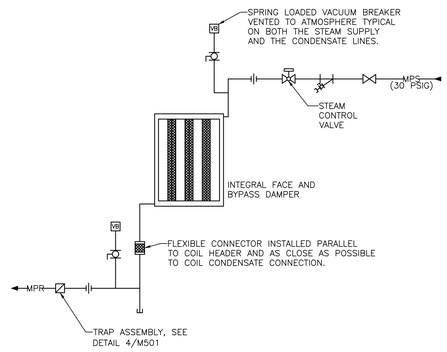
4 FLOAT AND THERMOSTATIC TRAP ASSEMBLY
NTS



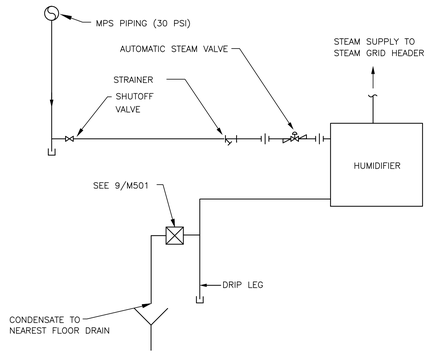
5 CHILLED WATER COIL PIPING DETAIL
NTS



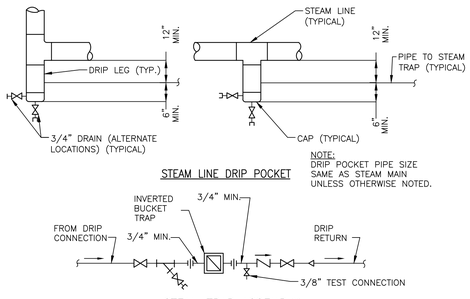
6 RELIEF/ OUTDOOR AIR PLENUM DETAIL
NTS



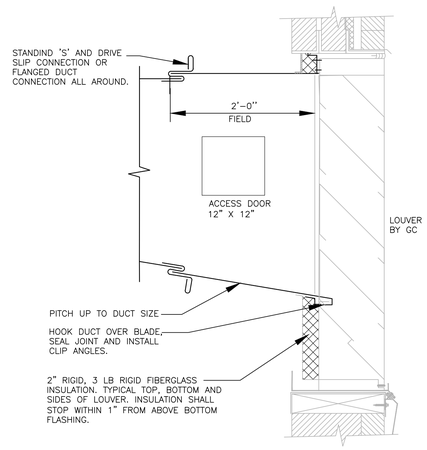
7 INTEGRAL FACE AND BYPASS STEAM COIL DETAIL
NTS



8 HUMIDIFIER PIPING DETAIL
NTS

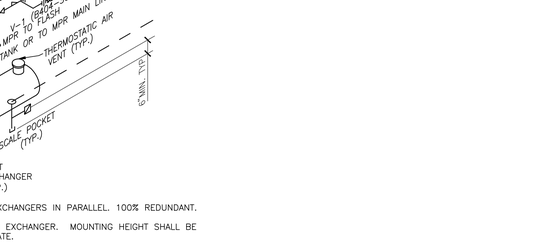


9 STEAM LINE DRIP POCKET STEAM TRAP ASSEMBLY DETAIL
NTS



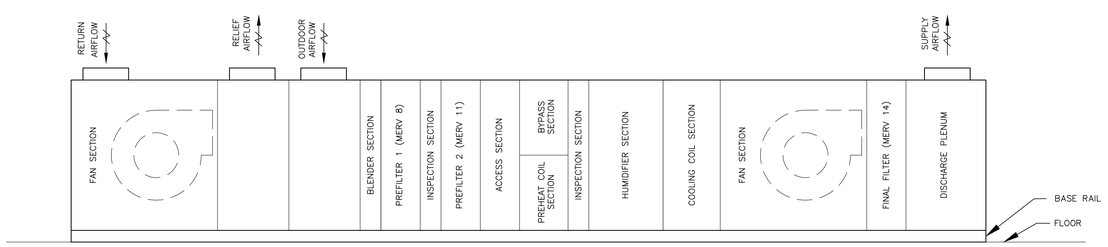
NOTES:
1. SEAL ALL DUCT JOINTS, CORNERS AND SEAMS WATERTIGHT USING SEALANT AND OR SOLDERING. REFER TO SPECIFICATION SECTION 23 31 00 FOR ACCEPTABLE SEALANTS TO BE UTILIZED IN DUCT SYSTEMS.

10 DUCT CONNECTION TO LOUVER DETAIL
NTS



NOTES:
1. THE ABOVE DETAIL SHOWS REQUIRED PIPING FOR TWO HEAT EXCHANGERS IN PARALLEL. 100% REDUNDANT.
2. PROVIDE SADDLE SUPPORTS AND LEGS OR HANGERS FOR HEAT EXCHANGER. MOUNTING HEIGHT SHALL BE ADJUSTED TO FACILITATE GRAVITY RETURN OF STEAM CONDENSATE.
3. MAKE THE BYPASS THE SAME SIZE AS THE CONNECTIONS TO THE CONTROL VALVES.
4. CONTROL VALVES SHALL BE IN A 1/3 AND 2/3 SIZE ARRANGEMENT.

11 STEAM TO WATER HEAT EXCHANGER PIPING DETAIL
NTS



12 AHU COMPONENT DIAGRAM
NTS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

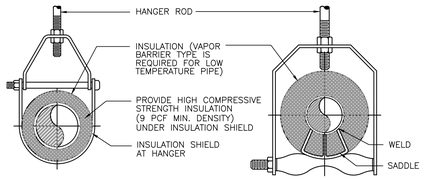
Drawing Title: MECHANICAL DETAILS AND DIAGRAMS
Approved: Project Director

Project Title: Replace HVAC & AC B404
Location: Tomah, Wisconsin
Date: February 9, 2018
Checked By: HFB
Drawn By: EAO

FULLY SPRINKLERED
100% CONSTRUCTION DOCS
Project Number: 676-16-102
Building Number: 404
Drawing Number: M501

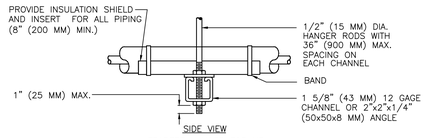
Office of Facilities Management
Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



ADJUSTABLE CLEVIS HANGER
TYPE 1 – SEE SPECIFICATIONS

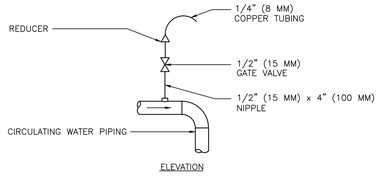
ADJUSTABLE CLEVIS HANGER
TYPE 43 – SEE SPECIFICATIONS



TRAPEZE HANGER FOR UP
TO 1000 LB. (453 KG) UNIFORM LOAD

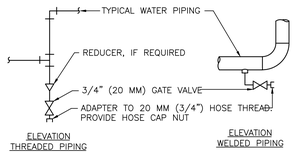
MAXIMUM PIPE/TUBING SUPPORT SPACING												
NOM. SIZE IN. (MM)		THRU 3/4 (20)	1 (25)	1 1/4 (32)	1 1/2 (40)	2 (50)	2 1/2 (65)	3 (75)	4 (100)	5 (125)	6 (150)
PIPE	FT. (M)	7 (2.1)	7 (2.1)	7 (2.1)	9 (2.7)	10 (3.0)	11 (3.4)	12 (3.7)	14 (4.1)	16 (4.9)	17 (5.2)
TUBING	FT.	5 FT	6	7	8	8	9	10	12	13	14
	(M)	5 FT	(1.8)	(2.1)	(2.4)	(2.4)	(2.7)	(3.0)	(3.7)	(4.0)	(4.1)
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.												

1 TYPICAL PIPE HANGERS DETAIL
NTS



TYPICAL AIR VENT

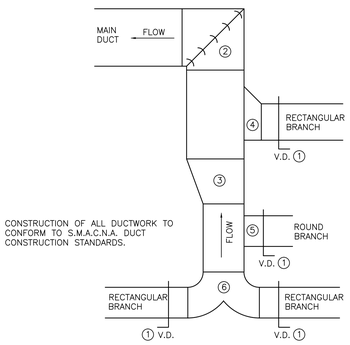
NOTES:
1. VENT ALL HIGH POINTS INDICATED ABOVE.
2. IF AUTOMATIC AIR VENTS ARE USED, PIPE DISCHARGE TO DRAIN



TYPICAL DRAIN VALVE

NOTES:
1. DRAIN ALL LOW POINTS AS INDICATED ABOVE.
2. WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF SCALE POCKET.

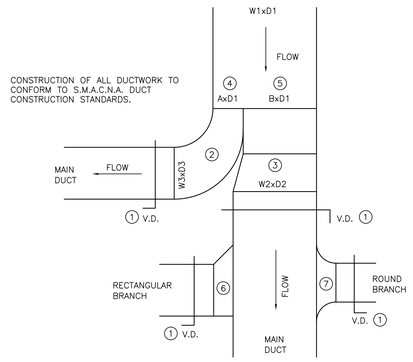
2 TYPICAL CHILLED AND HOT WATER PIPING CONNECTIONS DETAIL
NTS



PLAN NOTES

1. VOLUME DAMPER:
   RECTANGULAR DUCTS – SINGLE BLADE FOR DUCTS 12" DEEP OR LESS, MULTIPLE BLADE FOR DUCTS GREATER THAN 12" DEEP.
   ROUND DUCTS – SINGLE BLADE.
2. MITERED ELBOW WITH TURNING VANES.
3. DUCT TRANSITION, MAX. 20° OFFSET ANGLE.
4. 45° SHOE TAP CONNECTION, MIN. 6" LONG.
5. SPIN IN COLLAR CONNECTION.
6. RADIUS "Y" CONNECTION, INSIDE RADIUS EQUAL TO WIDTH OF DUCT.

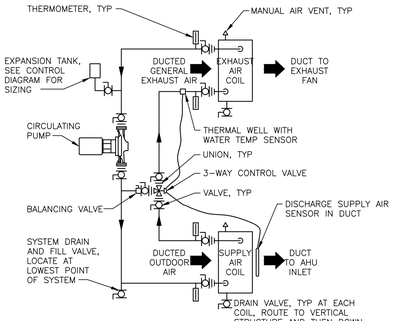
3 EXHAUST OR RETURN AIR DUCTWORK CONNECTION DETAIL
NTS



PLAN NOTES

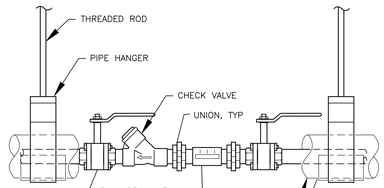
1. VOLUME DAMPER:
   RECTANGULAR DUCTS – SINGLE BLADE FOR DUCTS 12" DEEP OR LESS, MULTIPLE BLADE FOR DUCTS GREATER THAN 12" DEEP.
   ROUND DUCTS – SINGLE BLADE.
2. RADIUS TRANSITION ELBOW
3. DUCT TRANSITION
4. $A = \left[\frac{W3 \times D3}{(W2 \times D2) + (W3 \times D3)} \right] \times W1$ (A=4in. min.)
5. $B = \left[\frac{W2 \times D2}{(W2 \times D2) + (W3 \times D3)} \right] \times W1$
6. 45° SHOE TAP CONNECTION, MIN. 6in. LONG.
7. BELLMOUTH ROUND CONNECTION

4 SUPPLY AIR DUCTWORK CONNECTION DETAIL
NTS



NOTES:
1. COILS AND PIPING SHALL BE ARRANGED TO BE FULLY DRAINABLE.
2. VERTICAL PIPING SHALL BE OFFSET SUCH THAT COILS CAN BE REMOVED WITHOUT INTERFERENCE.
3. PUMP, VALVES AND PIPING SPECIALTIES SHALL BE LOCATED SUCH THAT THEY ARE FULLY ACCESSIBLE.

5 ENERGY RECOVERY COIL PIPING DETAIL
NTS

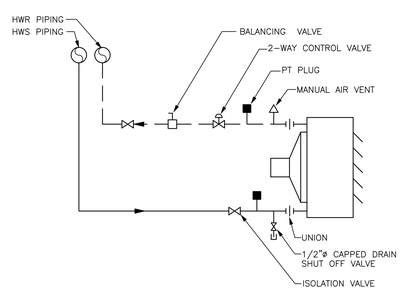


NOTE:
INLINE FLOW SIGHT INDICATOR SHALL BE INSTALLED ONLY AFTER THOROUGHLY FLUSHING THE SYSTEM.

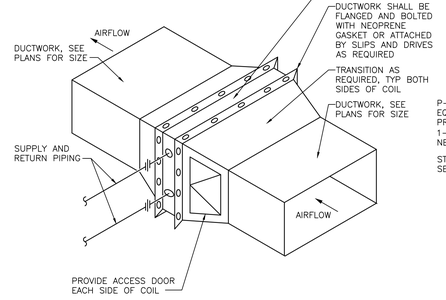
10 COIL WATER BALANCE VALVE PIPING DETAIL
NTS

NOTES:
1. SUPPORT PUMP FROM PIPING ONLY. DO NOT SUPPORT PUMP FROM MOTOR.

6 INLINE PUMP PIPING DETAIL
NTS



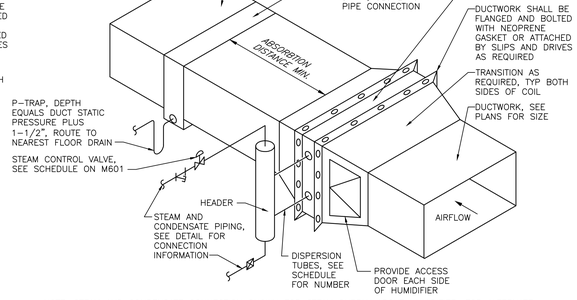
7 HOT WATER UNIT HEATER PIPING DETAIL
NTS



NOTE:
SEE DETAIL 5 ON DRAWING M501 FOR ADDITIONAL REQUIREMENTS AND DETAILS.

8 DUCTWORK MOUNTED COIL DETAIL
NTS

NOTE:
SEE DETAIL 8 ON DRAWING M501 FOR ADDITIONAL REQUIREMENTS AND DETAILS.



NOTE: STEAM AND CONDENSATE CONNECTION SHOWN FOR STEAM SUPPLY ABOVE HUMIDIFIER, FOR ALTERNATE STEAM CONNECTION LOCATIONS PROVIDE MANUFACTURERS PIPING REQUIREMENTS. ADDITIONAL STEAM TRAP(S) REQUIRED SHALL BE SIZED BY HUMIDIFIER MANUFACTURER AND PROVIDED BY THIS CONTRACTOR.

9 DUCT MOUNTED STEAM HUMIDIFIER DETAIL
NTS

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: MECHANICAL DETAILS AND DIAGRAMS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: EAO

FULLY SPRINKLERED
100% CONSTRUCTION DOCS

Project Number: 676-16-102

Building Number: 404

Drawing Number: M502

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

AIR HANDLING UNIT SCHEDULE (AHU)

TAG	SUPPLY FAN DATA									RETURN FAN DATA							COOLING COIL DATA												HEATING COIL DATA						HUMIDIFIER			PRE-FILTER		PRE-FILTER		FINAL FILTER		WEIGHT	NOTES
	SA CFM	MIN CFM	OA MIN CFM	ESP	TSP	RPM	HP	BHP	VOLT/PHASE	RA CFM	ESP	TSP	RPM	HP	BHP	VOLT/PHASE	EAT DB F	EAT WB F	LAT DB F	LAT WB F	APD IN WC	AIR VEL FPM	EWT F	LWT F	FLOW GPM	WPD FT	SENS MBH	TOTAL MBH	EAT DB F	LAT DB F	APD IN WC	PSIG STEAM	FLOW LB/HR	TOTAL MBH	TYPE	LBS/ HR	RH (%)	MERV	APD IN WC	MERV	APD IN WC	MERV	APD IN WC	(LBS)	
404-AHU-1	4,770	2,000	1,100	2.90	–	–	10	7.69	460/3	4,770	0.85	–	–	3	2.58	460/3	80	67.5	57	56	–	500	45	59	24.9	–	119	174.3	20	57	–	30	87	81	STEAM	106	50	8	0.20	11	0.50	14	1.0	4,200	(1) (3) (4) (5) (9) (10) (11)
404-AHU-2	9,010	5,770	5,770	3.40	–	–	20	14.56	460/3	9,010	1.00	–	–	5	3.45	460/3	84	71	57	56	–	500	45	59	64.2	–	261	448.2	–20	57	–	30	517	480	STEAM	201	50	8	0.20	11	0.50	14	1.0	5,900	(1) (3) (4) (5) (9) (10) (11)
404-AHU-3	9,460	4,370	4,370	3.00	–	–	20	15.29	460/3	9,460	0.85	–	–	5	3.57	460/3	83	70	57	56	–	500	45	59	61.9	–	257	433.6	–8	57	–	30	480	445	–	–	–	8	0.20	11	0.50	14	1.0	6,100	(1) (3) (4) (5) (6) (8) (9) (10) (11)
404-AHU-4	9,330	4,230	2,200	2.80	–	–	20	14.55	460/3	9,330	0.95	–	–	5	3.63	460/3	80	67.5	57	56	–	500	45	59	48.7	–	233	340.9	22	57	–	30	172	159	STEAM	208	50	8	0.20	11	0.50	14	1.0	6,200	(1) (3) (4) (5) (9) (10) (11)
404-AHU-5	12,360	5,760	4,920	3.05	–	–	25	22.69	460/3	12,360	0.85	–	–	7.5	6.42	460/3	82	69.5	57	56	–	500	45	59	77.7	–	328	543.6	–14	57	–	30	947	879	–	–	–	8	0.20	11	0.50	14	1.0	7,100	(1) (3) (4) (5) (7) (8) (9) (10) (11)
404-AHU-8	4,300	2,150	2,150	0.50	–	–	1.5	1.26	460/3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	0.20	NA	NA	NA	NA	185	(2) (3) (5) (12)

NOTES: 1. BASIS OF DESIGN IS JCI SOLUTION.
2. BASIS OF DESIGN IS GREENHECK BSQ.
3. PROVIDE NEW DDC CONTROLS.
4. PROVIDE HORIZONTAL SPLIT COILS.
5. ELECTRICAL TO FURNISH AND INSTALL VFD'S. MECHANICAL TO COORDINATE INSTALLATION AND CONTROL WIRING.
6. HEATING COIL SIZED TO ACCOMMODATE PHASING. SIZE BASED ON 6,370 CFM SUPPLY WITH 5,470 CFM OA.
7. HEATING COIL SIZED TO ACCOMMODATE PHASING. SIZE BASED ON 11,530 CFM SUPPLY WITH 10,690 CFM OA.
8. PROVIDE DISCHARGE AIR PLENUM AND FINAL FILTERS AS A SEPARATE SHIPPING SPLIT.
9. PROVIDE AIR BLENDER.
10. SEE DETAIL 12/M501.
11. SEE DETAILS 1 AND 2/M701 FOR CONTROL DIAGRAMS.
12. SEE DETAIL 3/M702 FOR CONTROL DIAGRAM.

EXHAUST FAN SCHEDULE (EF)

TAG	MANUFACTURER	MODEL	LOCATION	SERVICE	CFM	ESP (IN WG)	MOTOR BHP	MOTOR HP	MOTOR RPM	FAN TYPE	DRIVE	ELECTRICAL DATA	REMARKS
404-EF-1	GREENHECK	USF	ATTIC	GENERAL	5470	2.10	2.73	3	1725	UTILITY	BELT	460/3/60	(2) (4)
404-EF-2	GREENHECK	AX	ATTIC	GENERAL	1630	2.10	1.1	1.5	3500	INLINE	DIRECT	460/3/60	(2) (7) (8)
404-EF-3	GREENHECK	AX	ATTIC	GENERAL	1330	2.10	0.78	1	3500	INLINE	DIRECT	460/3/60	(2) (6) (8)
404-EF-4	GREENHECK	AX	ATTIC	GENERAL	1600	2.10	0.97	1	3500	INLINE	DIRECT	460/3/60	(2) (3) (8)
404-EF-5	GREENHECK	USF	ATTIC	GENERAL	8330	2.10	4.22	5	1725	UTILITY	BELT	460/3/60	(2) (5)
404-EF-6	GREENHECK	SWB	ATTIC	GENERAL	4300	0.70	0.84	1	1725	UTILITY	BELT	460/3/60	(1) (2)
404-EF-8	GREENHECK	AFDW	ATTIC	GENERAL	4600	0.60	0.84	1	1725	UTILITY	BELT	460/3/60	(9)
404-EF-9	GREENHECK	AX	ATTIC	GENERAL	4600	0.60	0.77	1	1170	UTILITY	DIRECT	460/3/60	(9)

NOTES: 1. SEE DETAIL 3/M702.
2. ELECTRICAL TO FURNISH AND INSTALL VFD. MECHANICAL TO COORDINATE INSTALLATION AND CONTROL WIRING.
3. FAN REPLACES 404-EF-4-2.
4. FAN REPLACES 404-EF-1, 404-EF-3-1, AND 404-EF-3-2.
5. FAN REPLACES 404-EF-2-3, 404-EF-5-1, AND 404-EF-5-2.
6. FAN REPLACES 404-EF-2-1, AND 404-EF-4-1.
7. FAN REPLACES 404-EF-2-2.
8. SEE DETAIL 1/M501.
9. SEE DETAIL 2/M702.

HEAT RECOVERY RUN AROUND WATER COIL SCHEDULE (ERC)

MARK	AIR FLOW (CFM)	MAX FACE VEL (FPM)	FLUID TYPE	WINTER			SUMMER			AIR PD (IN WG)	WATER PD (FT)	GPM	ROWS	HEIGHT (IN)	WIDTH (IN)	FINS (FPI)	NOTES
				TOTAL (MBH)	EAT °F	LAT °F	TOTAL (MBH)	EAT °F	LAT °F								
404-ERC-1	5,470	500	50% PROPYLENE	188.6	68	37.1	20.0	78	81.3	0.5	15	38	5	36	46	8	(1) (2) (3)
404-ERC-2	4,370	500	50% PROPYLENE	145.5	–20	10.8	15.7	87	83.7	0.5	15	32	5	36	36	8	(1) (2) (3)
404-ERC-3	1,100	500	50% PROPYLENE	43.3	–20	16.4	4.3	87	83.4	0.5	15	6	5	24	14	8	(1) (2) (3)
404-ERC-4	1,630	500	50% PROPYLENE	51.3	68	39.2	6.2	78	81.5	0.5	15	6	5	24	20	8	(1) (2) (4)
404-ERC-5	1,330	500	50% PROPYLENE	47.9	68	35.0	5.5	78	81.8	0.5	15	6	5	24	18	8	(1) (2) (4)
404-ERC-6	2,200	500	50% PROPYLENE	99.2	–20	21.7	11.5	87	82.2	0.5	15	12	5	24	28	8	(1) (2) (4)
404-ERC-7	1,600	500	50% PROPYLENE	62.2	68	35.8	5.4	78	81.1	0.5	15	24	5	24	20	8	(1) (2) (5)
404-ERC-8	8,330	500	50% PROPYLENE	241.8	68	41.4	31.3	78	81.5	0.5	15	46	5	48	52	8	(1) (2) (5)
404-ERC-9	10,690	500	50% PROPYLENE	304	–20	6.24	37.8	87	83.7	0.5	15	70	5	48	68	8	(1) (2) (5)

NOTE:
1. BASIS OF DESIGN: GREENHECK.
2. SEE DETAIL 5/M502.
3. LOOP 1. SEE DIAGRAM 3/M704.
4. LOOP 2. SEE DIAGRAM 4/M704.
5. LOOP 3. SEE DIAGRAM 5/M704.

FILTER SCHEDULE (PF)

MARK	LOCATION	SERVES	MERV RATING	AIRFLOW (CFM)	DIRTY APD (IN WG)	HOUSING TYPE	MIN AREA (SF)	HOUSING H X W (IN)	MIN DEPTH (IN)	NOTES
404-PF-1	MECH ROOM	404-ERC-5	8	4,370	0.5	SIDE	8.7	51x34	2	(1) (2)
404-PF-2	MECH ROOM	404-ERC-2	8	1,100	0.5	SIDE	2.2	27x24	2	(1) (2)
404-PF-3	MECH ROOM	404-ERC-5	8	2,200	0.5	SIDE	4.4	27x24	2	(1) (2)
404-PF-4	MECH ROOM	404-ERC-8	8	10,690	0.5	SIDE	21.4	51x70	2	(1) (2)

NOTE:
1. BASIS OF DESIGN: FLANDERS SUREPLEAT.
2. PROVIDE SIDE ACCESS HOUSING IN DUCTWORK FOR FILTER.

STEAM HUMIDIFIER SCHEDULE (H)

MARK	LOCATION	AIR SIDE			STEAM SIDE		DISTRIBUTION			NOTES
		AIRFLOW (CFM)	TEMP. (°F)	RH (%)	INLET PRESS. (PSIG)	CAPACITY (# / HR)	DUCT SIZE (WIDTH x HEIGHT)	MOUNT TYPE	ABSORBTION DISTANCE (FEET)	
404-H-3	AHU-3 SUPPLY DUCT	9460	57	50	30	211	52X18	DUCT	2.46	(1) (2)
404-H-5	AHU-5 SUPPLY DUCT	12360	57	50	30	275	60X20	DUCT	3.07	(1) (2)

NOTE:
1. BASIS OF DESIGN: NORTEC MODEL L2
2. SEE DETAIL 8/M501.

STEAM TO WATER HEAT EXCHANGER SCHEDULE (HX)

TAG	MANUFACTURER	MODEL	LENGTH (IN)	DIA. (IN)	NO OF PASSES	HEATED WATER (TUBES)				STEAM (SHELL)		REMARKS
						EWT (°F)	LWT (°F)	FLOW (GPM)	WPD (FT)	PRESS (PSIG)	LB/HR	
404-HX-1	B&G	QSU	48	10	2	180	200	275	5	30	2750	(1) (2) (3) (4)
404-HX-2	B&G	QSU	48	10	2	180	200	275	5	30	2750	(1) (2) (3) (4)

NOTES: 1. PROVIDE STEAM CONTROL VALVE.
2. PROVIDE STEAM TRAP WITH STRAINER.
3. PROVIDE VALVED BY-PASS AROUND CONTROL VALVE.
4. SEE DETAILS 11/M501 AND 1/M702.

PUMP SCHEDULE (ERCP)

TAG	SYSTEM	FLOW (GPM)	HEAD (FT)	EFF (%)	HP	RPM	ELECTRICAL DATA V/PH/HZ	REMARKS
404-ERCP-1	ENERGY RECOVERY LOOP 1	38	75	50.4	3	1750	460/3/60	(1) (2) (3) (4)
404-ERCP-2	ENERGY RECOVERY LOOP 2	15	70	32.7	3	3600	460/3/60	(1) (2) (3) (4)
404-ERCP-3	ENERGY RECOVERY LOOP 3	75	78	58.8	5	1750	460/3/60	(1) (2) (3) (4)

NOTES: 1. BASIS OF DESIGN: B&G E90.
2. TIE PUMPS START/START/STOP POINTS TO EXISTING BAS.
3. 50% PROPYLENE GLYCOL.
4. SEE DETAIL 5/M502.

STEAM TRAP SCHEDULE (-ST-)

TAG	TYPE OF TRAP	ORIFACE SIZE	MAX. OPERATING PRESSURE (PSIG)	FLOW DIRECTION	CONDENSATE LOAD (LB/HR)	REQUIRED CAPACITY (LB/HR)	CONN SIZE	CONN TYPE	NOTES
B404-ST101	INVERTED BUCKET	#38	150	HORIZONTAL	7	22	3/4"	NPT	(1)
B404-AHU1-ST1	INVERTED BUCKET	#38	150	HORIZONTAL	11	34	3/4"	NPT	(2)
B404-AHU1-ST2	FLOAT & THERMOSTATIC	11/64"	30	HORIZONTAL	86	172	3/4"	NPT	(3)
B404-AHU1-ST3	INVERTED BUCKET	#38	150	HORIZONTAL	1	2	3/4"	NPT	(4)
B404-AHU2-ST1	INVERTED BUCKET	#38	150	HORIZONTAL	2	6	3/4"	NPT	(2)
B404-AHU2-ST2	INVERTED BUCKET	5/16"	40	HORIZONTAL	517	1,034	1-1/4"	NPT	(3)
B404-AHU2-ST3	INVERTED BUCKET	#38	150	HORIZONTAL	2	5	3/4"	NPT	(4)
B404-AHU3-ST1	INVERTED BUCKET	#38	150	HORIZONTAL	7	22	3/4"	NPT	(2)
B404-AHU3-ST2	FLOAT & THERMOSTATIC	1/4"	30	HORIZONTAL (SAME SIDE)	330	661	1"	NPT	(3)
B404-AHU3-ST3	INVERTED BUCKET	#38	150	HORIZONTAL	1	2	3/4"	NPT	(4)
B404-AHU4-ST1	INVERTED BUCKET	#38	150	HORIZONTAL	5	15	3/4"	NPT	(2)
B404-AHU4-ST2	FLOAT & THERMOSTATIC	11/64"	30	HORIZONTAL (SAME SIDE)	172	344	3/4"	NPT	(3)
B404-AHU4-ST3	INVERTED BUCKET	#38	150	HORIZONTAL	1	2	3/4"	NPT	(4)
B404-AHU5-ST1	INVERTED BUCKET	#38	150	HORIZONTAL	9	26	3/4"	NPT	(2)
B404-AHU5-ST2	FLOAT & THERMOSTATIC	5/16"	30	HORIZONTAL (SAME SIDE)	476	951	1-1/4"	NPT	(3)
B404-AHU5-ST3	INVERTED BUCKET	#38	150	HORIZONTAL	6	17	3/4"	NPT	(4)
B404-ST102	INVERTED BUCKET	#38	30	HORIZONTAL	11	21	1-1/4"	NPT	(5)
B404-ST103	FLOAT & THERMOSTATIC	1-5/8"	30	HORIZONTAL (SAME SIDE)	2,848	5,697	2-1/2"	NPT	(6)

NOTES:
1. MAIN LINE TRAP AT ATTIC ENTRANCE. SEE DETAIL 9/M501.
2. MAIN LINE TRAP. SEE DETAIL 9/M501.
3. HEATING COIL TRAP. SEE DETAIL 7/M501.
4. HUMIDIFIER TRAP. SEE DETAIL 8/M501.
5. MAIN LINE TRAP AT HEAT EXCHANGERS, 2 REQUIRED, ONE FOR EACH HEAT EXCHANGER.
6. HEAT EXCHANGER TRAP, 2 REQUIRED, ONE FOR EACH HEAT EXCHANGER.
7. BASIS OF DESIGN ARMSTRONG STEAM TRAPS.

STEAM CONTROL VALVE SCHEDULE (-SCV-)

TAG	TYPE OF VALVE	CAPACITY (LBS/HR)	MAX. INLET PRESSURE (PSIG)	OUTLET PRESSURE (PSIG)	Cv	CONN SIZE	CONN TYPE	NOTES
B404-AHU1-SCV1	2-WAY FULL PORT	87	30	28	3.14	1/2"	NPT	(1) (2) (4)
B404-AHU1-SCV2	2-WAY FULL PORT	106	30	28	3.82	1/2"	NPT	(1) (3) (5)
B404-AHU2-SCV1	2-WAY FULL PORT	518	30	28	18.65	1-1/2"	NPT	(1) (2) (4)
B404-AHU2-SCV2	2-WAY FULL PORT	200	30	28	7.21	3/4"	NPT	(1) (3) (5)
B404-AHU3-SCV1	2-WAY FULL PORT	481	30	28	17.31	1-1/2"	NPT	(1) (2) (4)
B404-AHU3-SCV2	2-WAY FULL PORT	211	30	28	7.61	1"	NPT	(1) (3) (6)
B404-AHU4-SCV1	2-WAY FULL PORT	172	30	28	6.20	3/4"	NPT	(1) (2) (4)
B404-AHU4-SCV2	2-WAY FULL PORT	205	30	28	7.39	3/4"	NPT	(1) (3) (5)
B404-AHU5-SCV1	2-WAY FULL PORT	967	30	25	22.41	1-1/2"	NPT	(1) (2) (4)
B404-AHU5-SCV2	2-WAY FULL PORT	275	30	28	9.92	1"	NPT	(1) (3) (6)
B404-SCV-101	2-WAY FULL PORT	1,049	30	2	13.72	1-1/2"	NPT	(1) (7)
B404-SCV-102	2-WAY FULL PORT	2,052	30	2	26.85	1-1/2"	NPT	(1) (7)
B404-SCV-103	2-WAY FULL PORT	1,049	30	2	13.72	1-1/2"	NPT	(1) (7)
B404-SCV-104	2-WAY FULL PORT	2,052	30	2	26.85	1-1/2"	NPT	(1) (7)

NOTES:
1. PROVIDE VALVE THAT IS FULLY MODULATING WITH ELECTRIC ACTUATOR.
2. SEE DETAIL 7/M501.
3. SEE DETAIL 8/M501.
4. MAIN STEAM COIL.
5. AHU HUMIDIFIER.
6. DUCT HUMIDIFIER.
7. VALVE FAILS OPEN.
8. BASIS OF DESIGN: ARMSTRONG STEAM CONTROL VALVES

AIR FLOW MEASURING DEVICE (AFMD)

PLAN MARK (AFMD-)	LOCATION	SERVES	AIR FLOW MIN (CFM)	AIR FLOW MAX (CFM)	DUCT SIZE WIDTH (IN)	DUCT SIZE HEIGHT (IN)	MAX APD	COMMENTS
404-AFMD-1	ATTIC AREA A	AHU-5	2460	6180	36	24	0.1	(2) (3)
404-AFMD-2	ATTIC AREA A	AHU-5	2460	6180	32	18	0.1	(1)
404-AFMD-3	ATTIC AREA A	AHU-2	2885	4505	20	20	0.1	(1)
404-AFMD-4	ATTIC AREA B	AHU-2	2885	4505	32	20	0.1	(1)
404-AFMD-5	ATTIC AREA B	AHU-1	550	2385	18	12	0.1	(1)
404-AFMD-6	ATTIC AREA C	AHU-1	550	2385	26	18	0.1	(1)
404-AFMD-7	ATTIC AREA B	AHU-4	1100	4665	28	16	0.1	(1)
404-AFMD-8	ATTICA AREA B	AHU-4	1100	4665	36	20	0.1	(1)
404-AFMD-9	ATTIC AREA C	AHU-3	2460	4730	36	16	0.1	(1)
404-AFMD-10	ATTIC AREA C	AHU-3	2460	4730	24	22	0.1	(1)

NOTES:
1. BASIS OF DESIGN IS EBTRON GTX116E-P+.
2. BASIS OF DESIGN IS EBTRON AIR-IQ.
3. PROVIDE AIR FLOW MEASURING DEVICE AND DAMPER COMBINATION.

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
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Drawing Title: MECHANICAL SCHEDULES

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: EAO

FULLY SPRINKLERED
100% CONSTRUCTION DOCS

Project Number: 676-16-102

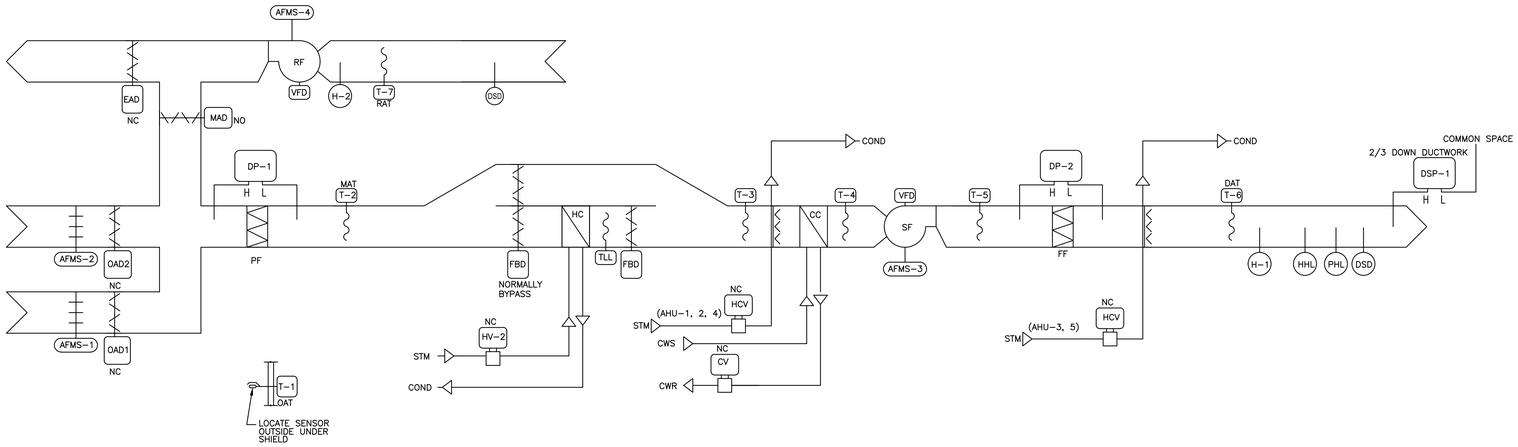
Building Number: 404

Drawing Number: M601

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



AHU CONTROL SEQUENCE
GENERAL
SYSTEM CONSISTS OF (5) 24/7, VARIABLE VOLUME, MIXED AIR UNITS WITH FIVE EXHAUST FANS SERVING BUILDING 404.

OCCUPANCY
AHU'S DO NOT HAVE OCCUPANCY CONTROL. THEY RUN 24/7 UNLESS THEY ARE DISABLED.

SYSTEM ENABLE/DISABLE (SOFTWARE SHUTDOWN)
SYSTEM IS NORMALLY ENABLED.
SYSTEM IS DISABLED WHEN THE SWITCH AT THE PRIMARY CONTROLLER IS TURNED OFF OR THE BAS VIRTUAL POINT IS SWITCHED TO DISABLE. DURING A SOFTWARE SHUTDOWN (DISABLE), ALL FANS SHALL RAMP DOWN AND STOP, COOLING COIL CONTROL VALVE SHALL FAIL CLOSED, HUMIDIFIER ISOLATION VALVE SHALL FAIL CLOSED, OUTSIDE/EXHAUST DAMPER ACTUATORS SHALL FAIL CLOSED, MIXED AIR DAMPER SHALL FAIL OPEN, AND FACE/BYPASS DAMPER SHALL FAIL IN BYPASS. FANS WILL SHUT DOWN, EVEN IF IN HAND.
DURING A SOFTWARE SHUTDOWN (DISABLE), HEATING VALVE WILL OPEN BRIEFLY AS NEEDED TO KEEP T-3 ABOVE 50 F.

HARDWARE SHUTDOWN
2. AUTOMATIC HARDWARE SHUTDOWN SHALL RESULT FROM TEMPERATURE LOW LIMIT, DUCT SMOKE DETECTOR (SUPPLY), DUCT SMOKE DETECTOR (RETURN), AND HIGH STATIC PRESSURE (3").
3. DURING A HARDWARE SHUTDOWN, ALL FANS SHALL STOP, HEATING COIL CONTROL VALVE SHALL FAIL OPEN, COOLING COIL CONTROL VALVE SHALL FAIL CLOSED, HUMIDIFIER ISOLATION VALVE SHALL FAIL CLOSED, OUTSIDE/EXHAUST DAMPER ACTUATORS SHALL FAIL CLOSED, MIXED AIR DAMPER SHALL FAIL OPEN, AND FACE/BYPASS DAMPER SHALL FAIL IN BYPASS. FANS WILL SHUT DOWN, EVEN IF IN HAND.
4. AFTER THE APPROPRIATE HARDWARE RESET IS PRESSED, AUTOMATICALLY STARTUP AND RESUME NORMAL OPERATION.

SUPPLY FAN CONTROL
1. STARTUP – HARDWARE PROTECTION SHALL PREVENT SF FROM RAMPING UP UNTIL OAD1 IS FULLY OPEN (END SWITCH).
2. DURING SYSTEM DISABLE, VFD FOR SF SHALL RAMP DOWN AND STOP.
3. DURING SYSTEM ENABLE, VFD FOR SF SHALL MODULATE TO MAINTAIN DSP-1 TO SUPPLY DUCT PRESS SETPOINT (ADJUSTABLE).
 3.1. TAB CONTRACTOR IS RESPONSIBLE TO SET INITIAL DUCT STATIC PRESSURE SETPOINT SUCH THAT IT IS MINIMIZED AND AIRFLOW TO ALL SUPPLY GRILLES AND VAVR UNITS IS MAINTAINED.

RETURN FAN CONTROL
1. STARTUP – RF SHALL RAMP UP AFTER A DELAY TO ALLOW FOR THE MAD TO OPEN.
2. DURING SYSTEM DISABLE, VFD FOR RF SHALL RAMP DOWN AND STOP.
3. RF SHALL RUN WHENEVER SUPPLY FAN (SF) RUNS. RF SHALL SHUT OFF WHENEVER SF SHUTS OFF.
3. DURING SYSTEM ENABLE, VFD FOR RF SHALL MODULATE TO MAINTAIN A DIFFERENTAIL AIRFLOW.
 3.1. TAB CONTRACTOR IS RESPONSIBLE TO SET INITIAL DUCT STATIC PRESSURE SETPOINT SUCH THAT IT IS MINIMIZED AND AIRFLOW FROM ALL RETURN GRILLES IS MAINTAINED.
4. RETURN FAN SHALL BE ABLE TO BE STOPPED, STARTED, AND HAVE SPEED ADJUSTED FROM BUILDING AUTOMATION SYSTEM INDEPENDENT FROM SUPPLY FAN.

EXHAUST FAN CONTROL
1. EF IS DIRECTLY CONTROLLED BY THE PRIMARY AHU CONTROLLER.
2. DURING SYSTEM DISABLE, VFD FOR EF SHALL RAMP DOWN AND STOP.
3. EXHAUST FAN (EF) SHALL RUN WHENEVER SUPPLY FAN (SF) RUNS. EF SHALL SHUT OFF WHENEVER SF SHUTS OFF.
4. VFD FOR EF SHALL MODULATE TO MAINTAIN DSP-2 TO SETPOINT (ADJUSTABLE).
 4.1. TAB CONTRACTOR IS RESPONSIBLE TO SET DUCT STATIC PRESSURE SETPOINT SUCH THAT IT IS MINIMIZED AND AIR FROM ALL EXHAUST GRILLES IS MAINTAINED.
5. EXHAUST FAN SHALL BE ABLE TO BE STOPPED, STARTED, AND HAVE SPEED ADJUSTED FROM BUILDING AUTOMATION SYSTEM INDEPENDENT FROM SUPPLY FAN.

MIXED AIR CONTROL
1. OUTSIDE AIR DAMPER (OAD1) SHALL REMAIN FULLY OPEN, EXCEPT DURING A SHUTDOWN.
2. OUTSIDE AIR DAMPER (OAD2), MIXED AIR DAMPER (MAD) AND EXHAUST AIR DAMPER (EAD) SHALL MODULATE (MAD = 100% – EAD) TO CONTROL THE RETURN AIRFLOW STREAM. MAD AND EAD SHALL BE SEPARATE POINTS THAT ARE ABLE TO BE OVERRIDDEN SEPARATELY FROM THE BAS.
 2.1. FACE-BYPASS ALLOWANCE: IF [OAT < FACE/BYPASS TRANSITION SP], THEN DAMPERS (EAD AND MAD) SHALL MODULATE TO MAINTAIN MAT (T-2) TO MAT F/B SP(ADJ, INITIALLY 40 F)
 2.2. ECONOMIZER: IF [OAT > FACE/BYPASS TRANSITION SP] AND [OAT < RAT], THEN DAMPERS (OAD-2, EAD AND MAD) SHALL MODULATE TO MAINTAIN MAT (T-2) TO MAT SP(ADJ, INITIALLY 52 F).
 2.3. COOLING PRESERVATION: IF [OAT > RAT], THEN MAD SHALL FULLY OPEN AND EAD SHALL FULLY CLOSE.

COOLING CONTROL
1. IF [OAT < COOLING OA LOCKOUT SP (ADJ, INITIALLY 52F)], COOLING VALVE SHALL CLOSE .
2. IF [OAT > COOLING OA LOCKOUT SP, COOLING VALVE SHALL MODULATE TO MAINTAIN T-6 TO DAT SP (ADJ, INITIALLY 57 F).

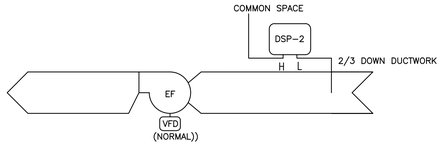
HEATING CONTROL
1. IF [OAT > HEATING OA LOCKOUT SP (ADJ, INITIALLY 45F)],HEATING VALVE (HV) SHALL CLOSE AND FACE/BYPASS DAMPER (FBD) SHALL GO TO FULLY BYPASS.
2. IF [OAT < HEATING OA LOCKOUT SP] AND [OAT > FACE/BYPASS TRANSITION SP (ADJ, INITIALLY 30 F)], HV SHALL MODULATE TO MAINTAIN T-6 (DAT) TO DAT SP AND FBD SHALL GO TO FULLY FACE.
3. IF [OAT < FACE/BYPASS TRANSITION SP], HV SHALL FULLY OPEN AND FBD SHALL MODULATE TO MAINTAIN T-6 TO DAT SP.

HUMIDITY CONTROL
1. HARDWARE SAFETIES:
 1.1. DURING NORMAL HARDWARE FAILURE/SAFETY, HUMIDIFIER CONTROL VALVE (HCV) SHALL FAIL CLOSED.
 1.2. HUMIDITY HIGH LIMIT: A SECOND HARDWARE SAFETY SHALL BE WIRED IN SERIES TO CUT POWER TO THE HCV IF THE DISCHARGE AIR HUMIDITY (H-1) EXCEEDS A MANUALLY ADJUSTED SETTING (INITIALLY 90%). THIS SAFETY WILL NOT SHUT DOWN THE REST OF THE AIR HANDLER; ONLY THE HCV, UNTIL MANUALLY RESET.
2. IF SYSTEM IS DISABLED, THEN HCV SHALL FULLY CLOSE.
3. IF THE SUPPLY FAN IS OFF, THEN HCV SHALL FULLY CLOSE.
4. IF [OAT > HUMIDIFIER LOCKOUT SP (ADJ, INITIALLY 50 F)], THEN HCV SHALL FULLY CLOSE.
5. IF [H-2 > ZONE HI LIMIT HUMIDITY SP(ADJ, INITIALLY 38%)], THEN HCV SHALL FULLY CLOSE.
6. IF [[OAT < HUMIDIFIER LOCKOUT SP] AND [H-2 < ZONE HI LIMIT HUMIDITY SP] AND [SUPPLY FAN IS ON] AND [SYSTEM IS ENABLED]], THEN:
 6.1. HCV SHALL MODULATE TO MAINTAIN H-1TO DA HUMIDITY SETPOINT (ADJ, INITIALLY 58%).

1 VARIABLE AIR VOLUME AIR HANDLING UNIT WITH MINIMUM OUTSIDE AIR CONTROL DIAGRAM (AHU-1 THROUGH AHU-5)
NTS

AHU–1, 2, 3, 4 AND 5 MINIMUM POINTS LIST

	Output		Input		Virtual		Local Controller			BAS			Full BAS Integration
	Digital	Analog	Digital	Analog	Digital	Analog	Visible	Adjustable	Overridable	Visible	Adjustable	Overridable	
SF Command	X						X		X	X		X	
SF Status			X										
SF Speed Command		X					X		X	X		X	
SF VFD													X
SF VFD Fault			X				X						
RF Command	X						X		X	X		X	
RF Status			X										
RF Speed Command		X					X		X	X		X	
RF VFD													X
RF VFD Fault			X				X						
EF Command	X						X		X	X		X	
EF Status			X							X			
EF Speed Command		X					X		X	X		X	
EF VFD													X
EF VFD Fault			X				X						
T-1 (OAT)				X			X			X			
T-2 (MAT)				X			X			X			
T-3 (after heating coil)				X			X			X			
T-4 (after cooling coil)				X			X			X			
T-5 (after SF)				X			X			X			
T-6 (DAT)				X			X			X			
T-7 (RAT)				X			X			X			
H-1 (DAH)				X			X			X			
H-2 (RAH)				X			X			X			
DP-1 (pre-filter)			X				X			X			
DP-2 (final filter)			X				X			X			
DSP-1 (SF Ctrl)				X			X			X			
DSP-2 (RF Ctrl)				X			X			X			
DSP-3 (EF Ctrl)				X			X			X			
OAD Command	X						X		X	X		X	
OAD Status			X				X			X			
EAD Command		X					X		X	X		X	
EAD Status				X			X			X			
MAD Command		X					X		X	X		X	
MAD Status				X			X			X			
FBD Command		X					X		X	X		X	
FBD Status (qty depends on actuators)				X			X			X			
HV Command		X					X		X	X		X	
HV Status				X			X			X			
CV Command		X					X		X	X		X	
CV Status				X			X			X			
HCV Command		X					X		X	X		X	
HCV Status				X			X			X			
AFMS-1 (OA-MIN)				X			X			X			
AFMS-2 (OAF-ECONIMIZER)				X			X			X			
AFMS-3 (DAF)				X			X			X			
AFMS-4 (RAF)				X			X			X			
Temp Low Limit (TLL)			X				X			X			
Smoke Detector (DSD Supply)			X				X			X			
Smoke Detector (DSD Return)			X				X			X			
High Static Pressure (PHL)			X				X			X			
Shutdown Switch			X				X			X			
BAS Enable/Disable				X			X			X	X	X	
Humidity High Limit Switch			X				X			X			
Supply Duct Press SP						X	X		X	X	X	X	
Return Duct Press SP						X	X		X	X	X	X	
Exhaust Duct Press SP						X	X		X	X	X	X	
Cooling OA Lockout SP (T-1)						X	X		X	X	X	X	
Heating OA Lockout SP (T-1)						X	X		X	X	X	X	
MAT SP (T-2)													
MAT F/B SP (T-2)													
Face/Bypass Transition SP (T-1)						X	X		X	X	X	X	
DAT SP (T-6)						X	X		X	X	X	X	
DAH SP (H-1)						X	X		X	X	X	X	
Zone Hi Limit Humidity SP (H-2)													
Humidifier Lockout SP (T-1)						X	X		X	X	X	X	
DA Humid SP						X	X		X	X	X	X	



3 EXHAUST FAN CONTROL (EF-1 THRU EF-5)
NTS

2 POINTS LIST FOR VAV AIR HANDLING UNIT WITH MINIMUM OUTSIDE AIR
NTS

Revisions:	Date

VETERANS AFFAIRS
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CONSULTANTS:

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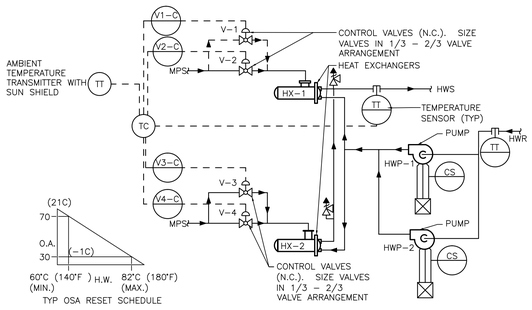
Drawing Title: MECHANICAL CONTROL DIAGRAMS
Approved: Project Director
Project Title: Replace HVAC & AC B404
Location: Tomah, Wisconsin
Date: February 9, 2018
Checked By: HFB
Drawn By: EAO

FULLY SPRINKLERED
100% CONSTRUCTION DOCS
Project Number: 676-16-102
Building Number: 404
Drawing Number: M701

Office of Facilities Management
Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



HEATING WATER SYSTEM MINIMUM POINTS LIST

	Output		Input		Virtual		Local Controller			BAS			Full BAS Integration
	Digital	Analog	Digital	Analog	Digital	Analog	Visible	Adjustable	Overridable	Visible	Adjustable	Overridable	
Steam Pressure				X						X			
Steam Control Valve, V-1, Command		X								X	X		
Steam Control Valve, V-1, Status				X						X			
Steam Control Valve, V-2, Command		X								X	X		
Steam Control Valve, V-2, Status				X						X			
Steam Control Valve, V-3, Command		X								X	X		
Steam Control Valve, V-3, Status				X						X			
Steam Control Valve, V-4, Command		X								X	X		
Steam Control Valve, V-4, Status				X						X			
HW Supply Temperature				X						X	X		
HW Supply High Limit Temperature				X						X	X		
HW Return Temperature				X						X	X		
Outdoor Air Temperature				X						X	X		

HEATING WATER SYSTEM SEQUENCE OF OPERATION

- THE HEATING HOT WATER SYSTEM CONSISTS OF (2) STEAM-TO-HOT WATER SHELL-AND-TUBE HEAT EXCHANGERS (404-HX-1, 404-HX-2) WITH 1/3 AND 2/3 CAPACITY CONTROL VALVES (V1, V2 AND V3, V4), AND EXISTING HOT WATER CIRCULATION PUMPS. THE HEAT EXCHANGERS ARE 100% REDUDANT.
- RESET HEATING WATER SUPPLY TEMPERATURE IN STRAIGHT-LINE RELATIONSHIP WITH OUTDOOR-AIR TEMPERATURE FOR THE FOLLOWING CONDITIONS:
  180°F HEATING WATER WHEN OUTDOOR AIR TEMPERATURE IS -20°F.
  130°F HEATING WATER WHEN OUTDOOR AIR TEMPERATURE IS 75°F.
  150°F MINIMUM, HW TEMPERATURE.

SYSTEM ON/OFF AND PUMP SPEED CONTROL

- THE HEATING SYSTEM SHALL BE OPERATED BY THE BUILDING MANAGEMENT SYSTEM (BMS) AND SHALL OPERATE 24/7. THE EXISTING HOT WATER PUMP CONTROL SEQUENCE SHALL BE INTEGRATED WITH THE HEATING SYSTEM CONTROL. WHEN HOT WATER IS NOT REQUIRED THE STEAM CONTROL VALVES FOR HEAT EXCHANGER SHALL BE CLOSED.

TEMPERATURE CONTROL – NORMAL OPERATION

- THE HOT WATER SYSTEM SHALL MAINTAIN A HW SUPPLY TEMPERATURE OF 180°F (ADJ). PRIOR TO OPENING THE STEAM CONTROL VALVES FOR HEAT EXCHANGER HOT WATER FLOW SHALL BE VERIFIED BY CHECKING THE EXISTING DIFFERENTIAL PRESSURE SWITCHES OFF OF EACH PUMP. IF THERE IS NO FLOW THEN THE STEAM CONTROL VALVE SHALL REMAIN CLOSED.

STEAM CONTROL

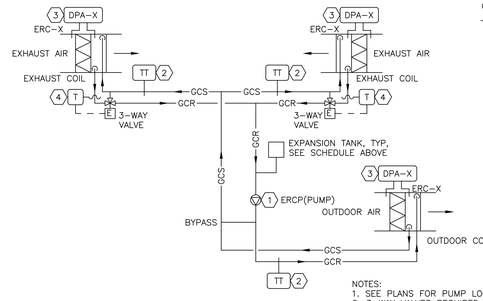
- UPON PROOF OF FLOW, THE 1/3 CAPACITY STEAM CONTROL VALVE (V-1) SHALL BE MODULATED OPEN TO MAINTAIN THE HW SUPPLY SETPOINT TEMPERATURE; THE 2/3 CAPACITY CONTROL VALVE (V-2) SHALL BE CLOSED. IF THE HW SUPPLY TEMPERATURE RISES ABOVE THE SETPOINT, V-1 SHALL MODULATE CLOSED TO MAINTAIN THE SETPOINT TEMPERATURE.
- IF V-1 IS FULL OPEN AND CANNOT MAINTAIN THE TEMPERATURE SETPOINT THEN THE 2/3 CAPACITY CONTROL VALVE (V-2) SHALL BE OPENED AND V-1 SHALL MODULATE CLOSED. IF THE HW SUPPLY TEMPERATURE RISES ABOVE THE SETPOINT, V-2 SHALL MODULATE CLOSED TO MAINTAIN THE SETPOINT TEMPERATURE.
- IF V-2 IS FULL OPEN AND CANNOT MAINTAIN THE TEMPERATURE SETPOINT THEN V-1 SHALL MODULATE OPEN. IF THE HW SUPPLY TEMPERATURE RISES ABOVE THE SETPOINT, V-1 SHALL MODULATE CLOSED TO MAINTAIN THE SETPOINT TEMPERATURE.
- WHEN V-1 AND V-2 HAVE REACHED FULLY OPEN POSITION AND HW TEMPERATURE CANNOT BE MAINTAINED, V-3 (1/3) STARTS TO MODULATE OPEN. WHEN V-3 HAS REACHED FULLY OPEN POSITION. V-4 (2/3) STARTS TO MODULATE OPEN.
- THE REVERSE OCCURS WHEN THE HW SUPPLY RISES ABOVE THE SETPOINT TEMPERATURE.
- OPEN AND CLOSE VALVES SLOWLY.
- A HW SUPPLY TEMPERATURE RISES ABOVE THE HIGH TEMPERATURE LIMIT SENSOR, SET AT 200°F, AN ALARM TO THE BAS SHALL BE SIGNALED AND THE STEAM CONTROL VALVE(S) SHALL MODULATE CLOSED.

1 HEAT EXCHANGER CONTROLS (HEATING SYSTEM)
NTS

EXPANSION TANK SCHEDULE

TAG (ET-)	SERVES	HEIGHT (IN)	DIAM (IN)	TANK VOL (GAL)	MIN VOL (GAL)	OP PRESS MIN PSIG	OP PRESS MAX PSIG	OP TEMP FILL (°F)	OP TEMP MAX (°F)	NOTES
123	ENERGY RECOVERY LOOP	13.7	10.6	4.8	3	12	15	40	90	1, 2
456	ENERGY RECOVERY LOOP	10.8	7.9	2.1	1	12	15	40	90	1, 2
789	ENERGY RECOVERY LOOP	21.1	15	13.2	8.2	12	15	40	90	1, 2

NOTES:
1. BASIS OF DESIGN – WESSELS N-SERIES HYDRONIC EXPANSION TANKS.
2. ½" CONNECTION, PROVIDE BALL VALVE,



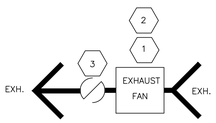
CONTROL POINT	CONTROL POINT DESCRIPTION
1	PUMP START/STOP
2	TEMPERATURE TRANSMITTER
3	DIFFERENTIAL PRESSURE TRANSMITTER
4	TEMPERATURE SENSOR

SEQUENCE OF OPERATION:

1. NORMAL OPERATION – PUMP RUNS CONTINUOUSLY.
2. WINTER – 3-WAY VALVE MODULATES TO MAINTAIN 32°F GLYCOL WATER TEMPERATURE AT EXHAUST COIL.
3. SUMMER – 3-WAY VALVE MODULATES TO MAINTAIN LOWEST GLYCOL TEMPERATURE TO THE SUPPLY COIL.
4. CONNECT ENERGY RECOVERY SYSTEM TO BAS.
5. PROVIDE A IN-SERVICE SWITCH TO SHUT DOWN PUMP FOR MAINTENANCE.

NOTES:
1. SEE PLANS FOR PUMP LOCATION IN EACH SYSTEM.
2. 3-WAY VALVES REQUIRED AT ALL EXHAUST COILS.
3. SEE PLANS FOR EXPANSION TANK LOCATION.

5 ENERGY RECOVERY SYSTEM CONTROL DIAGRAM
NTS



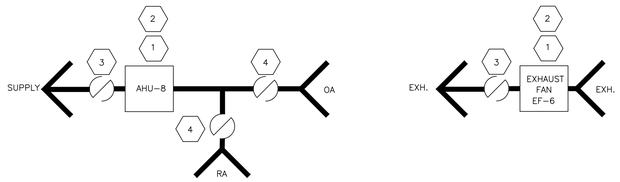
SEQUENCE OF OPERATION

ATTIC OA VENTILATION DAMPERS SHALL OPEN, AND EXHAUST FAN RUNS CONTINUOUSLY WHEN ATTIC SPACE IS ABOVE 80°F. ATTIC OA VENTILATION DAMPERS CLOSE AND FAN SHUTS OFF WHEN ATTIC SPACE IS 80°F OR BELOW.

ENGINEERING NOTES:

CONTROL POINT	CONTROL POINT DESCRIPTION
1	FAN START/STOP
2	CURRENT SENSOR
3	BACKDRAFT DAMPER

2 EXHAUST FAN CONTROL (EF-8 THRU EF-9)
NTS



SEQUENCE OF OPERATION

EF-6 AND AHU-8 ARE INTERLOCKED.

UNITS ARE NORMALLY OFF.

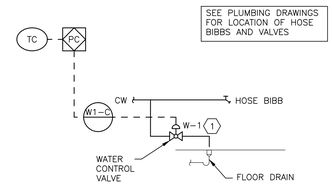
WHEN SPACE TEMPERATURE IS ABOVE 80°F, THE RA DAMPER AND OA DAMPER SHALL OPEN TO 50% POSITIONS, AHU-8 SHALL RUN, AND EF-6 SHALL RUN AT 50% CAPACITY.

WHEN SPACE TEMPERATURE IS ABOVE 90°f, THE RA DAMPER SHALL CLOSE, OA SHALL OPEN TO 100% POSITION, AHU-8 SHALL RUN, AND EF-6 SHALL RUN AT FULL CAPACITY.

ENGINEERING NOTES:

CONTROL POINT	CONTROL POINT DESCRIPTION
1	FAN VFD
2	CURRENT SENSOR
3	BACKDRAFT DAMPER
4	CONTROL DAMPER

3 AHU-8 AND EF-6 CONTROL DIAGRAM
NTS



SEQUENCE OF OPERATION

- WATER CONTROL VALVE W-1 TO BE NORMALLY CLOSED.
- VALVE W-1 TO OPEN FOR 2 MINUTES (ADJ.) DAILY.
- IF VALVE W-1 DOES NOT OPEN, AN ALARM TO THE BAS SHALL BE SIGNALED AND VALVE TO FAIL CLOSED.

CONTROL POINT	CONTROL POINT DESCRIPTION
1	WATER CONTROL VALVE

4 WATER CONTROL VALVE CONTROL DIAGRAM
NTS

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Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
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CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
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Drawing Title: MECHANICAL CONTROL DIAGRAMS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: HFB

Drawn By: EAO

Project Number: 676-16-102

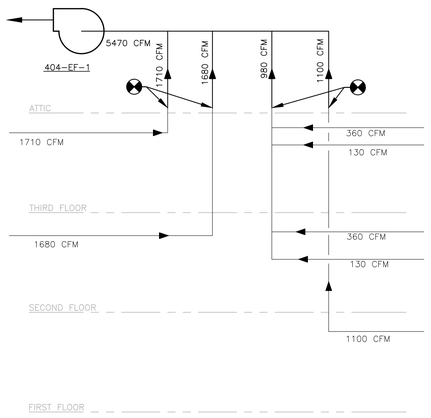
Building Number: 404

Drawing Number: M702

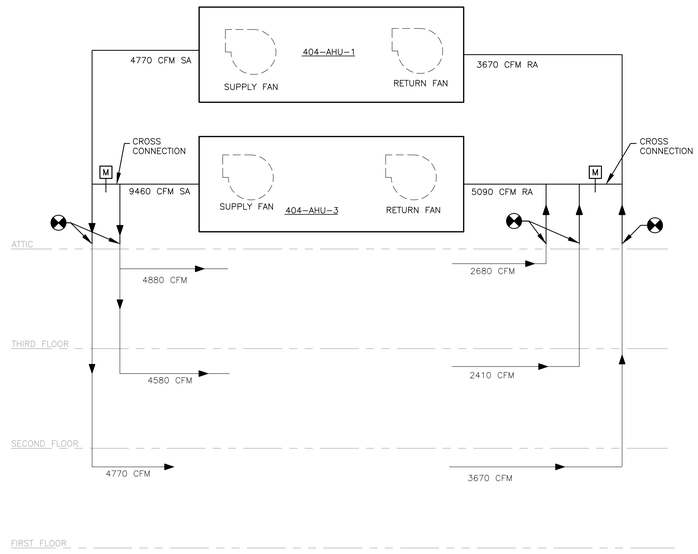
Office of Facilities Management

Department of Veterans Affairs

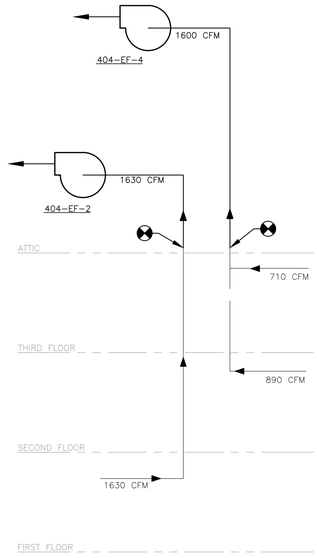
VA FORM 08-6231, OCT 1978



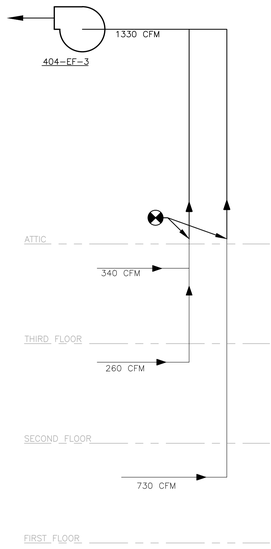
1 404-EF-1 AIRFLOW DIAGRAM
NTS



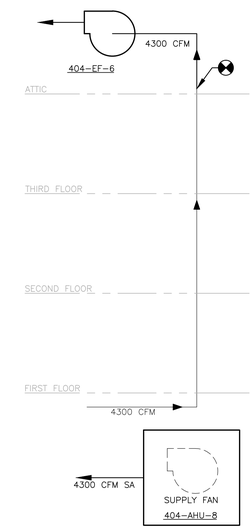
404-AHU-1 AND 404-AHU-3
2 AIRFLOW DIAGRAM
NTS



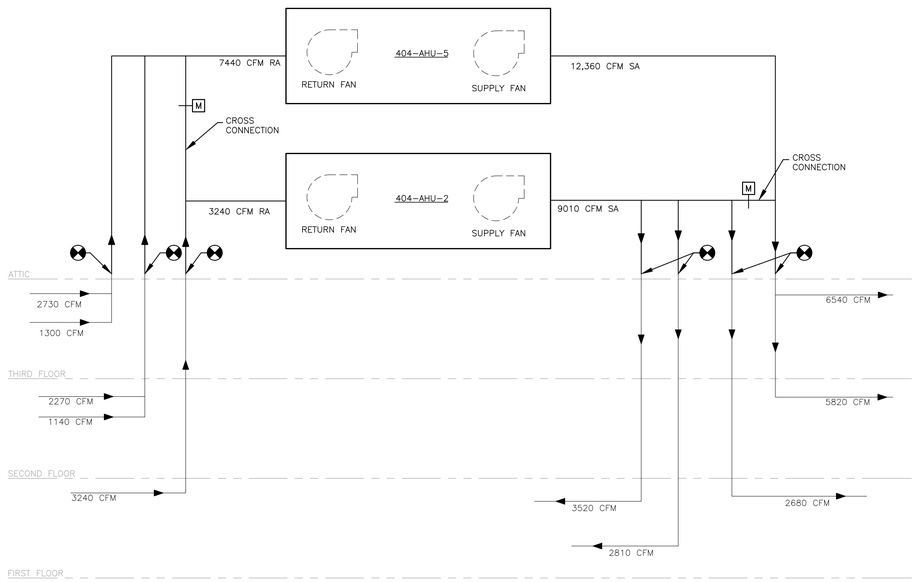
404-EF-2 AND 404-EF-4
3 AIRFLOW DIAGRAM
NTS



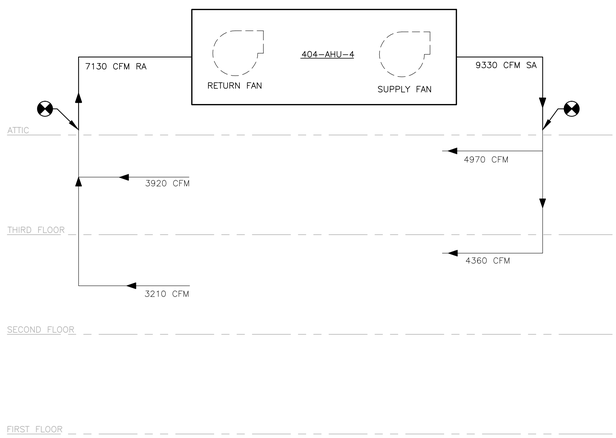
404-EF-3
4 AIRFLOW DIAGRAM
NTS



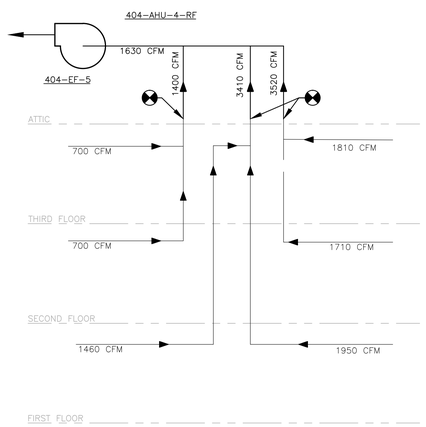
404-AHU-8 AND 404-EF-6
5 AIRFLOW DIAGRAM
NTS



404-AHU-2 AND 404-AHU-5
6 AIRFLOW DIAGRAM
NTS



7 404-AHU-4 AIRFLOW DIAGRAM
NTS



8 404-EF-5 AIRFLOW DIAGRAM
NTS

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Revisions:	Date

VETERANS AFFAIRS
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500 E VETERANS ST
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CONSULTANTS:

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Drawing Number: M703

Office of Facilities Management

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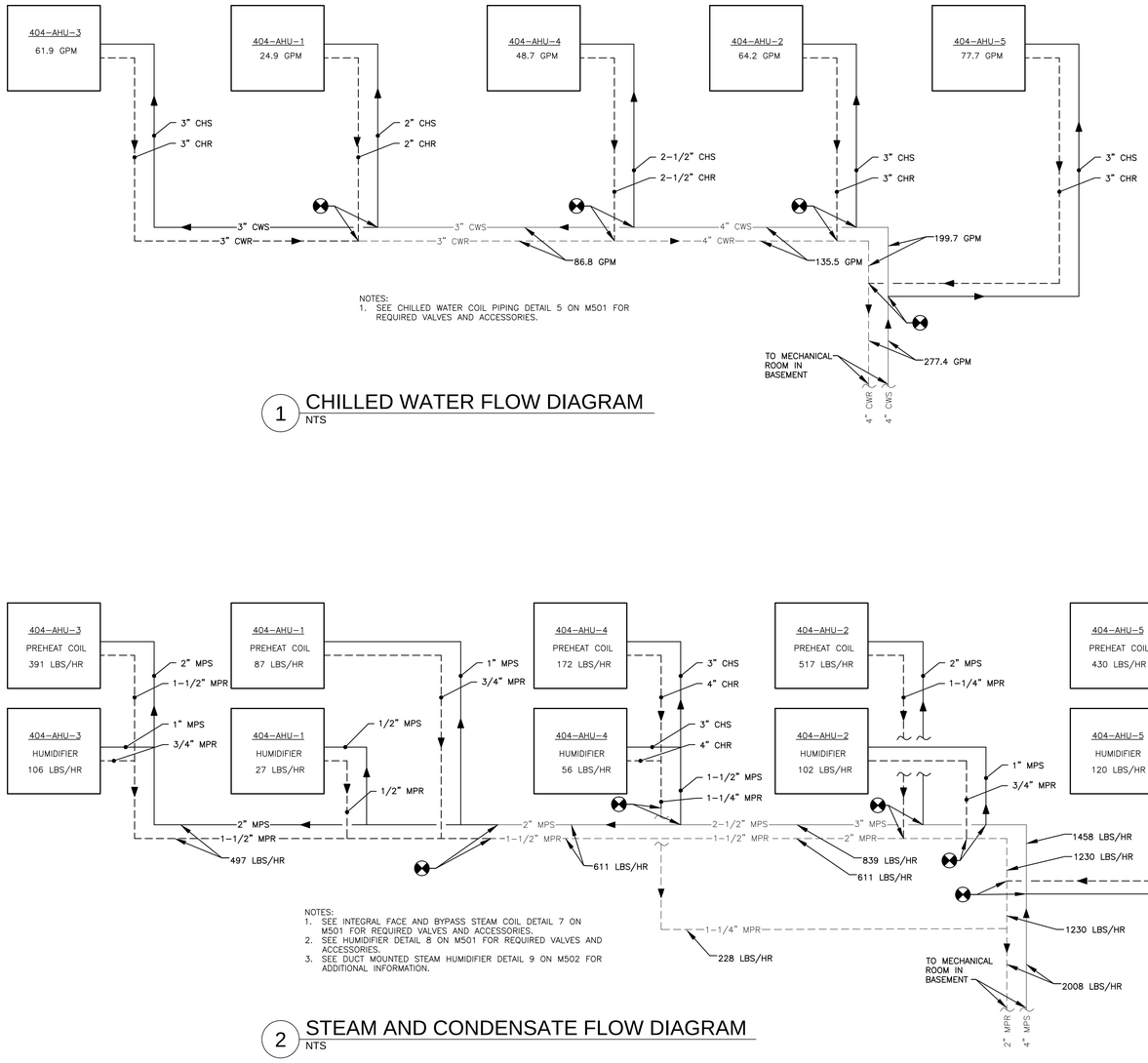
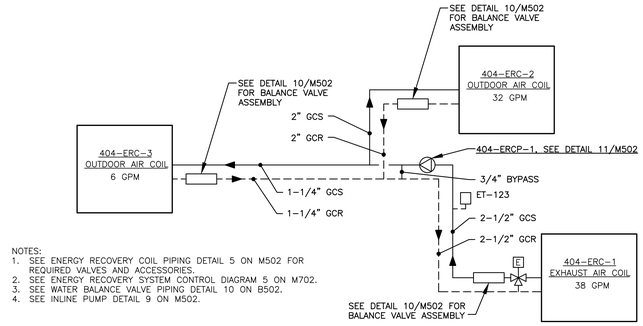


NOTES:
1. SEE CHILLED WATER COIL PIPING DETAIL 5 ON M501 FOR REQUIRED VALVES AND ACCESSORIES.

1 CHILLED WATER FLOW DIAGRAM
NTS

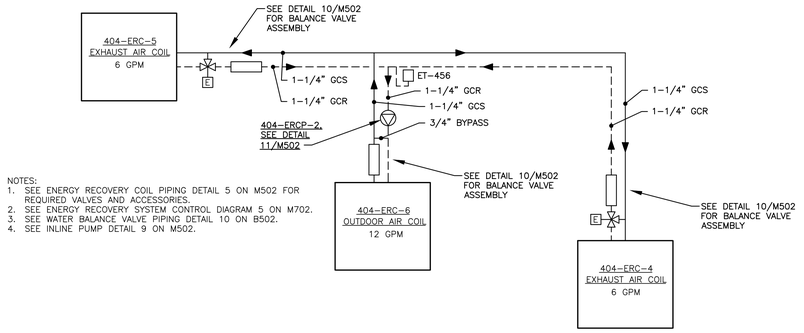
NOTES:
1. SEE INTEGRAL FACE AND BYPASS STEAM COIL DETAIL 7 ON M501 FOR REQUIRED VALVES AND ACCESSORIES.
2. SEE HUMIDIFIER DETAIL 8 ON M501 FOR REQUIRED VALVES AND ACCESSORIES.
3. SEE DUCT MOUNTED STEAM HUMIDIFIER DETAIL 9 ON M502 FOR ADDITIONAL INFORMATION.

2 STEAM AND CONDENSATE FLOW DIAGRAM
NTS



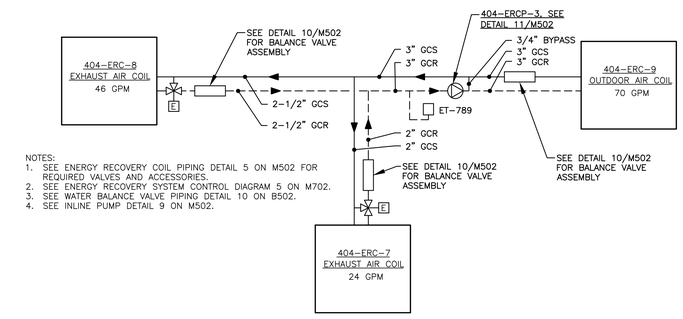
NOTES:
1. SEE ENERGY RECOVERY COIL PIPING DETAIL 5 ON M502 FOR REQUIRED VALVES AND ACCESSORIES.
2. SEE ENERGY RECOVERY SYSTEM CONTROL DIAGRAM 5 ON M702.
3. SEE WATER BALANCE VALVE PIPING DETAIL 10 ON B502.
4. SEE INLINE PUMP DETAIL 9 ON M502.

3 ENERGY RECOVERY LOOP 1 FLOW DIAGRAM
NTS



NOTES:
1. SEE ENERGY RECOVERY COIL PIPING DETAIL 5 ON M502 FOR REQUIRED VALVES AND ACCESSORIES.
2. SEE ENERGY RECOVERY SYSTEM CONTROL DIAGRAM 5 ON M702.
3. SEE WATER BALANCE VALVE PIPING DETAIL 10 ON B502.
4. SEE INLINE PUMP DETAIL 9 ON M502.

4 ENERGY RECOVERY LOOP 2 FLOW DIAGRAM
NTS



NOTES:
1. SEE ENERGY RECOVERY COIL PIPING DETAIL 5 ON M502 FOR REQUIRED VALVES AND ACCESSORIES.
2. SEE ENERGY RECOVERY SYSTEM CONTROL DIAGRAM 5 ON M702.
3. SEE WATER BALANCE VALVE PIPING DETAIL 10 ON B502.
4. SEE INLINE PUMP DETAIL 9 ON M502.

5 ENERGY RECOVERY LOOP 3 FLOW DIAGRAM
NTS

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: MECHANICAL FLOW DIAGRAMS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: HFB | Drawn By: EAO

Project Number: 676-16-102

Building Number: 404

Drawing Number: M704

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

ELECTRICAL LEGEND – LIGHTING PLAN

S^{x} SWITCH
BLANK = SINGLE POLE
3 = THREE–WAY
D = DIMMER
LV= LOW VOLTAGE
LM= LOW VOLTAGE MASTER
PB= PUSH BUTTON STATION
T = TIMER OPERATED
X = EXPLOSION PROOF
2 = DOUBLE POLE
4 = FOUR–WAY
K = KEY OPERATED
L = LOCK
P = WITH PILOT LIGHT
RC= REMOTE CONTROL
WP= WEATHER PROOF
Mo= OCCUPANCY SENSOR

$\bigcirc_X$ LIGHT FIXTURE, PENDANT MOUNTED

$\square_X$ LIGHT FIXTURE, SURFACE MOUNTED

$\oslash_X$ LIGHT FIXTURE, RECESSED DOWNLIGHT

$\oslash_X$ LIGHT FIXTURE, RECESSED DOWNLIGHT, EMERGENCY EGRESS

$\square_X$ LIGHT FIXTURE, RECESSED, SIZED AS SHOWN

$\square_X$ LIGHT FIXTURE, RECESSED, EMERGENCY EGRESS, SIZE AS SHOWN. REFER TO SCHEDULE FOR SPLIT WIRING REQUIREMENTS.

$\square_X$ LIGHT FIXTURE, RECESSED, SIZED AS SHOWN

$\square_X$ LIGHT FIXTURE, RECESSED, EMERGENCY EGRESS, SIZE AS SHOWN. REFER TO SCHEDULE FOR SPLIT WIRING REQUIREMENTS.

$\square_X$ LIGHT FIXTURE, SURFACE MOUNTED, SIZE AS SHOWN

$\square_X$ LIGHT FIXTURE, SURFACE MOUNTED, EMERGENCY EGRESS, SIZE AS SHOWN. REFER TO SCHEDULE FOR SPLIT WIRING REQUIREMENTS.

$\overset{X}{\vdash\!\!\dashv}$ LIGHT FIXTURE, STRIP/INDUSTRIAL SIZE AS SHOWN

$\overset{X}{\vdash\!\!\dashv}$ LIGHT FIXTURE, STRIP/INDUSTRIAL, EMERGENCY EGRESS, SIZE AS SHOWN

$\overset{X}{\square}\!\!\bigcirc_X$ LIGHT FIXTURE, WALL/ BRACKET MOUNTED

$\overset{X}{\square}\!\!\bigcirc_X$ LIGHT FIXTURE, WALL/ BRACKET MOUNTED EMERGENCY EGRESS

LIGHT FIXTURE, POLE MOUNTED

$\bigcirc\!\!\square\!\!\bigcirc_X$ EMERGENCY BATTERY UNIT, CEILING MOUNTED

$\square\!\!\bigcirc_X$ EMERGENCY BATTERY UNIT, WALL MOUNTED

$\overset{\uparrow}{\bigcirc}_X$ EXIT SIGN, WALL MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN

$\bigcirc_X$ EXIT SIGN, CEILING MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN

$\bigcirc_X$ CEILING MOUNTED OCCUPANCY SENSOR; LETTER INDICATES TYPE
P = PASSIVE INFRARED
D = DUAL TECHNOLOGY (PASSIVE INFRARED/ULTRASONIC)
U = ULTRASONIC TECHNOLOGY

C# LIGHTING CONTACTOR; NUMBER INDICATES CONTACTOR CONTROLLING LIGHTING CIRCUIT.

PHOTO CONTROL

NOTE:
1. "X" DENOTES FIXTURE TYPE, REFER TO LIGHT FIXTURE SCHEDULE.

ELECTRICAL LEGEND – COMMUNICATION

THE DRAWINGS DO NOT SHOW PHYSICAL ROUTING AND DIMENSIONS OF CONDUIT OR REQUIRED WIREWAYS, JUNCTION OR PULL BOXES AS MAY BE NECESSARY TO FACILITATE INSTALLATION OF WIRING. ACTUAL ROUTINGS AND LOCATIONS ARE TO BE DETERMINED BY THE ELECTRICAL CONTRACTOR IN COORDINATION WITH DIV. 27 CONTRACTOR. ALL WIRING IS TO BE IN CONDUIT PER NEC. ALL CABLING IN OR BELOW SLAB OR EXTERIOR SHALL BE LISTED FOR WET LOCATION PER NATIONAL ELECTRICAL CODE.

OUTLET, COMBINATION TELEPHONE/DATA COMMUNICATION.

$\triangledown^{W}$ OUTLET TELEPHONE; LETTER INDICATES AS FOLLOWS:
W = WALL TYPE

OUTLET DATA ONLY.

IN–FLOOR OUTLET, COMBINATION TELEPHONE/DATA COMMUNICATION.

ELECTRICAL LEGEND – POWER PLAN

M_{XX} MOTOR CONNECTION, SCHEDULE ITEM

T TRANSFORMER

5/8" X 10'–0" COPPER BONDED GROUND ROD

JUNCTION BOX

PB PULL BOX

IN–FLOOR RECEPTACLE AND TELEPHONE/ DATA COMMUNICATION

DOOR OPERATOR PUSH PLATE (FURNISHED BY DIVISION 08, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR)

PANELBOARD CABINET, FLUSH MOUNTED

PANELBOARD CABINET, SURFACE MOUNTED

Sx SWITCH, LETTER INDICATES TYPE:
F = FUSED SWITCH
L = LOCK
M = MANUAL MOTOR STARTING
P = WITH PILOT LIGHT
WP= WEATHER PROOF
K = KEY OPERATED
LM= LOW VOLTAGE MASTER
MC= MOMENTARY CONTACT
PB= PUSH BUTTON STATION

EQUIPMENT CONNECTION, SCHEDULE ITEM

RECEPTACLE, DUPLEX

$_{GFCI}$ RECEPTACLE, DUPLEX – GROUND FAULT CIRCUIT INTERRUPTER

$_{GFCI,WP}$ RECEPTACLE, DUPLEX – GROUND FAULT CIRCUIT INTERRUPTER WEATHER PROOF ENCLOSURE

RECEPTACLE, QUADRAPLEX

RECEPTACLE, SINGLE

DROP CORD, SINGLE CONVENIENCE OUTLET, 3–WIRE, GROUNDING TYPE, 20A, W/#12 CONDUCTORS IN FLEXIBLE CORD (CENTER LINE OF OUTLET: 6'–6" [1981mm] AFF. MINIMUM).

DISCONNECT SWITCH, FUSED

DISCONNECT SWITCH, UNFUSED

STARTER, COMBINATION WITH DISCONNECT SWITCH

STARTER OR MOTOR CONTROLLER

$_{VFD}$ VARIABLE FREQUENCY DRIVE

$_{TC}$ TIME CLOCK

GENERAL NOTES

1. THE PLANS AND DOCUMENTS PROVIDED DESCRIBE INTENT AND SCOPE OF WORK AND ARE NOT NECESSARILY ALL INCLUSIVE OF REQUIRED WORK. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL ELECTRICAL WORK REQUIRED FOR THIS PROJECT.
2. IT WILL BE THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROVIDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NORMALLY REQUIRED FOR ELECTRICAL INSTALLATION WORK, INCLUDING ANY OVERTIME LABOR OR OTHER ANTICIPATED COSTS REQUIRED TO MEET THE COMPLETION SCHEDULE AND THE CONSTRUCTION REQUIREMENTS FOR THIS PROJECT.
3. ALL WORK IS TO BE PERFORMED IN A NEAT AND WORK LIKE MANNER AND IS TO CONFORM TO APPLICABLE CODES, STANDARDS, AND SPECIFICATIONS.
4. PROVIDE REQUIRED POWER CONNECTIONS TO MECHANICAL BUILDING SYSTEMS, INCLUDING HVAC & PLUMBING SYSTEMS.
5. CONTROL WIRING FOR HVAC WILL BE PROVIDED BY THE MECHANICAL CONTROLS CONTRACTOR EXCEPT AS SPECIFICALLY DETAILED OTHERWISE. MINOR CONTROL WIRING FOR PLUMBING AND OTHER MECHANICAL BUILDING EQUIPMENT WILL BE BY THE ELECTRICAL CONTRACTOR AS DESCRIBED ON PLANS.
6. MINIMUM BRANCH CIRCUIT WIRING TO BE SIZED FOR 3 PERCENT MAXIMUM VOLTAGE DROP. MINIMUM FEEDER WIRING TO BE SIZED FOR 2 PERCENT MAXIMUM VOLTAGE DROP.
7. PROVIDE SEPARATE NEUTRALS FOR ALL 120V AND 277V BRANCH CIRCUITS. MULTI–WIRE BRANCH CIRCUITS SHALL NOT BE USED.
8. DEVICE MOUNTING HEIGHTS SHALL CONFORM WITH ADA GUIDELINES.
9. PROVIDE A PULL STRING IN EMPTY CONDUITS.
10. INSULATE AND SEAL CONDUIT PENETRATIONS BETWEEN SPACES AT DIFFERENT TEMPERATURES AND HUMIDITY LEVELS.
11. WHERE CONDUITS, WIREWAYS AND OTHER ELECTRICAL RACEWAYS PASS THROUGH FIRE PARTITIONS, FIRE WALLS, SMOKE PARTITIONS, OR FLOORS; INSTALL A FIRE STOP THAT PROVIDES AN EFFECTIVE BARRIER AGAINST THE SPREAD OF FIRE, SMOKE AND GASES.

ELECTRICAL EQUIPMENT CONNECTION SCHEDULE

2SP = 2 SPEED MAGNETIC STARTER
CS = COMBINATION STARTER
EC = ELECTRICAL CONTRACTOR
ECP = ELEVATOR CONTROL PANEL
ELC = ELEVATOR CONTRACTOR
EX = EXISTING TO BE REUSED
FC = FUSE CLIP
FPC= FIRE PROTECTION CONTRACTOR
FU= FUSED
HOA = HAND - OFF - AUTO
IU = IN UNIT
LMRS - LOCAKBLE MOTOR RATED SWITCH
MAG = MAGNETIC STARTER
MC = MECHANICAL CONTRACTOR
MCA= MINIMUM CIRCUIT AMPS
MCC = MOTOR CONTROL CENTER
MFG = MANUFACTURER
MS = MOTOR RATED MANUAL SWITCH
NA = NOT APPLICABLE
NF = NON-FUSED
NU = NEAR UNIT
OU = ON UNIT
P = POLE
PC = PLUMBING CONTRACTOR
PKG = PACKAGED EQUIPMENT CONTROLLER
PL = PILOT LIGHT
PNL = PANEL
REC = RECEPTACLE
RVS = REDUCED VOLTAGE STARTER
TCP = TEMPERATURE CONTROL PNL
T-STAT = THERMOSTAT
VFD = VARIABLE FREQUENCY DRIVE
WP = WEATHERPROOF

EQUIP. DESIG.	EQUIPMENT DESCRIPTION	LOCATION	LOAD			EQUIPMENT		FEED FROM		BREAKER/ FUSES		BRANCH WIRING				STARTER			DISCONNECT				SEE NOTE #
			KW	HP	AMPS	VOLTS	PHASE	PANEL	CKT	SIZE	POLE	NO.	SIZE	GROUND	CONDUIT	TYPE	SIZE	BY	TYPE	SIZE	FUSE	BY	
404-AC-1	AIR COMPRESSOR	BASEMENT		(2)7.5		460	3	MCC-B-2	2A	40	3	3	8	10	3/4	PKG	-	EC	NF	30	-	EC	1
404-AHU-1	AIR HANDLING UNIT - SUPPLY	ATTIC		10		460	3	MCC-2	2A	20	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-AHU-1	AIR HANDLING UNIT - RETURN	ATTIC		3		460	3	MCC-2	2C	8	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-AHU-2	AIR HANDLING UNIT - SUPPLY	ATTIC		20		460	3	MCC-3	2A	60	3	3	6	10	1	VFD	-	EC	NF	30	-	EC	2
404-AHU-2	AIR HANDLING UNIT - RETURN	ATTIC		5		460	3	MCC-3	3A	8	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-AHU-3	AIR HANDLING UNIT - SUPPLY	ATTIC		20		460	3	MCC-2	3A	60	3	3	6	10	1	VFD	-	EC	NF	30	-	EC	2
404-AHU-3	AIR HANDLING UNIT - RETURN	ATTIC		5		460	3	MCC-2	3E	2	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-AHU-4	AIR HANDLING UNIT - SUPPLY	ATTIC		20		460	3	MCC-3	2C	60	3	3	6	10	1	VFD	-	EC	NF	30	-	EC	2
404-AHU-4	AIR HANDLING UNIT - RETURN	ATTIC		5		460	3	MCC-3	3E	15	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-AHU-5	AIR HANDLING UNIT - SUPPLY	ATTIC		25		460	3	MCC-3	1G	70	3	3	4	8	1	VFD	-	EC	NF	60	-	EC	2
404-AHU-5	AIR HANDLING UNIT - RETURN	ATTIC		7.5		460	3	MCC-3	3G	15	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-AHU-8	AIR HANDLING UNIT	BASEMENT		1.5		460	3	MCC-B-1	2C	8	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-EF-1	EXHAUST FAN	ATTIC		3		460	3	MCC-2	2E	8	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-EF-2	EXHAUST FAN	ATTIC		1.5		460	3	MCC-2	2J	4	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-EF-3	EXHAUST FAN	ATTIC		1		460	3	MCC-3	2G	3	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-EF-4	EXHAUST FAN	ATTIC		1		460	3	MCC3	4F	3	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-EF-5	EXHAUST FAN	ATTIC		5		460	3	MCC-3	2E	3	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-EF-6	EXHAUST FAN	ATTIC		1		460	3	MCC-3	4A	5	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-EF-8	EXHAUST FAN	ATTIC		1		460	3	MCC-2	2G	3	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-EF-9	EXHAUST FAN	ATTIC		1		460	3	MCC-3	4D	5	3	3	12	12	3/4	VFD	-	EC	NF	30	-	EC	2
404-ERCP-1	ENERGY RECOVERY LOOP PUMP	ATTIC		3		460	3	MCC-2	1G	8	3	3	12	12	3/4	MAG	-	EC	NF	30	-	EC	
404-ERCP-2	ENERGY RECOVERY LOOP PUMP	ATTIC		3		460	3	MCC-2	1J	8	3	3	12	12	3/4	MAG	-	EC	NF	30	-	EC	
404-ERCP-3	ENERGY RECOVERY LOOP PUMP	ATTIC		5		460	3	MCC-2	1L	15	3	3	12	12	3/4	MAG	-	EC	NF	30	-	EC	

SCHEDULE GENERAL NOTES:
1. SCHEDULE INDICATES MINIMUM CONDUCTOR SIZE. INCREASE CONDUCTOR SIZE AS REQUIRED TO ACCOMMODATE FOR VOLTAGE DROP.
2. PROVIDE DISCONNECTS CAPABLE OF BEING LOCKED IN THE 'OFF' POSITION.
3. VARIABLE FREQUENCY DRIVES TO BE MANUFACTURED BY ABB.

SCHEDULE REFERENCE NOTES:
1. SINGLE POINT POWER CONNECTION TO MFG. SUPPLIED DUPLEX CONTROL PANEL.
2. VARIABLE FREQUENCY DRIVES ARE TO BE PROVIDED AND INSTALLED BY E.C. LINE VOLTAGE POWER WIRING (120V & 480V WIRING) BY EC AND LOW VOLTAGE CONTROL WIRING BY MECHANICAL CONTRACTOR.

ABBREVIATIONS

1PH	SINGLE–PHASE	CONC	CONCRETE	HID	HIGH INTENSITY DISCHARGE	OC	ON CENTER
1P	SINGLE POLE	CONT	CONTINUE	HOA	HAND–OFF–AUTOMATIC	OD	OUTSIDE DIAMETER
2/C	TWO–CONDUCTOR	CONTR	CONTRACTOR	HP	HORSEPOWER	OL	OVERLOAD
3/C	THREE–CONDUCTOR	COORD	COORDINATE	HT	HEIGHT		
3PH	THREE–PHASE	CPT	CONTROL POWER TRANSFORMER	HZ	HERTZ	P	POLE
4/C	FOUR–CONDUCTOR	CRI	COLOR RENDERING INDEX			PA	PUBLIC ADDRESS
4W	FOUR–WIRE	CT	CURRENT TRANSFORMER	IESNA	ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA	PB	PANELBOARD, PULL BOX, OR PUSHBUTTON
A/C	AIR CONDITIONING UNIT	CTV	CABLE TELEVISION	IMC	INTERMEDIATE METAL CONDUIT	PBPU	PREFABRICATED BEDSIDE PATIENT UNIT
A/E	ARCHITECT/ENGINEER	CU	COPPER	INCAND	INCANDESCENT	PCB	POLYCHLORINATED BIPHENYL
AAP	ALARM ANNUNCIATOR PANEL	CU FT	CUBIC FEET	IR	INFRARED	PEC	PHOTOELECTRIC CELL
AC	ALTERNATING CURRENT OR ARMORED CABLE	CUR	CURRENT	IWH	INSTANTANEOUS WATER HEATER	PED	PEDESTAL
ACC	ACCESSIBLE	D	DIMMER SWITCH			PEND	PENDANT
ADDL	ADDITIONAL	DB	DECIBEL OR DIRECT BURIAL	J–BOX	JUNCTION BOX	PF	POWER FACTOR
ADJ	ADJACENT, ADJOINING	DC	DIRECT CURRENT			PH	PHASE
ADO	AUTOMATIC DOOR OPENER	DCP	DIMMER CONTROL PANEL	kV	KILOVOLT	PNL	PANEL
AF	AMPERE FRAME OR AMP FUSE	DEG C	DEGREES CELSIUS	kVA	KILOVOLT AMPERE	POD	POWER OPERATED DAMPER
AFC	ABOVE FINISHED COUNTER, AVAILABLE FAULT CURRENT	DEG F	DEGREES FAHRENHEIT	kVAH	KILOVOLT AMPERE PER HOUR	PT	POTENTIAL TRANSFORMER
		DEMO	DEMOLITION	kVAR	KILOVOLT AMPERE REACTIVE	PTRV	POWER TYPE ROOF VENTILATION
	AUTOMATIC FREQUENCY CONTROL, OR	DIAG	DIAGRAM	kW	KILOWATT	PVC	POLYVINYL CHLORIDE (PLASTIC)
AFF	ABOVE FINISHED FLOOR	DISC	DISCONNECT	kWH	KILOWATT HOUR	PWR	POWER
AFG	ABOVE FINISHED GRADE	DISTR	DISTRIBUTION	kWHM	KILOWATT HOUR METER		
AH	AMPERE HOUR	DISTR PL	DISTRIBUTION PANEL			R	RELOCATED
AHJ	AUTHORITY HAVING JURISDICTION			LED	LIGHT EMITTING DIODE	RCP	REFLECTED CEILING PLAN
AIC	AMPERE INTERRUPTING CAPACITY	DN	DOWN	LF	LINEAR FEET (FOOT)	REC	RECESSED
ALT	ALTERNATE	DPDT	DOUBLE POLE, DOUBLE THROW	LM	LUMEN	RECEPT	RECEPTACLE
AMB	AMBIENT	DPST	DOUBLE POLE, SINGLE THROW	LP	LIGHT POLE	RGS	RIGID GALVANIZED STEEL
AMP	AMPERE	DRSW	DOOR SWITCH	LPS	LOW PRESSURE SODIUM	RM	ROOM
ARCH	ARCHITECT	DS	DISCONNECT SWITCH	LRA	LOCKED ROTAR AMPS	RMS	ROOT MEAN SQUARE
ASC	AMPS, SHORT CIRCUIT	DWG	DRAWING	LTCP	LOCAL TEMPERATURE CONTROL PANEL	REQD	REQUIRED
AT	AMPERE TRIP			LT	LIGHT		
ATS	AUTOMATIC TRANSFER SWITCH	EC	EMPTY CONDUIT	LTG	LIGHTING	SCC	SHORT CIRCUIT CAPACITY
AUTO	AUTOMATIC	EG	EQUIPMENT GROUND	LTG PNL	LIGHTING PANEL	SES	SERVICE ENTRANCE SECTION
AV	AUDIO VISUAL	EL	ELEVATION	LTNG	LIGHTNING	SD	SMOKE DETECTOR
		ELEC	ELECTRIC OR ELECTRICAL	LV	LOW VOLTAGE	SF	SQUARE FOOT (FEET)
BAT	BATTERY	ELEV	ELEVATOR				
BC	BARE COPPER			MATV	MASTER ANTENNA TELEVISION SYSTEM	SHT	SHEET
BD	BOARD	EMCP	EMERGENCY MONITORING CONTROL PANEL	MAX	MAXIMUM	SI	INTERNATIONAL SYSTEM OF UNITS
BFF	BELOW FINISH FLOOR	EM	EMERGENCY	MC	METAL–CLAD	SPEC	SPECIFICATION
BIL	BASIC INSULATION LEVEL	EMI	ELECTROMAGNETIC INTERFERENCE	MCA	MINIMUM CIRCUIT AMPS	SPST	SINGLE POLE, SINGLE THROW
BLDG	BUILDING	EMT	ELECTRICAL METALLIC TUBING	MCB	MINIMUM CIRCUIT BREAKER	SURF	SURFACE
BPIP	BOILER PLANT INSTRUMENTATION	ENCL	ENCLOSURE	MCC	MOTOR CONTROL CENTER	SW	SWITCH
	PANEL	EPO	EMERGENCY POWER OFF	MDP	MAIN DISTRIBUTION PANEL	SWBD	SWITCHBOARD
BRKR	BREAKER	EPRF	EXPLOSION PROOF	MECH	MECHANICAL	SWGR	SWITCHGEAR
BYP	BY PASS	ESMT	EASEMENT	MG	MOTOR GENERATOR	TC	TIMECLOCK
		EWC	ELECTRIC WATER COOLER	MH	MANHOLE	TEL	TELEPHONE
C	CONDUIT	EWH	ELECTRIC WATER HEATER	MIN	MINIMUM	TP	TWISTED PAIR
CAB	CABINET	EX, EXIST	EXISTING	MOCP	MAXIMUM OVERCURRENT PROTECTION	TPS	TWISTED PAIR SHIELDED
CALC	CALCULATE			MLO	MAIN LUGS ONLY	TTB	TELEPHONE TERMINAL BOARD
CAP	CAPACITY	FA	FIRE ALARM	MT	MOUNT	TV	TELEVISION
CAT	CATALOG	FAAP	FIRE ALARM ANNUNCIATOR PANEL	MTD	MOUNTED	TYP	TYPICAL
CATV	COMMUNITY ANTENNA TELEVISION	FABL	FIRE ALARM BELL	MTG	MOUNTING		
CCR	CONTROL CONTACTOR	FABX	FIRE ALARM BOX	MTS	MANUAL TRANSFER SWITCH	UGND	UNDERGROUND
CCTV	CLOSED CIRCUIT TELEVISION	FACP	FIRE ALARM CONTROL PANEL	MV	MEDIUM VOLTAGE	UL	UNDERWRITERS LABORATORY
cd	CANDELA	FC	FOOTCANDLE	MVA	MEGAVOLT–AMPERE	UNO	UNLESS NOTED OTHERWISE
CD	CONSTRUCTION DOCUMENTS	FI	FILM ILLUMINATOR	MW	MEGAWATT MICROWAVE	UPS	UNINTERRUPTIBLE POWER SUPPLY
CF	CONTRACTOR FURNISHED	FIXT	FIXTURE			UTIL	UTILITY
CFE	CONTRACTOR FURNISHED EQUIPMENT	FLT	FLOODLIGHT	NA	NOT APPLICABLE		
		FLUOR	FLUORESCENT	NEC	NATIONAL ELECTRICAL CODE	V	VOLT
CHW	CHILLED WATER	FLUOR FIX	FLUORESCENT FIXTURE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	VA	VOLT AMPERE
CHWP	CHILLED WATER PUMP	FT	FEET OR FOOT			VAR	VOLT AMPERE REACTIVE
CKT	CIRCUIT	FU SW	FUSED SWITCH	NEUT OR N	NEUTRAL	VFD	VARIABLE FREQUENCY DRIVE
CKT BRKR	CIRCUIT BREAKER	FVNR	FULL VOLTAGE NON–REVERSING	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	VOLT	VOLTAGE
CLF	CURRENT LIMITING FUSE	FVR	FULL VOLTAGE REVERSING	NIC	NOT IN CONTRACT		
CLG	CEILING			NL	NIGHT LIGHT	W	WATT
CMU	CONCRETE MASONRY UNIT	GND	GROUND	NO	NORMALLY OPEN	WH	WATER HEATER
COAX	COAX CABLE	GEN	GENERATOR	NS	NO SCALE	WP	WEATHERPROOF
COMM	COMMUNICATION	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	NTS	NOT TO SCALE		
COMPT	COMPARTMENT	GTB	GROUND TERMINAL BOX			XFER	TRANSFER
						XFMR	TRANSFORMER

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
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TOMAH, WI 54660

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Drawing Title: ELECTRICAL LEGEND, ABBREVIATIONS, AND SCHEDULES

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

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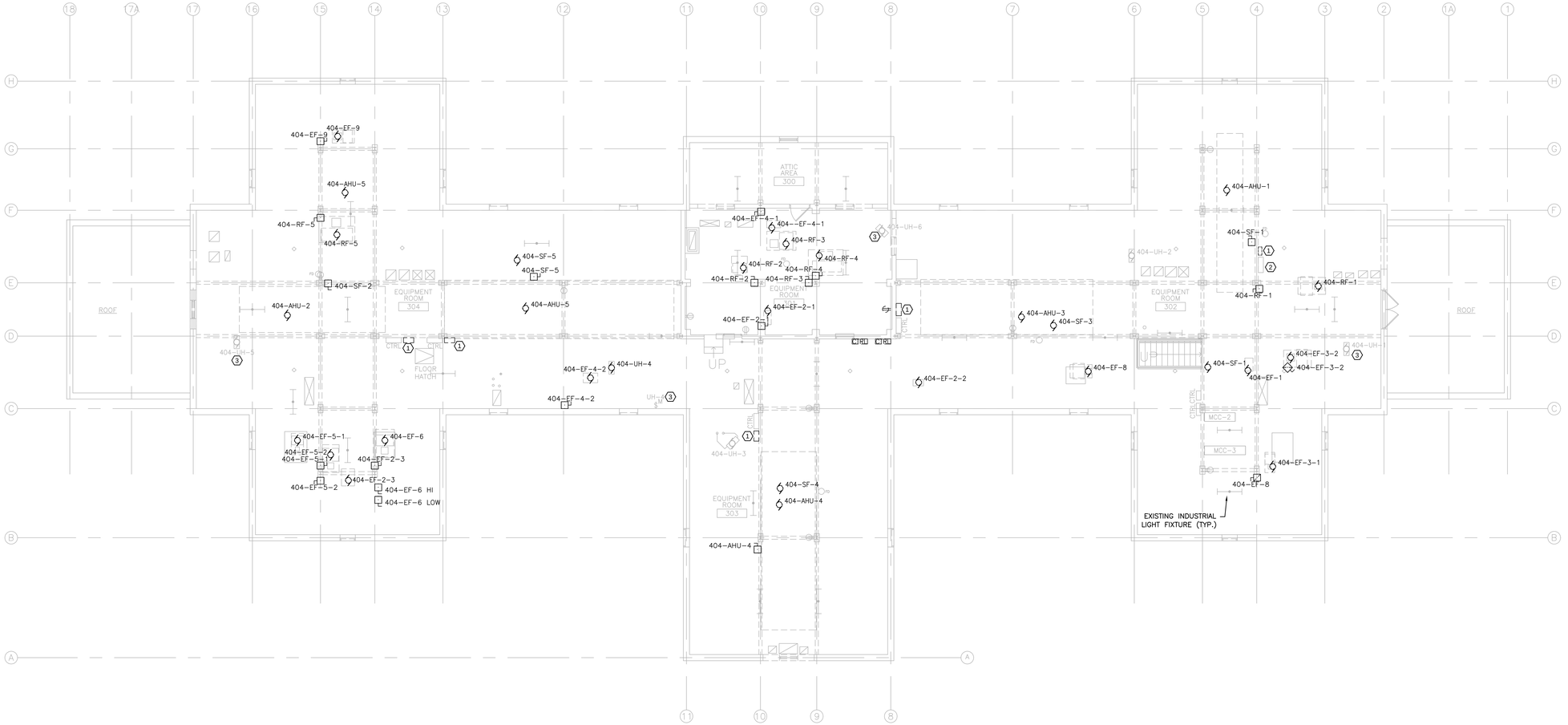
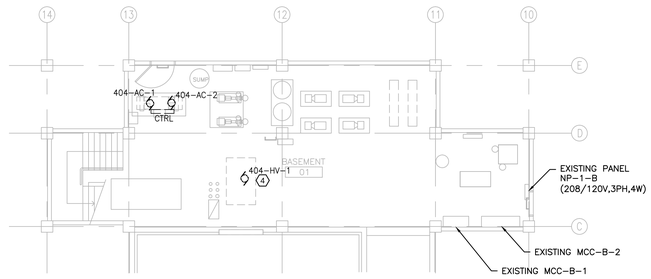
Office of Facilities Management

Department of Veterans Affairs

VA FORM 08–6231, OCT 1978



1 ATTIC PLAN
1/8" = 1'-0"



2 BASEMENT PLAN
1/8" = 1'-0"

GENERAL NOTES

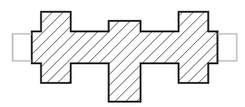
1. REFER TO SHEET E001 FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS.
2. EXISTING CONTROL/ POWER CONDUIT AND CONDUCTORS SHALL BE REUSED AND EXTENDED TO NEW EQUIPMENT/ PANEL LOCATIONS AS REQUIRED. WHERE EXISTING CONDUCTORS CANNOT BE EXTENDED, PROVIDE NEW CONDUCTORS.
3. EXISTING LIGHTING FIXTURES ARE TO REMAIN. EC TO TEMPORARY RELOCATE FIXTURES IF THERE IS A CONFLICT WITH THE MECHANICAL EQUIPMENT DEMOLITION AND NEW WORK PHASES.

GENERAL DEMOLITION NOTES

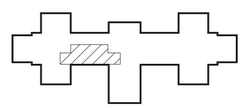
1. CONTRACTOR PERFORMING DEMOLITION IS REQUIRED TO VERIFY FIELD CONDITIONS PRIOR TO BIDDING. PLANS MAY NOT INDICATE EACH DEVICE TO BE REMOVED OR INDICATE NECESSARY RELOCATION OF EQUIPMENT OR CONDUIT SYSTEMS, EITHER ABOVE OR BELOW GRADE.
2. DEMOLITION OF ELECTRICAL EQUIPMENT INCLUDES THE REMOVAL OF THE BRANCH CIRCUIT SERVING IT. DEDICATED CONDUIT AND CIRCUIT CONDUCTORS SHALL BE REMOVED TO THE POINT OF ORIGIN. NON-DEDICATED CONDUCTORS SERVING ADDITIONAL LOADS MAY BE REMOVED TO AN AREA JUNCTION BOX TO MAINTAIN CIRCUIT INTEGRITY.
3. REFER TO DRAWINGS OF OTHER DIVISIONS FOR COORDINATION OF ADDITIONAL DEMOLITION WORK.
4. SHUTDOWNS AND SERVICE INTERRUPTIONS SHALL BE COORDINATED WITH OWNER AND DESIGN/BUILD PROJECT MANAGER AND SHALL BE APPROVED IN WRITING BY OWNER OR OWNER'S REPRESENTATIVE PRIOR TO WORK BEING PERFORMED.
5. EC IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF DEMOLISHED ELECTRICAL EQUIPMENT AND MATERIALS.

KEYED NOTES

1. THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR DEMOLITION AND DISPOSAL OF EXISTING MECHANICAL EQUIPMENT CONTROL PANELS. EC IS RESPONSIBLE FOR DISCONNECTING AND REMOVING 120V POWER SOURCE. REFER TO MECHANICAL DEMOLITION SHEETS FOR ADDITIONAL INFORMATION.
2. EXISTING CONTROL PANEL TO BE RELOCATED.
3. DISCONNECT UNIT HEATER AND PROTECT CONDUIT AND CONDUCTORS FOR LATER REINSTALLATION. EXTEND EXISTING BRANCH CIRCUIT TO NEW LOCATION. REFER TO NEW WORK PLAN.
4. REPLACEMENT OF 404-HV-1 IS LOCATED ON A MEZZANINE PLATFORM ABOVE THE BASEMENT FLOOR WITH A SINGLE VERTICAL LADDER FOR ACCESS. REUSE EXISTING CONDUIT, WIRE AND DISCONNECT SWITCH. COORDINATE NEW LOCATION OF AHU WITH MECHANICAL CONTRACTOR AND RELOCATE DISCONNECT AND EXTEND CONDUIT AND WIRE AS REQUIRED.



ATTIC KEY PLAN



BASEMENT KEY PLAN

FULLY SPRINKLERED

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:
PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

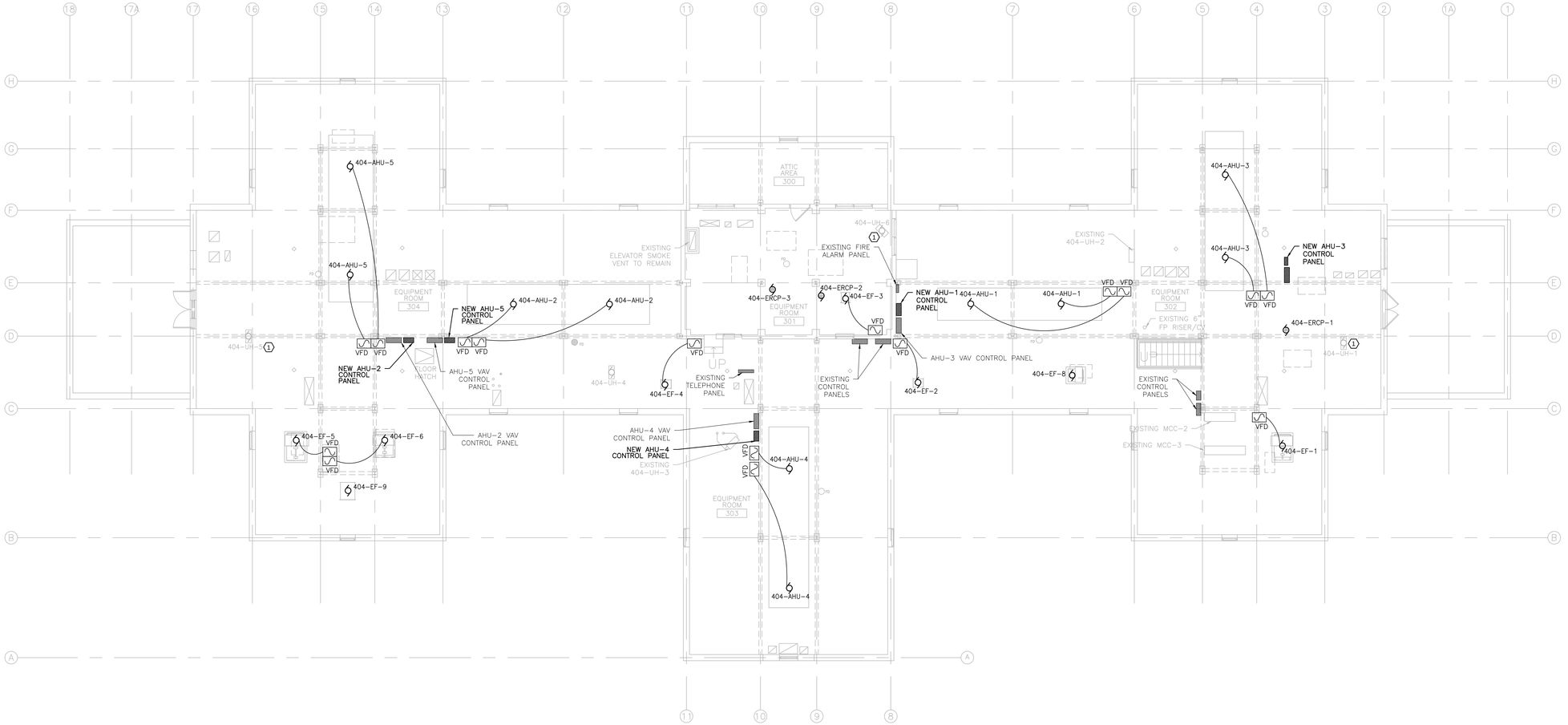
Drawing Title	ELECTRICAL DEMOLITION
Approved: Project Director	
Project Title	Replace HVAC & AC B404
Location	Tomah, Wisconsin
Date	February 9, 2018
Checked By:	MM
Drawn By:	MDG
Project Number	676-16-102
Building Number	404
Drawing Number	ED101

100% CONSTRUCTION DOCS

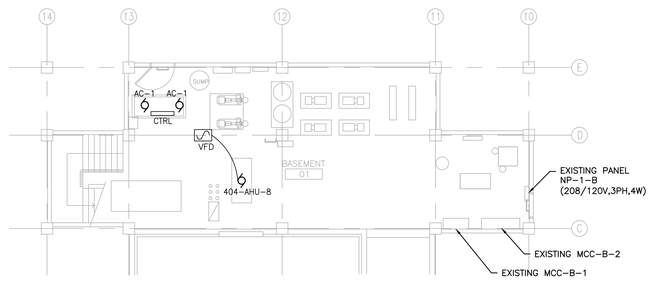
Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



1 ATTIC PLAN
1/8" = 1'-0"



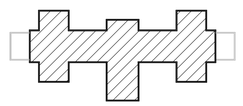
2 BASEMENT PLAN
1/8" = 1'-0"

GENERAL NOTES

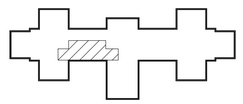
1. REFER TO SHEET E001 FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS.

KEYED NOTES

1 RECONNECT EXISTING UNIT HEATER.



ATTIC KEY PLAN



BASEMENT KEY PLAN

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: ELECTRICAL NEW WORK

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: MM

Drawn By: MDG

Project Number: 676-16-102

Building Number: 404

Drawing Number: ES101

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

1	2	3
1A - (ETR) INCOMING SECTION MAIN LUGS	2A - (ETR) SPACE FLA	3A - (ETR) **P-5** 30A SW. 20A FU. FVNR SIZE 1 14 FLA
2A - (ETR) **A/C RCU-1** 400A SW. 300A FU. CTRL. CKT. 1 PNL. XXX, 120V 210 FLA	2C **HV-1** 30A SW. 8A FU. FVNR SIZE 1 4.8 FLA 2E **EF-7** 30A SW. 3A FU. FVNR SIZE 1 1.4 FLA 2G - (ETR) SPACE FLA 2J - (ETR) SPACE FLA	3C- (ETR) **P-6** 30A SW. 20A FU. FVNR SIZE 1 14 FLA 3E-A-ETR / 3E-B-ETR **P-7** / **P-8** 30A SW. / 30A SW. 20A FU. / 20A FU. FVNR 1 / FVNR 1 20 FLA 3G - (ETR) SPACE FLA 3J - (ETR) SPACE FLA
1L - (ETR) SPACE FLA	2L - (ETR) SPACE FLA	3L - (ETR) SPACE FLA

EXISTING CONNECTED LOAD (MCC-B-1)

TOTAL PER SECTION:		
210.0 A	6.2 A	48.0 A
TOTAL ALL SECTIONS		
264.2 A	219.6 KVA	

1 EXISTING MOTOR CONTROL CENTER MCC-B-1 600A, 480 V, 3P, 3W, 25KAIC

NTS:

1	2	3
1A - (ETR) INCOMING SECTION MAIN LUGS	2A - (ETR) SPACE FLA	3A -(ETR) **P-5** 30A SW. 20A FU. FVNR SIZE 1 14 FLA
2A - (ETR) **A/C RCU-1** 400A SW. 300A FU. CTRL. CKT. 1 PNL. XXX, 120V 210 FLA	2C **AHU-8** 30A SW. 8A FU. 3 FLA 2E - (ETR) **EF-7** 30A SW. 3A FU. FVNR SIZE 1 1.4 FLA 2G - (ETR) SPACE FLA 2J - (ETR) SPACE FLA	3C - (ETR) **P-6** 30A SW. 20A FU. FVNR SIZE 1 14 FLA 3E-A-ETR / 3E-B-ETR **P-7** / **P-8** 30A SW. / 30A SW. 20A FU. / 20A FU. FVNR 1 / FVNR 1 20 FLA 3G - (ETR) SPACE FLA 3J - (ETR) SPACE FLA
1L - (ETR) SPACE FLA	2L - (ETR) SPACE FLA	3L - (ETR) SPACE FLA

NEW CONNECTED LOAD (MCC-B-1)

TOTAL PER SECTION:		
210.0 A	4.4 A	48.0 A
TOTAL ALL SECTIONS		
262.4 A	218.1 KVA	

2 EXISTING MOTOR CONTROL CENTER MCC-B-1 NEW CONFIGURATION 600A, 480 V, 3P, 3W, 25KAIC

NTS:

1	2
1A - (ETR) INCOMING SECTION MAIN LUGS	2A-A **CP-1** 30A SW. 30A FU. FVNR 1 37.2 FLA 2A-B **COMP.** 60A SW. 40A FU. FVNR 1
1C - (ETR) **P-1** 30A SW. 20A FU. FVNR SIZE 1 7.6 FLA 1E - (ETR) **P-2** 30A SW. 20A FU. FVNR SIZE 1 7.6 FLA 1G - (ETR) **P-3** 30A SW. 15A FU. FVNR SIZE 1 7.6 FLA 1J - (ETR) **P-4** 30A SW. 15A FU. FVNR SIZE 1 7.6 FLA	2C - (ETR) SPACE FLA 3E - (ETR) SPACE FLA 3G - (ETR) SPACE FLA 3J - (ETR) SPACE FLA
1L - (ETR) SPACE FLA	3L - (ETR) SPACE FLA

EXISTING CONNECTED LOAD (MCC-B-2)

TOTAL PER SECTION:	
30.4 A	37.2 A
TOTAL ALL SECTIONS	
67.6 A	56.2 KVA

3 EXISTING MOTOR CONTROL CENTER MCC-B-2 600A, 480 V, 3P, 3W, 25KAIC

NTS:

1	2
1A - (ETR) INCOMING SECTION MAIN LUGS	2A-A **CP-1** 30A SW. 30A FU. FVNR 1 37.2 FLA 2A-B **COMP.** 60A SW. 40A FU.
1C - (ETR) **P-1** 30A SW. 20A FU. FVNR SIZE 1 7.6 FLA 1E - (ETR) **P-2** 30A SW. 20A FU. FVNR SIZE 1 7.6 FLA 1G - (ETR) **P-3** 30A SW. 15A FU. FVNR SIZE 1 7.6 FLA 1J - (ETR) **P-4** 30A SW. 15A FU. FVNR SIZE 1 7.6 FLA	2C - (ETR) SPACE FLA 3E - (ETR) SPACE FLA 3G - (ETR) SPACE FLA 3J - (ETR) SPACE FLA
1L - (ETR) SPACE FLA	3L - (ETR) SPACE FLA

NEW CONNECTED LOAD (MCC-B-2)

TOTAL PER SECTION:	
30.4 A	37.2 A
TOTAL ALL SECTIONS	
67.6 A	56.2 KVA

4 EXISTING MOTOR CONTROL CENTER MCC-B-2 NEW CONFIGURATION 600A, 480 V, 3P, 3W, 25KAIC

NTS:

ELECTRICAL PHASING PLAN

PHASE 1	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
		EF-1	MCC-2	Attic
		EF-3-1	MCC-2	Attic
		EF-3-2	MCC-2	Attic
	Temporary - New Work			
		EF-Temp	MCC-2	Attic
	Permanent - New Work			
		EF-1	MCC-2	Attic
PHASE 2	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
		EF-2-3	MCC-3	Attic
		EF-5-1	MCC-3	Attic
		EF-5-2	MCC-3	Attic
	Temporary - New Work			
		EF-Temp	MCC-2	Attic
	Permanent - New Work			
		EF-5	MCC-3	Attic
PHASE 3	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
3A		AHU-1 (SF-1 & RF-1)	MCC-2	Attic
3C		AHU-3 (SF-3) (RF-3)	MCC-2 MCC-3	Attic
	Permanent - New Work			
3B		AHU-3	MCC-2	Attic
3D		AHU-1	MCC-2	Attic
PHASE 4	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
4A		AHU-2 (SF-2)	MCC-3	Attic
4B		RF-5	MCC-3	Attic
4B		EF-9	MCC-3	Attic
4D		AHU-5 (SF-5)	MCC-3	Attic
4D		RF-2	MCC-3	Attic
	Temporary - New Work			
4B		Inline Fan - Temp	MCC-2	Attic
	Permanent - New Work			
4C		AHU-5	MCC-3	Attic
4E		AHU-2	MCC-3	Attic
PHASE 5	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
5C		AHU-4 (SF-4 & RF-4)	MCC-3	Attic
	Temporary - New Work			
5B		Temp. AHU-4	MCC-2	Attic
	Permanent - New Work			
5D		AHU-4	MCC-3	Attic
PHASE 6	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
		AHU-8 (HV-1)	MCC-B-1	Basement
		EF-6	MCC-3	Attic
	Permanent - New Work			
		AHU-8	MCC-B-1	Basement
		EF-6	MCC-3	Attic
PHASE 7	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
		Temperature Air Compressor	MCC-B-2	Basement
	Temporary - New Work			
		Temp. Air Compressor	MCC-B-2	Basement
	Permanent - New Work			
		Temperature Air Compressor	MCC-B-2	Basement

GENERAL NOTES

1. EXISTING MOTOR CONTROL CENTERS ARE SIEMENS, SER. #091466-53900-XX, PART #9-001-53900-XX
2. MOTOR CONTROL CENTER CUBICLES ARE EXISTING TO REMAIN (ETR) UNLESS NOTED OTHERWISE.
3. EXISTING SPARE AND DEMOLISHED CUBICLES TO BE UTILIZED FOR NEW EQUIPMENT. PROVIDE FUSE CLIPS "ON/OFF" RED AND GREEN PILOT LIGHTS AND ADDITIONAL ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER IN EACH USED CUBICLE TO MATCH EXISTING INSTALLATION.

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: ELECTRICAL MCC ELEVATIONS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018 | Checked By: MM | Drawn By: MDG

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Project Number: 676-16-102

Building Number: 404

Drawing Number: E301

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

	1	2	3
A	1A - (ETR)	2A **SF-1** 30A SW. 20A FU. FVNR SIZE 1 14 FLA	3A **SF-3** 60A SW. 60A FU. FVNR SIZE 2 27 FLA
B	INCOMING MAIN FUSED SWITCH	2C **RF-1** 30A SW. 8A FU. FVNR SIZE 1 4.8 FLA	3C **EF-1** 30A SW. 3A FU. FVNR SIZE 1 1.6 FLA
C	200A SW. 200A FU.	2E **EF-3-2** 30A SW. 8A FU. FVNR SIZE 1 4.8 FLA	3E **EF-3-1** 30A SW. 2A FU. FVNR SIZE 1 1.1 FLA
D			
E			
F			
G	1G - (ETR)	2G **EF-6** 30A SW. 8A FU. FVNR SIZE 1 4.8 FLA	3G - (ETR)
H	SPACE		SPACE
J	FLA 1J - (ETR)	2J **EF-2-2** 30A SW. 4A FU. FVNR SIZE 1 3 FLA	FLA 3J - (ETR)
K	SPACE		SPACE
L	FLA 1L - (ETR)	2L - (ETR)	FLA 3L - (ETR)
M	SPACE	SPACE	SPACE
	FLA	FLA	FLA

EXISTING CONNECTED LOAD (MCC-2)

TOTAL PER SECTION:			
- A	31.4 A	29.7 A	
TOTAL ALL SECTIONS			
61.1 A	50.8 KVA		

1 EXISTING MOTOR CONTROL CENTER MCC-2 600A, 480 V, 3P, 3W, 25KAIC

NTS

	1	2	3
A	1A - (ETR)	2A **AHU-1S** 30A SW. 20A FU. 14 FLA	3A **AHU-3S** 60A SW. 60A FU. 21 FLA
B	INCOMING MAIN FUSED SWITCH	2C **AHU-1R** 30A SW. 8A FU. 7.6 FLA	3C **SPARE** 30A SW. 3A FU. FVNR SIZE 1 FLA
C	200A SW. 200A FU.	2E **EF-1** 30A SW. 8A FU. 4.8 FLA	3E **AHU-3R** 30A SW. 2A FU. 11 FLA
D	(ETR)		
E			
F			
G	1G **ERCP-1** 30A SW. 8A FU. 4.8 FLA	2G **EF-4** 30A SW. 3A FU. 1.6 FLA	3G - (ETR)
H			SPACE
J	1J **ERCP-2** 30A SW. 8A FU. 4.8 FLA	2J **EF-2** 30A SW. 4A FU. 2.1 FLA	FLA 3J - (ETR)
K			SPACE
L	1L **ERCP-3** 30A SW. 15A FU. 7.6 FLA	2L - (ETR)	FLA 3L - (ETR)
M		SPACE	SPACE
		FLA	FLA

NEW CONNECTED LOAD (MCC-2)

TOTAL PER SECTION:			
17.2 A	30.1 A	32.0 A	
TOTAL ALL SECTIONS			
79.3 A	65.9 KVA		

2 EXISTING MOTOR CONTROL CENTER MCC-2 NEW CONFIGURATION 600A, 480 V, 3P, 3W, 25KAIC

NTS

ELECTRICAL PHASING PLAN

PHASE 1	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
		EF-1	MCC-2	Attic
		EF-3-1	MCC-2	Attic
		EF-3-2	MCC-2	Attic
	Temporary - New Work			
		EF-Temp	MCC-2	Attic
	Permanent - New Work			
		EF-1	MCC-2	Attic
PHASE 2	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
		EF-2-3	MCC-3	Attic
		EF-5-1	MCC-3	Attic
		EF-5-2	MCC-3	Attic
	Temporary - New Work			
		EF-Temp	MCC-2	Attic
	Permanent - New Work			
		EF-5	MCC-3	Attic
PHASE 3	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
3A		AHU-1 (SF-1 & RF-1)	MCC-2	Attic
		AHU-3		
		(SF-3)	MCC-2	
3C		(RF-3)	MCC-3	Attic
	Permanent - New Work			
3B		AHU-3	MCC-2	Attic
3D		AHU-1	MCC-2	Attic
PHASE 4	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
4A		AHU-2 (SF-2)	MCC-3	Attic
4B		RF-5	MCC-3	Attic
4B		EF-9	MCC-3	Attic
4D		AHU-5 (SF-5)	MCC-3	Attic
4D		RF-2	MCC-3	Attic
	Temporary - New Work			
4B		Inline Fan - Temp	MCC-2	Attic
	Permanent - New Work			
4C		AHU-5	MCC-3	Attic
4E		AHU-2	MCC-3	Attic
PHASE 5	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
5C		AHU-4 (SF-4 & RF-4)	MCC-3	Attic
	Temporary - New Work			
5B		Temp. AHU-4	MCC-2	Attic
	Permanent - New Work			
5D		AHU-4	MCC-3	Attic
PHASE 6	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
		AHU-8 (HV-1)	MCC-B-1	Basement
		EF-6	MCC-3	Attic
	Permanent - New Work			
		AHU-8	MCC-B-1	Basement
		EF-6	MCC-3	Attic
PHASE 7	**Demolition - Existing**	**Equip. ID**	**Source**	**Location**
		Temperature Air Compressor	MCC-B-2	Basement
	Temporary - New Work			
		Temp. Air Compressor	MCC-B-2	Basement
	Permanent - New Work			
		Temperature Air Compressor	MCC-B-2	Basement

GENERAL NOTES

1. EXISTING MOTOR CONTROL CENTERS ARE SIEMENS, SER. #091466-53900-XX, PART #9-001-53900-XX
2. MOTOR CONTROL CENTER CUBICLES ARE EXISTING TO REMAIN (ETR) UNLESS NOTED OTHERWISE.
3. EXISTING SPARE AND DEMOLISHED CUBICLES TO BE UTILIZED FOR NEW EQUIPMENT. PROVIDE FUSE CLIPS "ON/OFF" RED AND GREEN PILOT LIGHTS AND ADDITIONAL ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER IN EACH USED CUBICLE TO MATCH EXISTING INSTALLATION.

	1	2	3	4
A	1A - (ETR)	2A **SF-2** 60A SW. 60A FU. FVNR SIZE 2 27 FLA	3A **RF-2** 30A SW. 8A FU. FVNR SIZE 2 4.8 FLA	4A **EF-6** 30A SW. 5A FU. FVNR SIZE 1 2-SPEED
B	INCOMING MAIN FUSED SWITCH	2C **SF-4** 60A SW. 60A FU. FVNR SIZE 2 27 FLA	3C **RF-3** 30A SW. 15A FU. FVNR SIZE 1 7.6 FLA	3.4 FLA
C	200A SW. 200A FU.	2E **EF-5-1** 30A SW. 3A FU. FVNR SIZE 1 1.6 FLA	3E **RF-4** 30A SW. 15A FU. FVNR SIZE 1 7.6 FLA	4D **EF-9** 30A SW. 5A FU. FVNR SIZE 1 4.8 FLA
D				4F **EF-4-1** 30A SW. 3A FU. FVNR SIZE 1 1.6 FLA
E				4H - (ETR)
F				SPACE
G	1G **SF-5** 100A SW. 70A FU. FVNR SIZE 2 34 FLA	2G **EF-4-2** 30A SW. 3A FU. FVNR SIZE 1 2.1 FLA	3G **RF-5** 30A SW. 15A FU. FVNR SIZE 1 7.6 FLA	FLA 4K - (ETR)
H	1J **EF-2-1** 30A SW. 3A FU. FVNR SIZE 1 1.6 FLA	2J **EF-2-3** 30A SW. 4A FU. FVNR SIZE 1 3.4 FLA	**EF-5-2** 30A SW. 5A FU. 3.4 FLA	SPACE
J	1L - (ETR)	2L - (ETR)	3L - (ETR)	FLA 4M - (ETR)
K	SPACE	SPACE	SPACE	SPACE
L	FLA	FLA	FLA	FLA

EXISTING CONNECTED LOAD (MCC-3)

TOTAL PER SECTION:				
35.6 A	61.1 A	31.0 A	9.8 A	
TOTAL ALL SECTIONS				
137.5 A	114.3 KVA			

3 EXISTING MOTOR CONTROL CENTER MCC-3 600A, 480 V, 3P, 3W, 25KAIC

NTS

	1	2	3	4
A	1A - (ETR)	2A **AHU-2S** 60A SW. 60A FU. 21 FLA	3A **AHU-2R** 30A SW. 8A FU. 11 FLA	4A **EF-6** 30A SW. 5A FU.
B	INCOMING MAIN FUSED SWITCH	2C **AHU-4S** 60A SW. 60A FU. 21 FLA	3C **SPARE** 30A SW. 15A FU. FVNR SIZE 1 FLA	2.1 FLA
C	200A SW. 200A FU.	2E **EF-5** 30A SW. 3A FU.	3E **AHU-4R** 30A SW. 15A FU.	4D **EF-9** 30A SW. 5A FU.
D	(ETR)			2.1 FLA
E		1.6 FLA	11 FLA	4F **EF-4** 30A SW. 3A FU.
F				1.6 FLA
G	1G **AHU-5S** 100A SW. 70A FU.	2G **EF-3** 30A SW. 3A FU.	3G **AHU-5R** 30A SW. 15A FU.	4H - (ETR)
H	27 FLA	2.1 FLA	14 FLA	SPACE
J	1J **SPARE** 30A SW. 3A FU. FVNR SIZE 1 FLA	2J **SPARE** 30A SW. 4A FU. FVNR SIZE 1 FLA	3J **SPARE** 30A SW. 5A FU. FVNR SIZE 1 FLA	FLA 4K - (ETR)
K	1L - (ETR)	2L - (ETR)	3L - (ETR)	SPACE
L	SPACE	SPACE	SPACE	FLA 4M - (ETR)
M	FLA	FLA	FLA	SPACE FLA

NEW CONNECTED LOAD (MCC-3)

TOTAL PER SECTION:				
27.0 A	45.7 A	36.0 A	5.8 A	
TOTAL ALL SECTIONS				
114.5 A	95.2 KVA			

4 EXISTING MOTOR CONTROL CENTER MCC-3 NEW CONFIGURATION 600A, 480 V, 3P, 3W, 25KAIC

NTS

FULLY SPRINKLERED

100% CONSTRUCTION DOCS

Revisions:	Date

VETERANS AFFAIRS
MEDICAL CENTER
500 E VETERANS ST
TOMAH, WI 54660

CONSULTANTS:

PROJECT LEADER:

PCG DESIGN / BUILD SERVICES
309 N. Water St Suite 650
Milwaukee, Wisconsin 53202

Drawing Title: ELECTRICAL MCC ELEVATIONS

Approved: Project Director

Project Title: Replace HVAC & AC B404

Location: Tomah, Wisconsin

Date: February 9, 2018

Checked By: MM

Drawn By: MDG

Project Number: 676-16-102

Building Number: 404

Drawing Number: E302

Office of Facilities Management

Department of Veterans Affairs

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