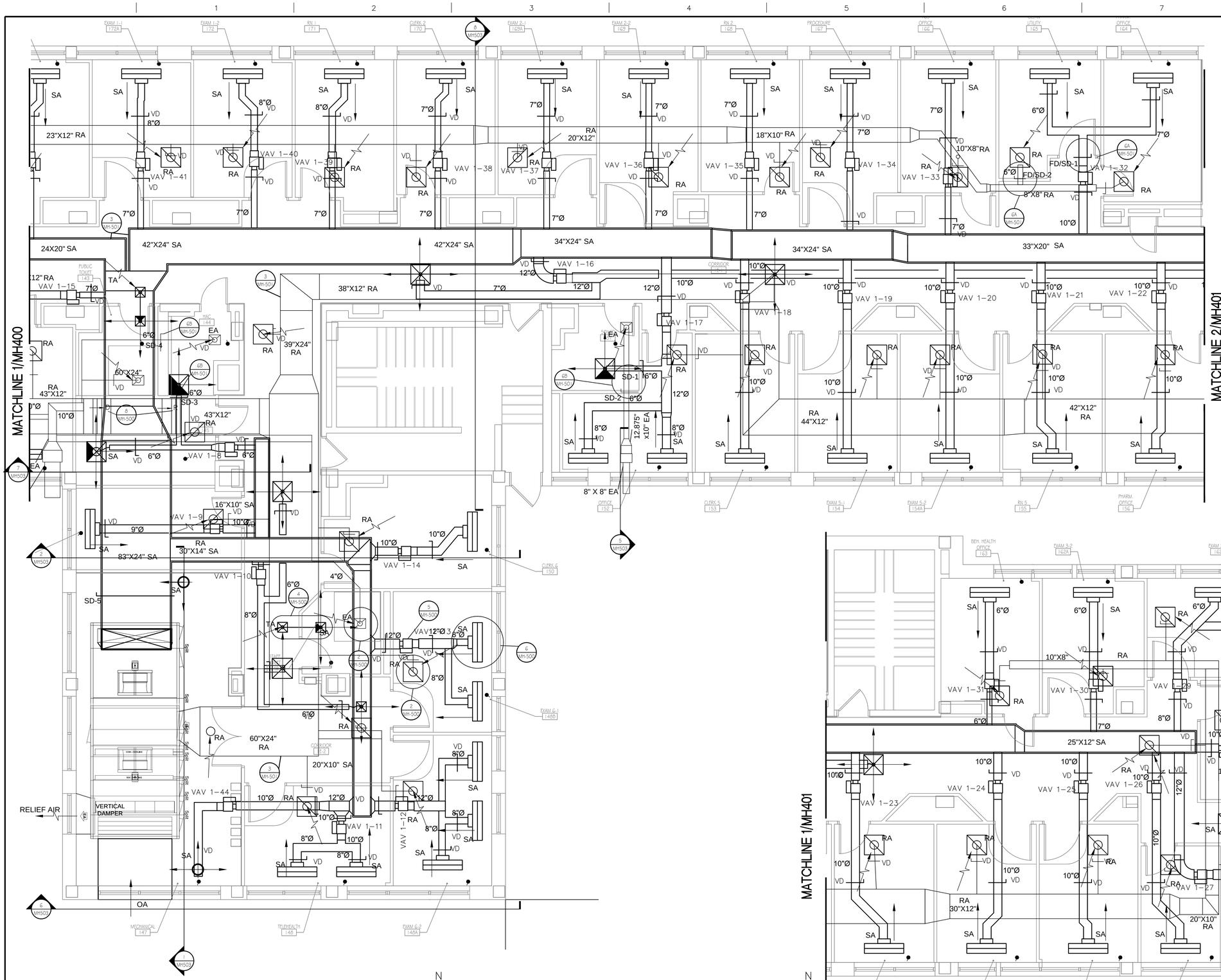


1 MH401 PARTIAL 1ST FLOOR ENLARGED HVAC FLOOR PLAN
SCALE: 1/4" = 1'-0"

2 MH401 PARTIAL 1ST FLOOR ENLARGED HVAC FLOOR PLAN
SCALE: 1/4" = 1'-0"

NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO VISUALLY IDENTIFY INTERFERENCES AND TO MAKE NECESSARY ADJUSTMENTS IN THE FIELD.
2. THE DIAGRAM IS INTENDED TO SHOW THOSE ITEMS THAT ARE NEEDED PER DESIGN REQUIREMENTS AND DOES NOT REFLECT ANY ADDITIONAL ITEMS BOTH PHYSICALLY AND CONSTRUCTION CONDITIONS.
3. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO WORK WITH OTHER SYSTEMS (EI. ELECTRICAL, PLUMBING, FIRE PROTECTION AND COMMUNICATIONS) AND TO IDENTIFY DISCREPANCIES AND BRING THEM TO THE ATTENTION OF THE DEPARTMENT OF VETERANS AFFAIRS (V.A.) CONTRACTING OFFICERS REPRESENTATIVE (COR) AS SOON AS POSSIBLE DURING BIDDING TO OBTAIN GUIDANCE. THIS SHALL NOT ALLEVIATE THE CONTRACTOR OF THE RESPONSIBILITY TO PROVIDE A FULLY FUNCTIONING SYSTEM.
4. DUCT SIZE SHOWN FROM MAIN TRUNK TO VAV BOXES ARE RECOMMENDED MINIMUM DIAMETERS. USE OF LARGER DIAMETER OR EQUIVALENT RECTANGULAR CROSS SECTIONAL AREA IS PERMISSIBLE WHEREVER SPACE PERMITS.
5. REFERENCE DRAWINGS MH-602 AND MH-604 FOR VAV BOXES AND DIFFUSER SCHEDULES.

DETAIL REFERENCE

- 5/MH-500 — VAV #-#
- 6/MH-500 — DUCT CROSSOVER
- 3/MH-500, 7/MH-500, 5/MH-500, 4/MH-500, 3/MH-500, 2/MH-500 — DUCT CONSTRUCTION DETAILS
- 6A/MH-500, 6B/MH-500 — FIRE DAMPER FD/SD-# SMOKE DAMPER SD-#
- 3/MH-500, 4/MH-500, 6/MH-500, 2/MH-500 — DIFFUSER, REGISTERS, AND EXHAUST GRILLS

BIDDING DOCUMENTS
FULLY SPRINKLERED

BIDDING DOCUMENTS	03/27/2013
Revisions:	Date:

VA Northern Indiana Health Care System, Fort Wayne
2121 Lake Ave., Fort Wayne IN 46805

CONSULTANTS:
USFin Development, LLC
1105 West Weir Street
Litchfield, Illinois 62056
Viridian Architectural Design, Inc.
2020 East Washington Blvd, Suite 200
Fort Wayne, Indiana 46803

ARCHITECT/ENGINEERS:
AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
EnerTronics ENERGY TO EXCEL
Engineering Corporation
The Fairmont Building
9245 Calumet Ave. Suite 205,
Munster, IN 46321
(219) 836-2120 Fax (219) 836-1129

Approved: Medical Center Director
NAME: _____
SIGNATURE: _____
Approved: Medical Center Associate Director
NAME: _____
SIGNATURE: _____

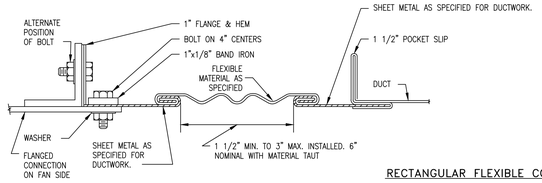
Drawing Title: PARTIAL 1ST FLOOR MECHANICAL ENLARGED PLANS SHEET 2 OF 2
Approved: Engineering Service
NAME: _____ SIGNATURE: _____
Approved: Project Director
NAME: _____ SIGNATURE: _____

Project Title: Renovate First Floor East Wing for PACT
Location: 2121 Lake Ave., Fort Wayne, IN 46805
Date: 03/27/2013 | Checked: DR | Drawn: DS

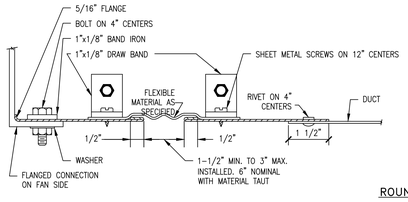
Project Number: 610A4-12-107
Building Number: 01
Drawing Number: MH-401
Dwg. 31 of 58

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

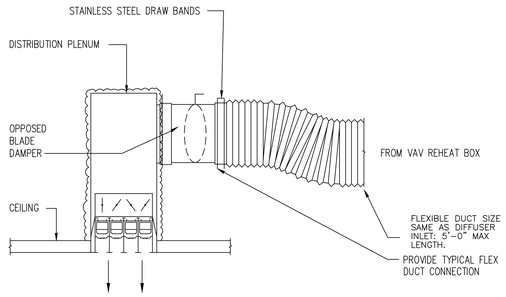


RECTANGULAR FLEXIBLE CONNECTION

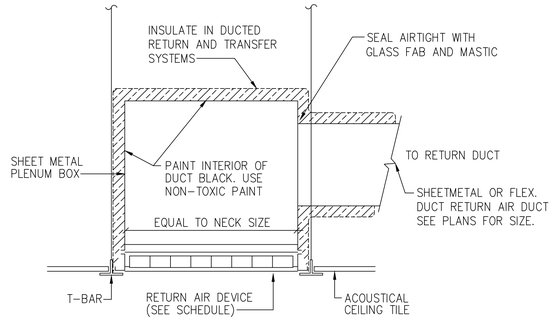


ROUND FLEXIBLE CONNECTION

RECTANGULAR AND ROUND FLEXIBLE CONNECTION DETAILS (9 / MH-500)
SCALE: NTS
REFERENCE MH-400 AND 401

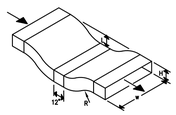


LINEAR SLOT DIFFUSER DETAIL (6 / MH-500)
SCALE: NTS
REFERENCE MH-400 AND 401



NOTE:
- CONNECTIONS CAN BE OFF ANY SIDE OR TOP OF BOX.
- DETAIL SIMILAR FOR TRANSFER GRILLES
- DETAIL SIMILAR FOR EXHAUST GRILLES EXCEPT INSULATION NOT REQURED

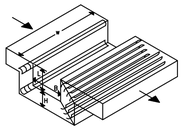
SUSPENDED CEILING MOUNTED RETURN AIR GRILL (3 / MH-500)
SCALE: NTS
REFERENCE MH-400 AND 401



WHERE W/H = 4
R/H = 1
L/H = 1.5

RETANGULAR DUCT WITH 4-90° SMOOTH RADIUS ELLS TO AVOID OBSTRUCTION

VELOCITY FPM (M/S)	800 (4)	1200 (6)	1600 (8)	2000 (10)	2400 (12)
C	0.18	0.22	0.24	0.25	0.26

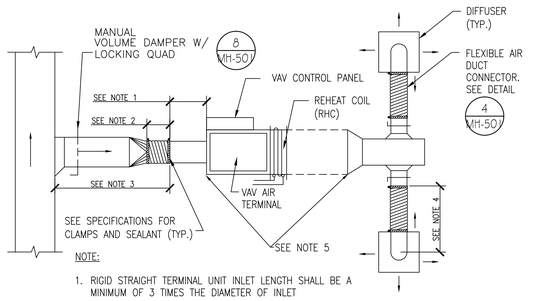


WHERE W/H = 1.0 TO 3.0
B = 12" TO 24"

RETANGULAR DUCT WITH 4-90° MITERED ELL TO AVOID OBSTRUCTION

COEFFICIENT C				
L/H RATIO	0.5	1.0	1.5	2
SINGLE BLADE TURNING VANES	–	0.86	0.83	0.77
DOUBLE BLADE TURNING VANES	–	1.85	2.84	2.91
"S" TYPE SPLITTER VANES	0.61	0.65	–	–
NO VANES – UP TO 1200 FPM (6 M/S)	0.88	5.26	6.92	7.56
NO VANES – OVER 1200 FPM (6 M/S)	1.26	6.22	8.82	9.24

DUCT CROSSOVER DETAILS (8 / MH-500)
SCALE: NTS
REFERENCE MH-400 AND 401

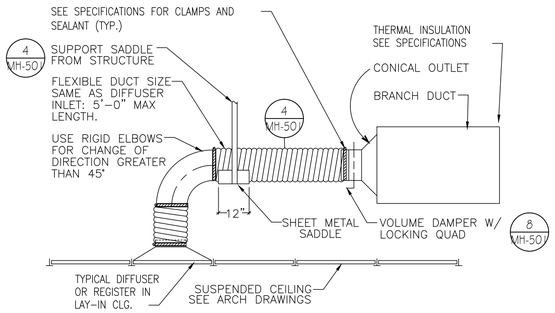


NOTE:

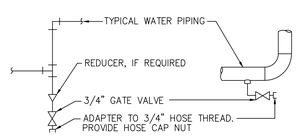
1. RIGID STRAIGHT TERMINAL UNIT INLET LENGTH SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF INLET
2. A FLEXIBLE AIR DUCT CONNECTOR IS NOT MANDATORY FOR INLET TO THIS BOX, BUT ALLOWED TO ACCOMMODATE MINOR OFFSETS. MAXIMUM LENGTH 3'-0".
3. A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET, PROVIDED THE EQUIVALENT LENGTH OF THE BRANCH DUCT, AS SHOWN, DOES NOT EXCEED 10 FEET. FOR LONGER LENGTHS, INCREASE THE DUCT SIZE AND PROVIDE A DUCT TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.2"/100'.
4. FLEXIBLE AIR DUCT CONNECTORS, WHEN USED FROM TERMINAL UNIT SUPPLY AIR DUCT TO DIFFUSER, SHALL NOT EXCEED 5'-0". USE RIGID ELBOWS FOR CHANGE OF DIRECTION GREATER THAN 45°.
5. COMPONENT ARRANGEMENT MAY VARY BY MANUFACTURER. PROVIDE INSULATION W/VAPOR BARRIER FOR CONNECTING DUCT SECTIONS.

NOTE:
VERIFY RIGHT OR LEFT HAND CLEARANCE REQUIREMENTS WITH PLANS.

VAV BOX AIR TERMINAL UNIT INSTALLATION DETAIL (5 / MH-500)
SCALE: NTS
REFERENCE MH-400 AND 401



SUSPENDED CEILING MOUNTED RETURN AND EXHAUST AIR DIFFUSER (2 / MH-500)
SCALE: NTS
REFERENCE MH-400 AND 401

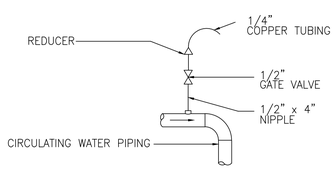


ELEVATION
THREADED PIPING

ELEVATION
WELDED PIPING

TYPICAL HOT WATER
PIPING DRAIN VALVE CONNECTIONS

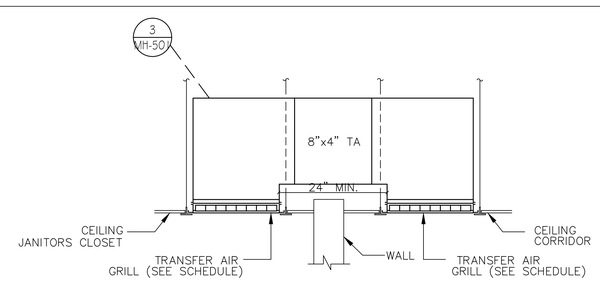
NOTES:
1. DRAIN ALL LOW POINTS INDICATED ABOVE.



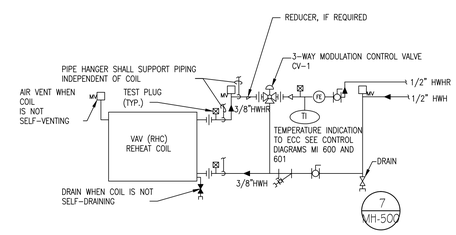
AIR VENT ELEVATION

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

PIPING HIGH AND LOW POINT DETAILS (7 / MH-500)
SCALE: NTS
REFERENCE MP-100



TRANSFER GRILL ELEVATION (4 / MH-500)
SCALE: 1/2" = 1'-0"



NOTE:

1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATORS THE FIRST 2 HANGERS FOR EACH PIPE SHALL BE SPRING & NEOPRENE TYPE. TYPE "H" FOR 4" [100mm]ø PIPE & SMALLER. TYPE "H-P" FOR 5" [125mm]ø PIPE & LARGER.
2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALVES, OR EQUIPMENT.
3. THE FLOW ELEMENT MAY BE INSTALLED IN THE SUPPLY PIPING IF THE REQUIRED MINIMUM UPSTREAM AND DOWNSTREAM DIMENSIONS CANNOT BE OBTAINED IN THE RETURN PIPING.

HOT WATER HEATING COIL (VAV-#) PIPING CONNECTIONS (1 / MH-500)
SCALE: NTS
REFERENCE MP-100, MH-600

BIDDING DOCUMENTS
FULLY SPRINKLERED

BIDDING DOCUMENTS	03/27/2013
Revisions:	Date:

VA Northern Indiana Health Care System, Fort Wayne
2121 Lake Ave., Fort Wayne IN 46805

CONSULTANTS:
USFin Development, LLC
1105 West Weir Street
Litchfield, Illinois 62056
Viridian Architectural Design, Inc.
2020 East Washington Blvd, Suite 200
Fort Wayne, Indiana 46803

ARCHITECT/ENGINEERS:
AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
EnerTronics ENERGY TO EXCEL
Engineering Corporation
The Fairmont Building
9245 Calumet Ave. Suite 205,
Munster, IN 46321
(219) 836-2120 Fax (219) 836-1129

Approved: Medical Center Director
NAME: _____
SIGNATURE: _____
Approved: Medical Center Associate Director
NAME: _____
SIGNATURE: _____

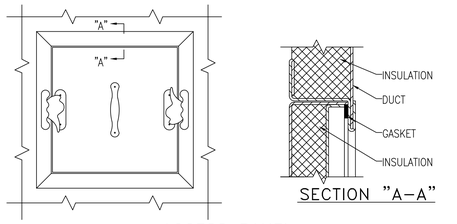
Drawing Title: MECHANICAL DETAILS SHEET 1
Approved: Engineering Service
NAME: _____ SIGNATURE: _____
Approved: Project Director
NAME: _____ SIGNATURE: _____

Project Title: Renovate First Floor East Wing for PACT
Location: 2121 Lake Ave., Fort Wayne, IN 46805
Date: 03/27/2013 | Checked: DR | Drawn: DS

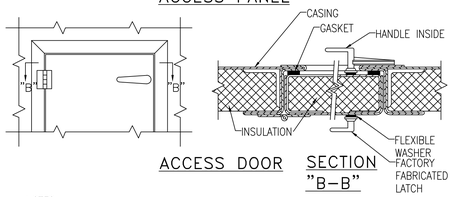
Project Number: 610A4-12-107
Building Number: 01
Drawing Number: MH-500
Dwg. 32 of 58

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



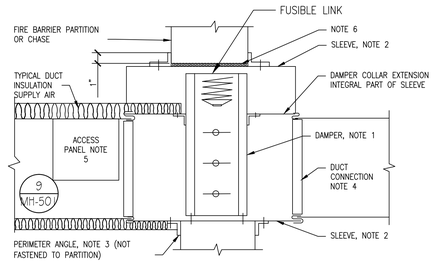
ACCESS PANEL



ACCESS DOOR SECTION "B–B"

NOTES:
1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.
2. HINGES ON THE ACCESS DOORS SHALL HAVE NON–CORROSIVE PINS.
3. SEE SMACNA 2005, FIGURE 9–15

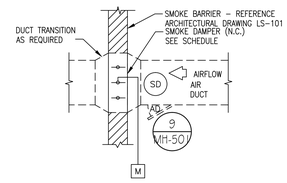
ACCESS PANEL AND DOOR DETAIL (9 / MH-501)
SCALE: NTS — REFERENCE THIS DWG DETAIL 6



NOTE:

1. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
2. GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
3. PERIMETER ANGELS: GALVANIZED STEEL, NOT LESS THAN 1 1/2"x1 1/2" , 14 GAGE, TO PROVIDE 1" MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.
4. BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA.
5. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.
6. PROVIDE 1/4" TO 1/2" CLEARANCE ON HEIGHT AND WIDTH. FILL OPEN SPACE WITH ROCK WOOL FIRESTOP FIBER.

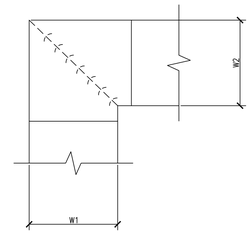
FIRE/SMOKE DAMPER FD/SD 1 AND 2 (6A / MH-501)
SCALE: NTS — REFERENCE MH–401



NOTE:

1. REFERENCE CONTROL DRAWINGS MI–600 AND MI–601 FOR ALARMING AND NOTIFICATION TO THE BUILDING MANAGEMENT SYSTEM.
2. REFERENCE FA–100 AND MH–400 FOR ASSOCIATED SMOKE DAMPER AND DUCT MOUNTED SMOKE DETECTOR OPERATION FOR AHU1–E1.

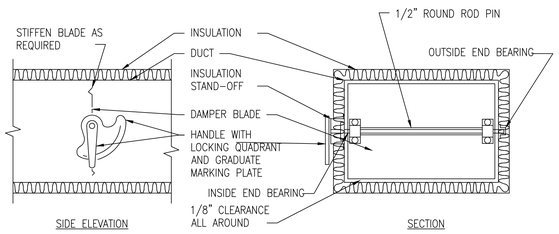
SMOKE DAMPER SD 1, 2,3, AND 4 (6B / MH-501)
SCALE: NTS — REFERENCE MH–400 AND 401



NOTE:

1. ALL VANED ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE VANES SHALL HAVE A 2" RADIUS, 1 1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" VANES SHALL BE DOUBLE VANE TYPE.

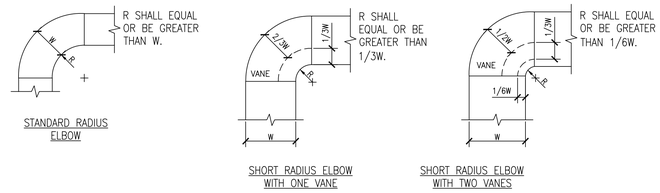
DUCTWORK SQUARE VANED ELBOWS (3 / MH-501)
SCALE: NTS — REFERENCE MH–400 AND 401



NOTE:

1. DELETE INSULATION STAND–OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI–BLADE DAMPERS & ROUND DAMPERS.

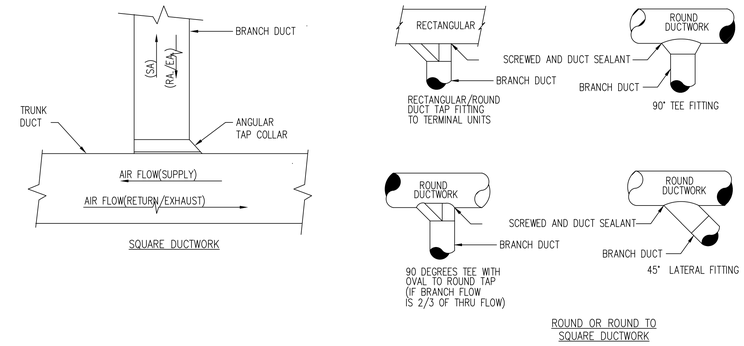
VOLUME DAMPER DETAIL (VD) (8 / MH-501)
SCALE: NTS — REFERENCE MH–400 AND 401



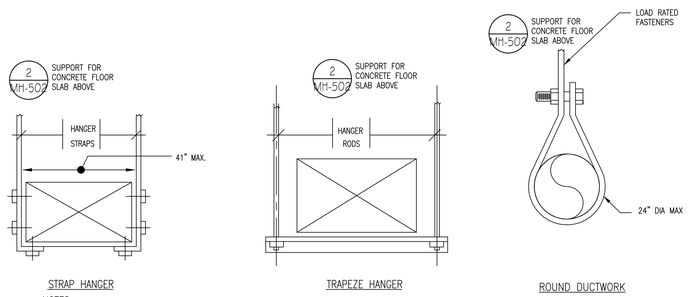
NOTE:

1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS SHOWN ON FLOOR PLANS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

DUCTWORK RADIUS ELBOWS (5 / MH-501)
SCALE: NTS — REFERENCE MH–400 AND 401



DUCTWORK BRANCH CONNECTION (2 / MH-501)
SCALE: NTS — REFERENCE MH–400 AND 401

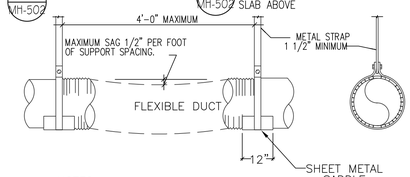


NOTES:

1 NO POP RIVETS ALLOWED, USE SELF–TAPPING SHEETMETAL SCREWS ONLY.

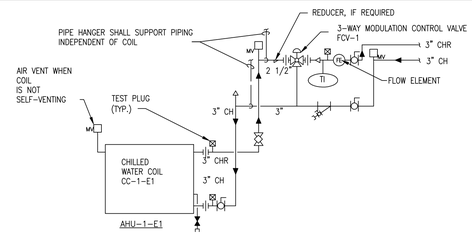
SQUARE DUCTWORK

DUCT WORK HANGER SUPPORTS (7 / MH-501)
SCALE: NTS — REFERENCE MH–400 AND 401



NOTES:
1. DUCT SHOULD EXTEND STRAIGHT FOR SEVERAL INCHES FROM A CONNECTION BEFORE BENDING.
2. SUPPORT SYSTEM MUST NOT DAMAGE DUCT OR CAUSE OUT–OF–ROUND SHAPE.

FLEXIBLE DUCT WORK SUPPORT (4 / MH-501)
SCALE: NTS — REFERENCE MH–400 AND 401



NOTE:

1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATORS THE FIRST 2 HANGERS FOR EACH PIPE SHALL BE SPRING & NEOPRENE TYPE. TYPE "H" FOR 4" [100mm]ø PIPE & SMALLER. TYPE "H–P" FOR 5" [125mm]ø PIPE & LARGER.
2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALES, OR EQUIPMENT.
3. THE FLOW ELEMENT MAY BE INSTALLED IN THE SUPPLY PIPING IF THE REQUIRED MINIMUM UPSTREAM AND DOWNSTREAM DIMENSIONS CANNOT BE OBTAINED IN THE RETURN PIPING.

CHILLED WATER COIL PIPING CONNECTIONS (1 / MH-501)
SCALE: NTS — REFERENCE MP–100, MH–600

BIDDING DOCUMENTS
FULLY SPRINKLERED

BIDDING DOCUMENTS	03/27/2013
Revisions:	Date:

VA Northern Indiana Health Care System, Fort Wayne
2121 Lake Ave., Fort Wayne IN 46805

CONSULTANTS:
USFin Development, LLC
1105 West Weir Street
Litchfield, Illinois 62056
Viridian Architectural Design, Inc.
2020 East Washington Blvd, Suite 200
Fort Wayne, Indiana 46803

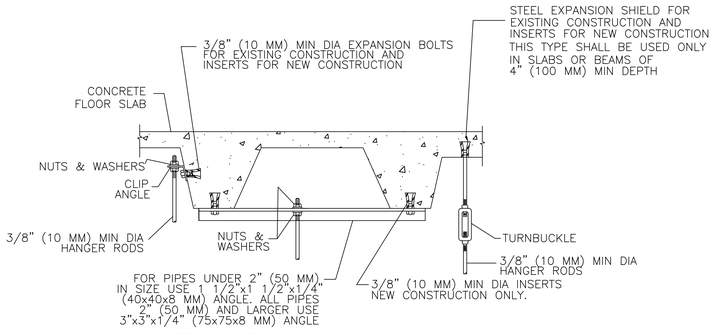
ARCHITECT/ENGINEERS:
AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
EnerTronics ENERGY TO EXCEL
Engineering Corporation
The Fairmont Building
9245 Calumet Ave. Suite 205,
Munster, IN 46321
(219) 836-2120 fax (219) 836-1129

Approved: Medical Center Director — NAME: _____ SIGNATURE: _____
Approved: Medical Center Associate Director — NAME: _____ SIGNATURE: _____
Approved: Engineering Service — NAME: _____ SIGNATURE: _____
Approved: Project Director — NAME: _____ SIGNATURE: _____

Drawing Title: MECHANICAL DETAILS SHEET 2
Project Title: Renovate First Floor East Wing for PACT
Location: 2121 Lake Ave., Fort Wayne, IN 46805
Date: 03/27/2013 | Checked: DR | Drawn: DS
Project Number: 610A4-12-107
Building Number: 01
Drawing Number: MH-501
Dwg. 33 of 58

Office of Construction and Facilities Management
Department of Veterans Affairs

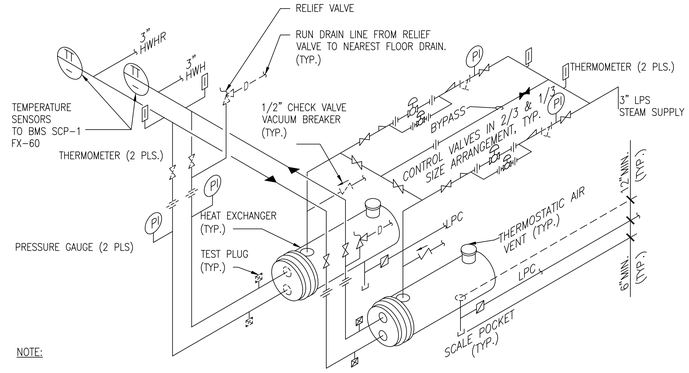
VA FORM 08–6231



TYPICAL METHOD OF SECURING HANGER RODS IN CONCRETE SLABS AND BEAMS.

NTS

REFERENCE MH-500, THIS DWG AND MH-501 (9 / MH-502)



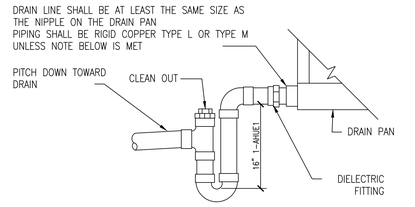
NOTE:

1. PROVIDE SADDLE SUPPORTS AND LEGS OR HANGERS FOR HEAT EXCHANGER. MOUNTING HEIGHT SHALL BE ADJUSTED TO FACILITATE GRAVITY RETURN OF STEAM CONDENSATE.
2. MAKE THE BYPASS THE SAME SIZE AS THE CONNECTIONS TO THE CONTROL VALVES.

HEAT EXCHANGER - STEAM TO HOT WATER

NTS

REFERENCE MP-400 (6 / MH-502)



NOTE: 1. CPVC PIPE MAY BE USED ONLY IF APPROVED BY LOCAL VA AND IS INDOORS AND DOES NOT PASS THROUGH RATED BARRIERS.
2. DIELECTRIC FITTING TO BE USED WHEN TWO DISSIMILAR METALS ARE TO BE CONNECTED.

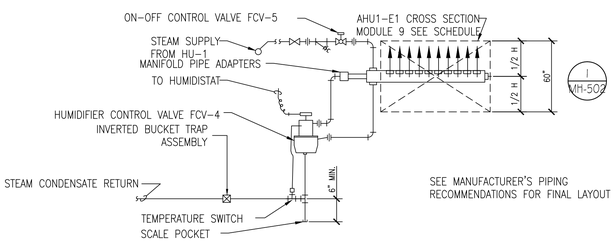
UNIT TYPE	A	B
DRAW THRU	2" PLUS X	X
BLOW THRU	1" MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

AIR HANDLING UNIT DRAIN TRAP DETAIL

NTS

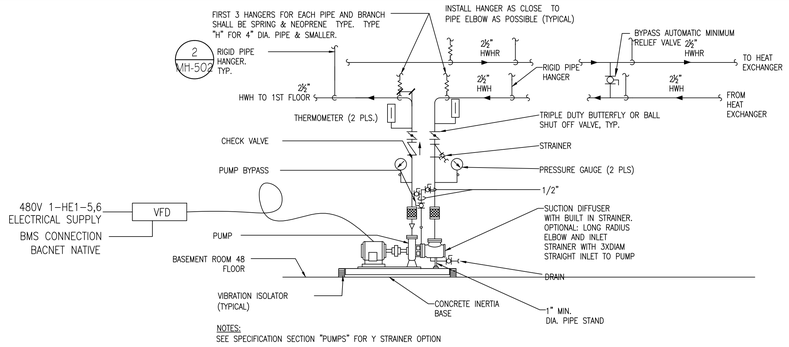
REFERENCE MH-503 (3 / MH-502)



STEAM HUMIDIFIER - PIPING CONNECTIONS (DISPERSION TUBES)

NTS

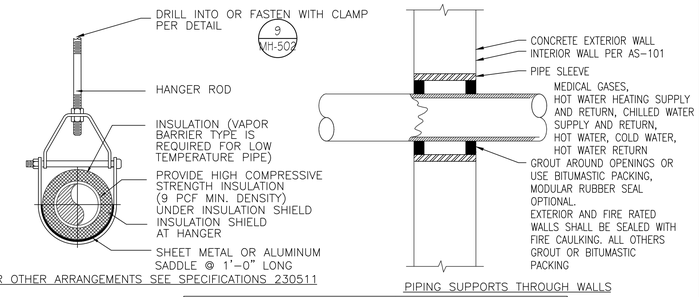
REFERENCE MH-600 AND MH-601 (8 / MH-502)



HOT WATER HEATING PUMPS (P-1A, P-1B) - CONNECTIONS (2 PLS.)

NTS

REFERENCE MP-400 (5 / MH-502)



FOR OTHER ARRANGEMENTS SEE SPECIFICATIONS 230511

PIPING SUPPORTS THROUGH WALLS

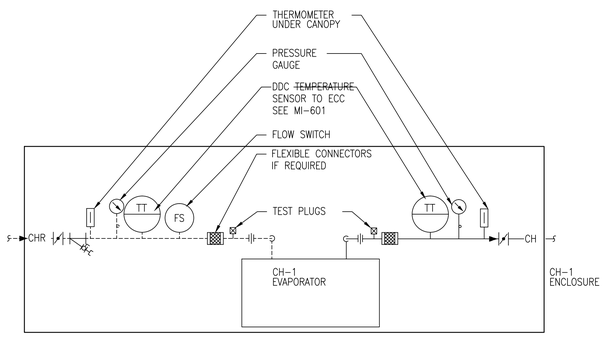
	MAXIMUM PIPE/TUBING SUPPORT SPACING						
NOM. SIZE IN.	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3
PIPE FT.	7	7	7	9	10	11	12
TUBING FT.	5 FT	6	7	8	8	9	10

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

TYPICAL HANGER SUPPORT DETAIL

NTS

REFERENCE MP-100, MP-400, PL-100 & PL-101 (2 / MH-502)



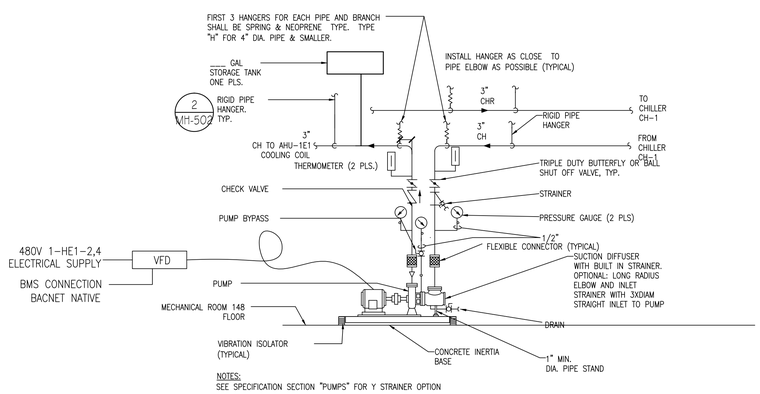
NOTE:

1. PROVIDE HEAT TRACING WHEN THE EXPOSED PIPING CARRYING CHILLED WATER IS NOT MIXED WITH PROPYLENE GLYCOL. ALL VALVES, STRAINER, FLOW SWITCH, FLEXIBLE CONNECTORS, ETC., SHALL BE WRAPPED WITH ELECTRIC HEAT TRACE CABLE UNDER INSULATION.
2. VERIFY NEED FOR FLEXIBLE CONNECTOR.
3. PROVIDE ALUMINUM JACKETING ON ALL EXPOSED, INSULATED PIPING.

AIR COOLED CHILLER CH-1 PIPING CONNECTION

NTS

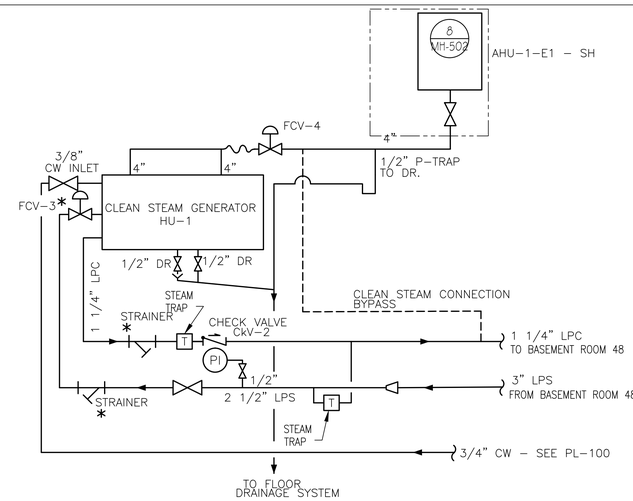
REFERENCE MP-400, MI-600, MI-601 (7 / MH-502)



CHILLED WATER PUMP (CHP-1A, CHP-1B) - CONNECTIONS (2 PLS.)

NTS

REFERENCE MP-100 (4 / MH-502)



CLEAN STEAM GENERATOR DIAGRAM STEAM PIPING HOOKUP

NTS

REFERENCE MH-600 (1 / MH-502)

BIDDING DOCUMENTS
FULLY SPRINKLERED

BIDDING DOCUMENTS	03/27/2013
Revisions:	Date:

VA Northern Indiana Health Care System, Fort Wayne
2121 Lake Ave., Fort Wayne IN 46805

CONSULTANTS:
USFin Development, LLC
1105 West Weir Street
Litchfield, Illinois 62056
Viridian Architectural Design, Inc.
2020 East Washington Blvd, Suite 200
Fort Wayne, Indiana 46803

ARCHITECT/ENGINEERS:
AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
EnerTronics ENERGY TO EXCEL
Engineering Corporation
The Fairmont Building
9245 Calumet Ave. Suite 205,
Munster, IN 46321
(219) 836-2120 Fax (219) 836-1129

Approved: Medical Center Director
NAME: _____
SIGNATURE: _____
Approved: Medical Center Associate Director
NAME: _____
SIGNATURE: _____

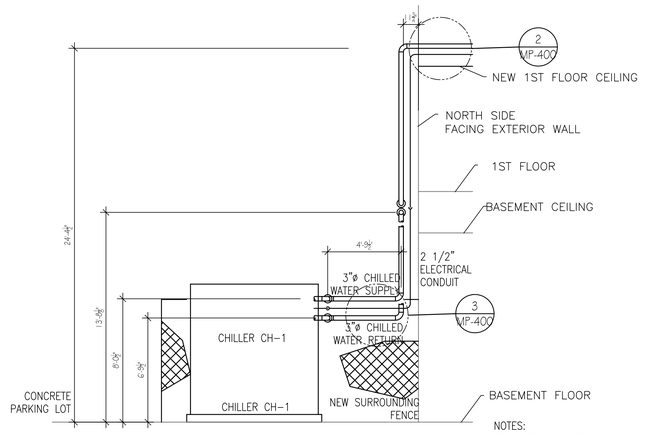
Drawing Title: MECHANICAL DETAILS SHEET 3
Approved: Engineering Service
NAME: _____ SIGNATURE: _____
Approved: Project Director
NAME: _____ SIGNATURE: _____

Project Title: Renovate First Floor East Wing for PACT
Location: 2121 Lake Ave., Fort Wayne, IN 46805
Date: 03/27/2013 | Checked: DR | Drawn: DS

Project Number: 610A4-12-107
Building Number: 01
Drawing Number: MH-502
Dwg. 34 of 58

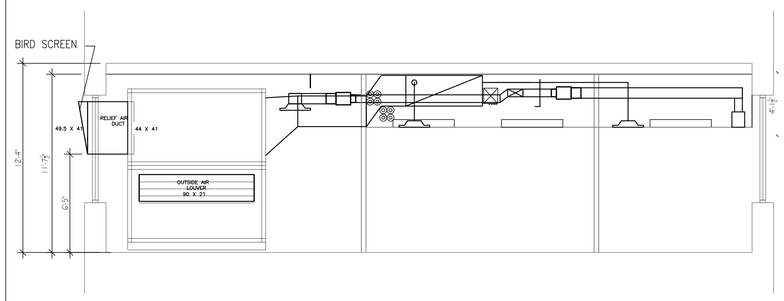
Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



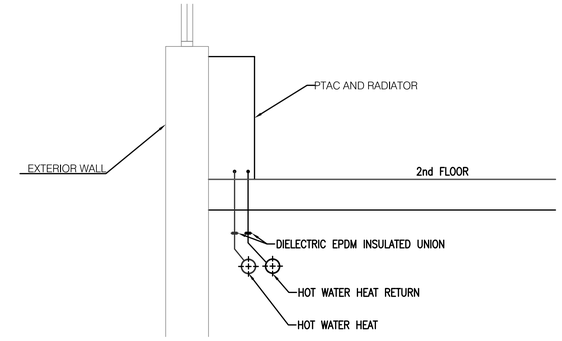
NOTES:
FOR PIPING, DUCTWORK AND CONDUITS NOT SHOWN, MAKE ADJUSTMENTS IN FIELD

OUTSIDE PIPING CONNECTION TO CHILLER CH-1 (9 / MH-503)
SCALE: 1/4"=1'-0"
REFERENCE MP-400



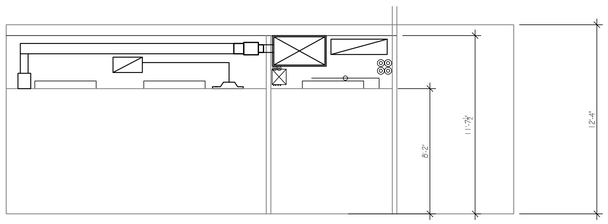
OUTSIDE AIR AND RELIEF AIR ELEVATION (LOOKING NORTH) (6 / MH-503)
SCALE: 1/4"=1'-0"
REFERENCE MH-401

NOTES:
FOR PIPING, DUCTWORK AND CONDUITS NOT SHOWN, MAKE ADJUSTMENTS IN FIELD



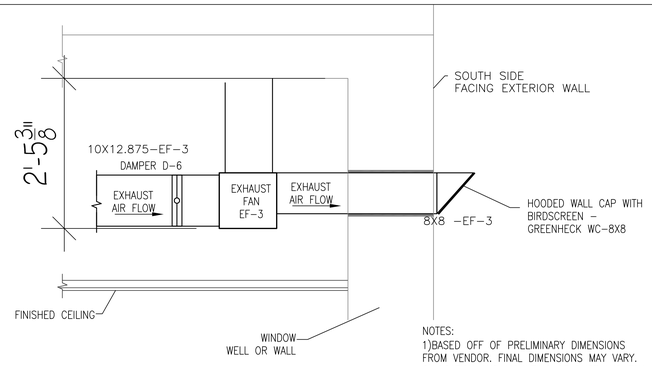
TYPICAL PTAC AND RADIATOR CONNECTIONS (3 / MH-503)
N.T.S.
REFERENCE MD-101

NOTES:
FOR PIPING, DUCTWORK AND CONDUITS NOT SHOWN, MAKE ADJUSTMENTS IN FIELD



ABOVE CORRIDOR CEILING 1-E1 AND ROOM 171 ELEVATION (LOOKING EAST) (8 / MH-503)
SCALE: 1/4"=1'-0"
REFERENCE MH-401

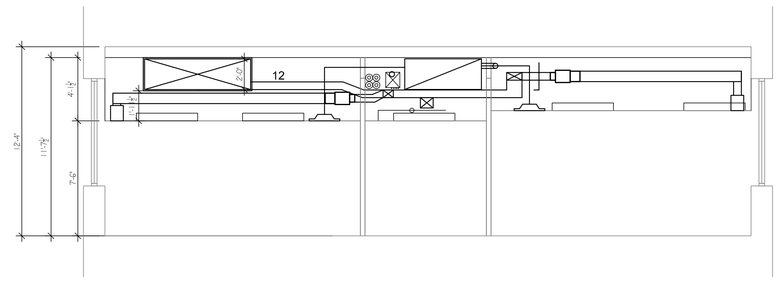
NOTES:
FOR PIPING, DUCTWORK AND CONDUITS NOT SHOWN, MAKE ADJUSTMENTS IN FIELD



EF-3 ELEVATION (LOOKING EAST)
ABOVE CEILING ROOM 152 (5 / MH-503)
SCALE: 1"=1'-0"
REFERENCE MH-401

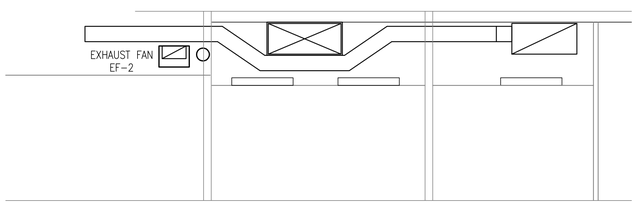
NOTES:
1)BASED OFF OF PRELIMINARY DIMENSIONS FROM VENDOR. FINAL DIMENSIONS MAY VARY.
2)LOCATION AND MOUNTING OF DUCT AND FAN IS APPROX., VERIFY IN FIELD AND MAKE ADJUSTMENTS AS NEEDED.
3) TRANSITIONS AND DIMENSIONS, NOT SHOWN.

NOTES:
FOR PIPING, DUCTWORK AND CONDUITS NOT SHOWN, MAKE ADJUSTMENTS IN FIELD



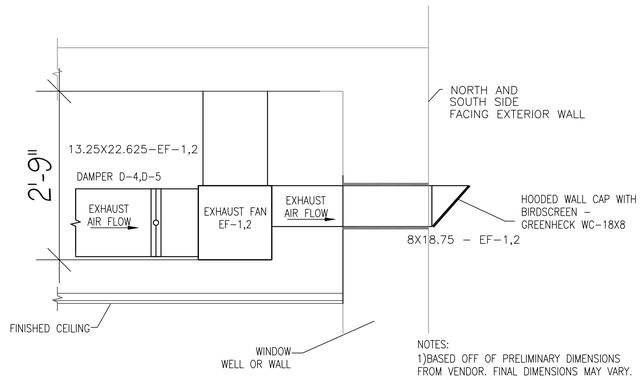
SUPPLY AND RETURN AIR ELEVATION (LOOKING NORTH) (2 / MH-503)
SCALE: 1/4"=1'-0"
REFERENCE MH-401

NOTES:
FOR PIPING, DUCTWORK AND CONDUITS NOT SHOWN, MAKE ADJUSTMENTS IN FIELD



ABOVE CEILING ROOM 146 DUCT CROSSOVER ELEVATION (7 / MH-503)
SCALE: 1/4"=1'-0"
REFERENCE MH-401

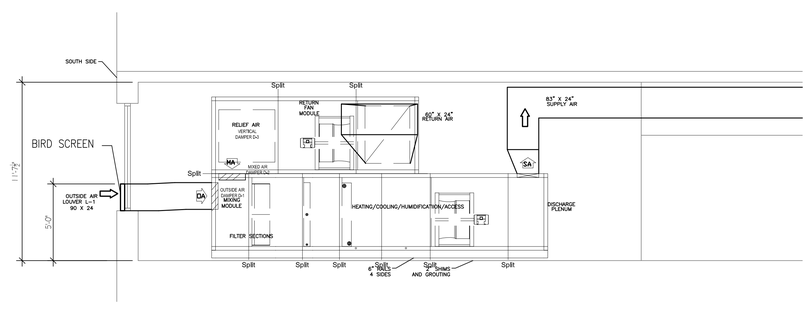
NOTES:
FOR PIPING, DUCTWORK AND CONDUITS NOT SHOWN, MAKE ADJUSTMENTS IN FIELD



EF-1,2 ELEVATIONS (LOOKING WEST AND EAST)
ABOVE CEILING ROOMS 142 & 175 (4 / MH-503)
SCALE: 1"=1'-0"
REFERENCE MH-400

NOTES:
FOR PIPING, DUCTWORK AND CONDUITS NOT SHOWN, MAKE ADJUSTMENTS IN FIELD

NOTES:
1)BASED OFF OF PRELIMINARY DIMENSIONS FROM VENDOR. FINAL DIMENSIONS MAY VARY.
2)LOCATION AND MOUNTING OF DUCT AND FAN IS APPROX., VERIFY IN FIELD AND MAKE ADJUSTMENTS AS NEEDED.
3) TRANSITIONS AND DIMENSIONS, NOT SHOWN.



AHU1-E1 SUPPLY AND OUTSIDE AIR ELEVATION (LOOKING WEST) (1 / MH-503)
SCALE: 1/4"=1'-0"
REFERENCE MH-401

NOTES:
FOR PIPING, DUCTWORK AND CONDUITS NOT SHOWN, MAKE ADJUSTMENTS IN FIELD

BIDDING DOCUMENTS
FULLY SPRINKLERED

BIDDING DOCUMENTS	03/27/2013
Revisions:	Date:

VA Northern Indiana Health Care System, Fort Wayne
2121 Lake Ave., Fort Wayne IN 46805

CONSULTANTS:

USFin Development, LLC
1105 West Weir Street
Litchfield, Illinois 62056

Viridian Architectural Design, Inc.
2020 East Washington Blvd, Suite 200
Fort Wayne, Indiana 46803

ARCHITECT/ENGINEERS:

AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com

EnerTronics ENERGY TO EXCEL
Engineering Corporation
The Fairmont Building
9245 Calumet Ave. Suite 205,
Munster, IN 46321
(219) 836-2120 Fax (219) 836-1129

Approved: Medical Center Director
NAME: _____
SIGNATURE: _____

Approved: Medical Center Associate Director
NAME: _____
SIGNATURE: _____

Approved: Engineering Service
NAME: _____ SIGNATURE: _____

Approved: Project Director
NAME: _____ SIGNATURE: _____

Drawing Title: MECHANICAL ELEVATIONS AND SECTIONS

Project Title: Renovate First Floor East Wing for PACT

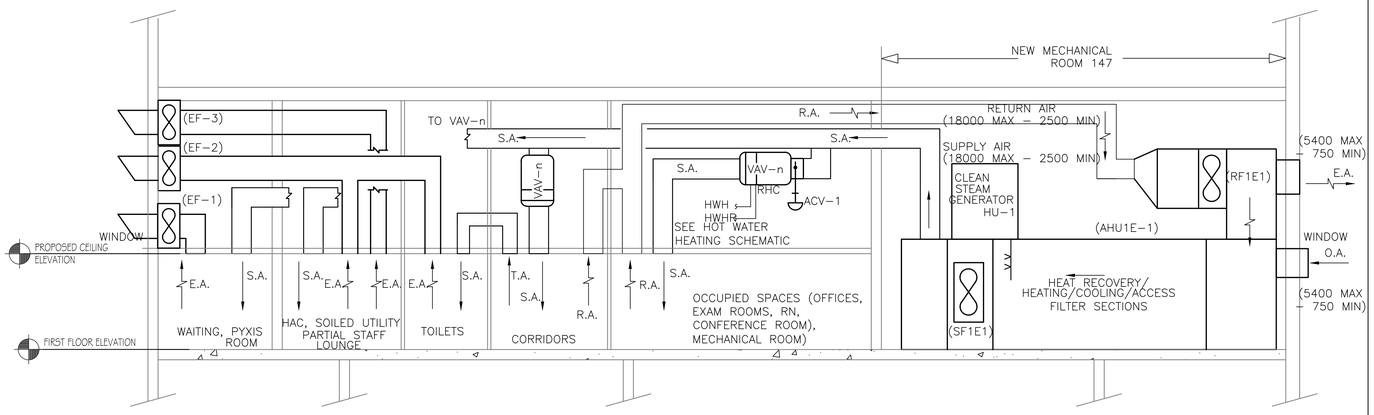
Location: 2121 Lake Ave., Fort Wayne, IN 46805

Date: 03/27/2013 | Checked: DR | Drawn: DS

Project Number: 610A4-12-107
Building Number: 01
Drawing Number: MH-503
Dwg. 35 of 58

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



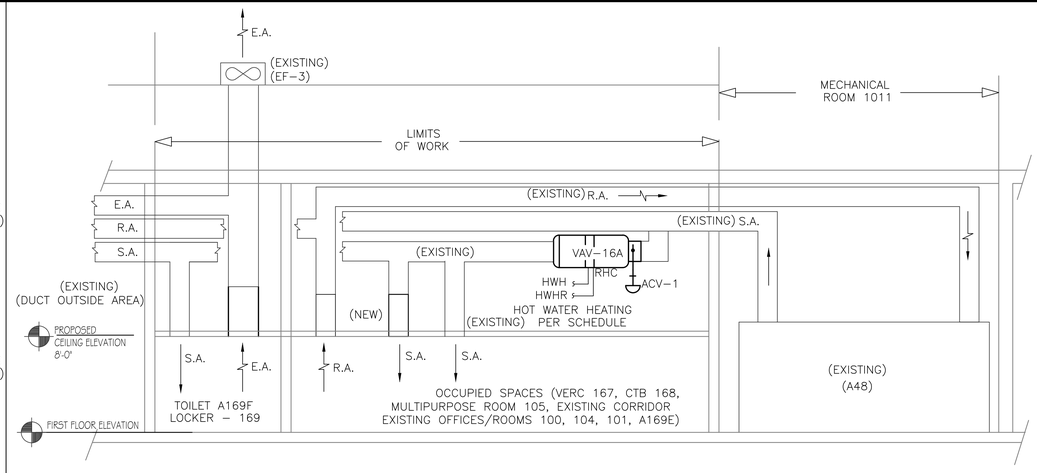
1ST FLOOR HVAC SCHEMATIC DIAGRAM

SCALE: NTS

2 MH600

NOTES

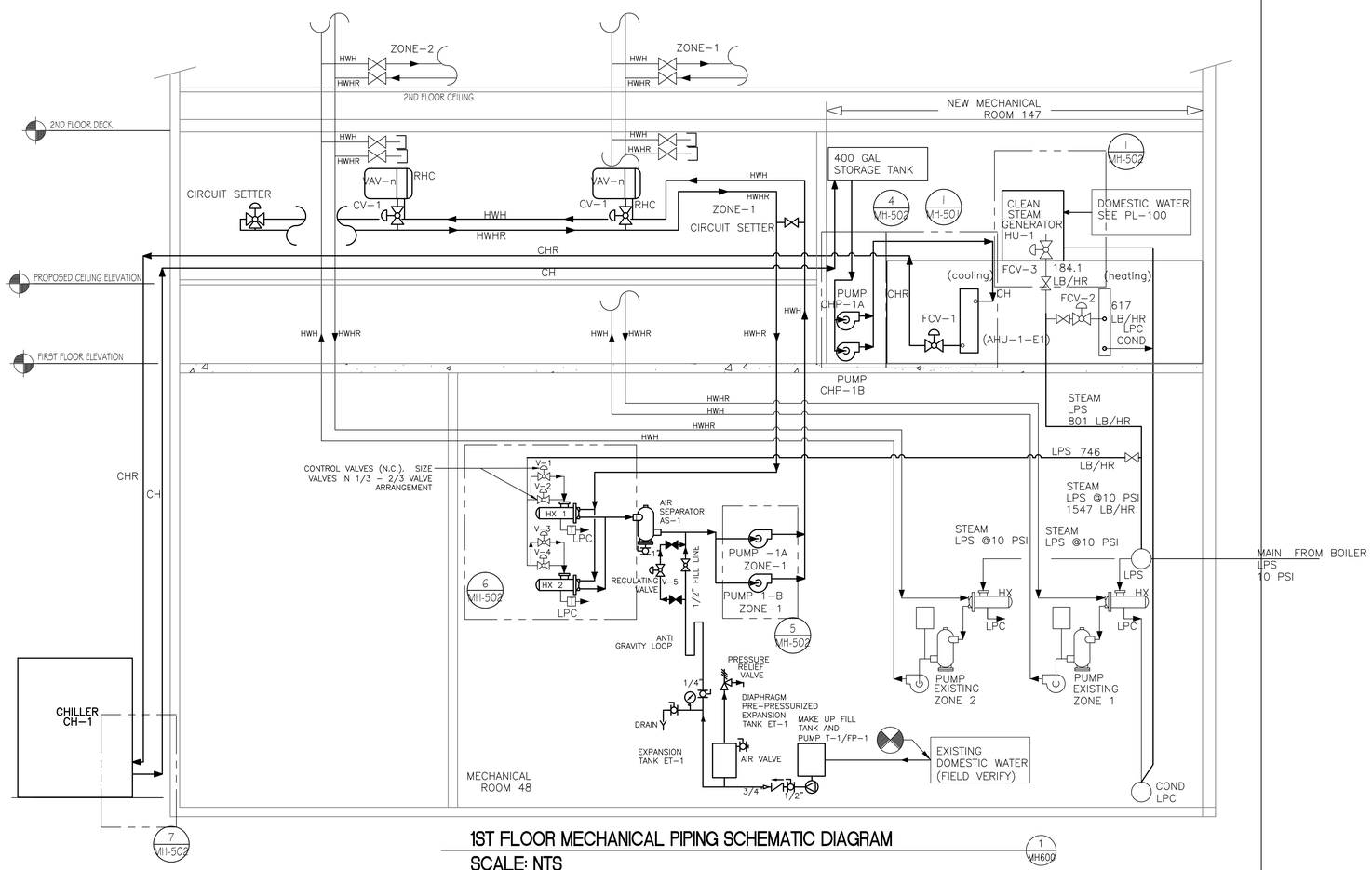
NOTE: NOT ALL VALVES, DETAILS AND APPURTENANCES SHOWN. SEE DETAILS FOR MORE INFORMATION



1ST FLOOR HVAC VERC SCHEMATIC DIAGRAM

SCALE: NTS

3 MH600



1ST FLOOR MECHANICAL PIPING SCHEMATIC DIAGRAM

SCALE: NTS

1 MH600

BIDDING DOCUMENTS
FULLY SPRINKLERED

BIDDING DOCUMENTS	03/27/2013
Revisions:	Date:

VA Northern Indiana Health Care System, Fort Wayne
2121 Lake Ave., Fort Wayne IN 46805

CONSULTANTS:

USFin Development, LLC
1105 West Weir Street
Litchfield, Illinois 62056

Viridian Architectural Design, Inc.
2020 East Washington Blvd, Suite 200
Fort Wayne, Indiana 46803

ARCHITECT/ENGINEERS:

AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com

EnerTronics ENERGY TO EXCEL
Engineering Corporation
The Fairmont Building
9245 Calumet Ave. Suite 205,
Munster, IN 46321
(219) 836-2120 Fax (219) 836-1129

Approved: Medical Center Director
NAME: _____
SIGNATURE: _____

Approved: Medical Center Associate Director
NAME: _____
SIGNATURE: _____

Drawing Title: MECHANICAL PIPING BLOCK DIAGRAM AND HVAC SCHEMATIC DIAGRAM

Approved: Engineering Service
NAME: _____ SIGNATURE: _____

Approved: Project Director
NAME: _____ SIGNATURE: _____

Project Title: Renovate First Floor East Wing for PACT

Location: 2121 Lake Ave., Fort Wayne, IN 46805

Date: 03/27/2013 | Checked: DR | Drawn: DS

Project Number: 610A4-12-107

Building Number: 01

Drawing Number: MH-600

Dwg. 36 of 58

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

HVAC BALANCING TABLE - 1ST FLOOR PACT

Room No.	Functional Area	Area (ft2)	Air Changes /hr	Air balance	Ceiling Height	VAV Box	Supply Air Temp F	Return Air Temp F	Reheat Load (BTU)	Cooling Load (BTU)	Min. Supply Air CFM - Occupied (Initial Set-Point)	Min Supply Air CFM - Unoccupied	Supply Air Rated Local Design CFM	Supply Air Rated Building Design CFM	Reheat Hot Water Flow (GPM)	Cooling Load GPM	Min. Return Air CFM - Occupied (Initial Set-Point)	Return Air Max Local	Return Air Building Design CFM	General Exhaust Max Local
138	Patient Registation	122	4	neutral (0)	8.3	1-1	55	72	7145	6212	68	34	338	297	0.95	1.08	81	338.36	297.36	0.00
138A	Eligibility	121	4	neutral (0)	8.3	1-2	55	72	8645	8949	67	33	487	428	1.15	1.55	80	487.44	428.38	0.00
138B	Means Testing	137	4	neutral (0)	8.3	1-3	55	72	7933	8517	76	38	464	408	1.06	1.48	91	463.90	407.69	0.00
139	Staff Lounge	161	4	negative (-)	8.1	1-4	55	72	9296	7983	87	43	435	382	1.24	1.38	60	125.01	0.00	125.01
140	Small Conference Room	251	4	neutral (0)	8.3	1-5	55	72	14490	18434	139	69	1004	882	1.93	3.20	167	1004.03	882.38	0.00
141	Dietitian Office	158	4	neutral (0)	8.3	1-6	55	72	8496	9655	87	44	526	462	1.13	1.67	105	525.86	462.14	0.00
142	Office	147	4	neutral (0)	8.3	1-7	55	72	8412	9490	81	41	517	454	1.12	1.64	98	516.89	454.26	0.00
143	PublicToilet	64	10	double negative (--)	7.5	1-15	55	72	0	0	80	16	96	84	0.00	0.31	0	0.00	84.37	124.80
144	HAC	52	10	double negative (--)	7.5	1-8	55	72	0	0	65	13	78	69	0.00	0.25	0	0.00	68.55	101.40
175	General Waiting	256	6	negative (-)	8.3	1-43	55	72	16679	11976	212	71	652	573	2.22	2.08	0	0.00	0.00	750.11
174	Pyxis	60	6	positive (+)	8.3	1-45	55	72	0	0	50	17	60	53	0.00	0.19	52	51.97	45.67	0.00
1E-1	Corridor Area West	472	4	neutral (0)	8.3	1-15	55	72	0	0	261	131	313	275	0.00	1.00	313	313.41	275.43	0.00
173	Clerk 1	152	4	neutral (0)	8.3	1-42	55	72	8594	5492	84	42	299	263	1.15	0.95	101	299.12	262.88	0.00
172A	ExamRoom 1- 1	139	6	neutral (0)	8.3	1-41	55	72	8495	5303	115	38	289	254	1.13	0.92	138	288.81	253.82	0.00
172	ExamRoom 1-2	137	6	neutral (0)	8.3	1-40	55	72	8594	5284	114	38	288	253	1.15	0.92	136	287.82	252.95	0.00
171	RN 1	146	4	neutral (0)	8.3	1-39	55	72	8571	5407	81	40	294	259	1.14	0.94	97	294.48	258.80	0.00
170	Clerk 2	137	4	neutral (0)	8.3	1-38	55	72	8571	5282	76	38	288	253	1.14	0.92	91	287.70	252.84	0.00
169A	ExamRoom 2- 1	137	6	neutral (0)	8.3	1-37	55	72	8571	5282	114	38	288	253	1.14	0.92	136	287.70	252.84	0.00
169	ExamRoom 2-2	159	6	neutral (0)	8.3	1-36	55	72	8571	5586	132	44	304	267	1.14	0.97	158	304.27	267.40	0.00
168	RN 2	134	4	neutral (0)	8.3	1-35	55	72	8571	5241	74	37	285	251	1.14	0.91	89	285.45	250.86	0.00
0	Wheel Chair Alcove (part of corridor)	29	4	neutral (0)	8.3	1-16	55	72	0	0	16	8	19	17	0.00	0.06	19	19.26	16.92	0.00
167	Procedure	153	4	neutral (0)	8.3	1-34	55	72	8311	5479	85	42	298	262	1.11	0.95	102	298.39	262.24	0.00
166	Office	152	4	neutral (0)	8.3	1-33	55	72	8311	5465	84	42	298	262	1.11	0.95	101	297.64	261.58	0.00
165	Clean Utility	113	4	positive (+)	8.3	1-32	55	72	8838	3414	63	31	186	163	1.18	0.59	65	161.69	142.10	0.00
0	Crash Cart (part of corridor)	24	4	neutral (0)	8.3	1-16	55	72	0	0	13	7	16	14	0.00	0.05	16	15.94	14.01	0.00
164	Pharmacy Office	147	4	neutral (0)	8.3	1-32	55	72	8724	5435	81	41	296	260	1.16	0.94	98	296.03	260.16	0.00
1E-1	Exam Corridor - East	1399	4	neutral (0)	8.3	1-16	55	72	0	3605	774	387	929	816	0.00	2.96	929	928.94	816.38	0.00
163	Beh. Health Office	131	4	neutral (0)	8.3	1-31	55	72	6370	4559	72	36	248	218	0.85	0.79	87	248.30	218.22	0.00
162A	Exam Room 3-2	128	4	neutral (0)	8.3	1-30	55	72	8509	5083	71	35	277	243	1.13	0.88	85	276.84	243.30	0.00
162	Exam Room 3-1	157	4	neutral (0)	8.3	1-29	55	72	21351	7494	87	43	439	386	2.85	1.30	104	439.32	386.09	0.00
161	RN3	125	6	neutral (0)	8.3	1-28	55	72	10117	8763	104	35	477	419	1.35	1.52	125	477.27	419.44	0.00
160A	Printer Alcove	44	4	neutral (0)	8.3	1-28	55	72	3365	2374	24	12	129	114	0.45	0.41	29	129.30	113.63	0.00
160	Clerk 3	94	4	neutral (0)	8.3	1-27	55	72	16537	12966	52	26	500	439	2.20	1.59	62	500.00	439.42	0.00
159	Clerk 4	94	4	neutral (0)	8.3	1-26	55	72	7027	9176	52	26	500	439	0.94	1.59	62	499.81	439.25	0.00
158A	ExamRoom 4-1	139	6	neutral (0)	8.3	1-25	55	72	8628	9479	115	38	516	454	1.15	1.64	138	516.30	453.74	0.00
158	ExamRoom 4-2	138	6	neutral (0)	8.3	1-24	55	72	8461	9345	115	38	509	447	1.13	1.62	137	508.99	447.31	0.00
157	RN 4	144	4	neutral (0)	8.3	1-23	55	72	8798	9686	80	40	528	464	1.17	1.68	96	527.56	463.64	0.00
156	Pharmacy Office	143	4	neutral (0)	8.3	1-22	55	72	8722	9661	79	40	526	462	1.16	1.67	95	526.19	462.43	0.00
155	RN 5	142	4	neutral (0)	8.3	1-21	55	72	8684	9641	79	39	525	461	1.16	1.67	94	525.13	461.50	0.00
154A	ExamRoom 5-2	142	6	neutral (0)	8.3	1-20	55	72	8655	9637	118	39	525	461	1.15	1.67	141	524.89	461.29	0.00
154	ExamRoom 5-1	142	6	neutral (0)	8.3	1-19	55	72	8653	9637	118	39	525	461	1.15	1.67	141	524.88	461.28	0.00
153	Clerk 5	142	4	neutral (0)	8.3	1-18	55	72	8684	9641	79	39	525	461	1.16	1.67	94	525.13	461.50	0.00
151	Soiled Utility	65	6	double negative (--)	8.3	1-17	55	72	0	938	54	18	65	57	0.00	0.21	0	0.00	56.90	84.16
152	Office	145	4	neutral (0)	8.3	1-17	55	72	12030	12380	80	40	500	439	1.60	1.59	96	500.00	439.42	0.00
150	Clerk 6	148	4	neutral (0)	8.3	1-14	55	72	8646	9590	82	41	522	459	1.15	1.66	98	522.32	459.04	0.00
148B	Exam Room 6-1	170	6	neutral (0)	8.3	1-13	55	72	12225	12361	141	47	673	592	1.63	2.14	169	673.26	591.69	0.00
149	Staff Toilet (South)	67	10	double negative (--)	8.3	1-10	55	72	0	1401	93	19	111	98	0.00	0.35	0	0.00	97.74	144.59
1E-2	Exam Corridor - South	432	6	neutral (0)	8.3	1-10	55	72	0	2691	359	120	430	378	0.00	1.37	430	430.27	378.14	0.00
148A	Exam Room 6-2	153	6	neutral (0)	8.3	1-12	55	72	20877	13902	127	42	650	571	2.78	2.07	152	650.00	571.24	0.00
148	Telehealth	155	6	neutral (0)	8.3	1-11	55	72	12581	12217	129	43	665	585	1.68	2.12	154	665.41	584.79	0.00
147	Mechanical Room	524	4	neutral (0)	8.3	1-44	55	102	55967	0	290	145	1152	1012	7.46	3.06	348	1151.59	1012.06	0.00
146	RN	133	4	neutral (0)	7.5	1-9	55	72	7252	8225	67	33	448	394	0.97	1.43	80	447.99	393.71	0.00
145	Office	139	4	neutral (0)	7.5	1-8	55	72	0	0	70	35	83	73	0.00	0.27	83	83.40	73.29	0.00
	Total	9195							455955	348338	5913	2533	21398	18806	60.79	67.40	6429	20054	17822	1330

HVAC BALANCING TABLE - 1ST FLOOR VERC

Room No.	Functional Area	Area (ft2)	Air Changes /hr	Air balance	Ceiling Height	Supply Air Temp F	Return Air Temp F	Reheat Load (BTU)	Min. Supply Air CFM - Occupied (Initial Set-Point)	Min Supply Air CFM - Unoccupied	Supply Air Rated Local Design CFM	Reheat Hot Water Flow (GPM)	Min. Return Air CFM - Occupied (Initial Set-Point)	Return Air Max Local	General Exhaust Max Local
0	Existing Corridor (existing diffuser data)	0	0	neutral (0)	8	0	0	0	0	0	190	0.49	0	190.00	0.00
A167	VERC	452	4	neutral (0)	8	55	72	5624	241	121	979	2.54	289	978.60	0.00
A168	CTB	63	4	neutral (0)	8	55	72	784	34	17	144	0.37	40	144.19	0.00
100A	Fire Alarm (FA)	56	4	neutral (0)	8	55	72	697	30	15	77	0.20	36	76.93	0.00
105	Multpurpose	74	4	neutral (0)	8	55	72	921	39	20	125	0.32	47	125.24	0.00
A169	Lockers	158	6	negative (-)	8	55	72	2949	126	42	223	0.00	0	0.00	256.73
100	Existing Private Room	89	4	neutral (0)	8	55	72	1107	47	24	164	0.42	57	163.77	0.00
A169F	Existing Private Toilet	51	10	double negative (--)	8	55	72	1586	68	14	82	0.21	0	0.00	106.08
A169E	Existing Private Room	115	4	neutral (0)	8	55	72	1431	61	31	183	0.48	74	183.34	0.00
101	Existing Private Room	105	4	neutral (0)	8	55	72	1306	56	28	179	0.46	67	178.73	0.00
0	misc. air load (existing diffuser data)	0	0	neutral (0)	8	55	72	0	0	0	690	1.79	0	690.00	0.00
	Total	1163						16404	703	310	3036	7	611	2731	363

BIDDING DOCUMENTS
FULLY SPRINKLERED

BIDDING DOCUMENTS	03/27/2013
Revisions:	Date:

VA Northern Indiana Health Care System, Fort Wayne
2121 Lake Ave., Fort Wayne IN 46805

CONSULTANTS:
USFin Development, LLC
1105 West Weir Street
Litchfield, Illinois 62056
Viridian Architectural Design, Inc.
2020 East Washington Blvd., Suite 200
Fort Wayne, Indiana 46803

ARCHITECT/ENGINEERS:
AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
EnerTronics ENERGY TO EXCEL
Engineering Corporation
The Fairmont Building
9245 Calumet Ave. Suite 205,
Munster, IN 46321
(219) 836-2120 Fax (219) 836-1129

Approved: Medical Center Director
NAME: _____
SIGNATURE: _____
Approved: Medical Center Associate Director
NAME: _____
SIGNATURE: _____

Drawing Title: 1ST FLOOR MECHANICAL BLOCK DIAGRAM AND HVAC BALANCING SHEET
Approved: Engineering Service
NAME: _____ SIGNATURE: _____
Approved: Project Director
NAME: _____ SIGNATURE: _____

Project Title: Renovate First Floor East Wing for PACT
Location: 2121 Lake Ave., Fort Wayne, IN 46805
Date: 03/27/2013 | Checked: AMH | Drawn: DS

Project Number: 610A4-12-107
Building Number: 01
Drawing Number: MH-601
Dwg. 37 of 58

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

AHU-ASSEMBLY AHU-1E1
Specifications
23 73 00 Indoor Central Air Handling Units

UNIT	Airflow (RATED)	Overall Unit Size WXHXL in.	Unit Base	Insulation Panel Wall Type	Coil Drain Pan	Weight installed	Control Systems Package	Electrical Systems Package	Lighting Systems Package	Manufacturer
AHU-1E1	18,000 cfm (RATED)	TOP TIER 108X60X180 in. BOTTOM TIER 108X60X296 in.	6" integral base frame	double wall galv steel w/R13 foam insulation	stainless steel double wall w/R13 foam	10,733 lbs 12,771 lbs	Mounted Remotely provided by Controls	115v GFCI mounted per	LED lights per specification mounted in sections as listed	Johnson Controls or Approved Equal

AHU-ACCESS SECTION - MODULE 1

Module Position	Module Type	Module Size WXHXL in.	DOOR SIZE	ACCESS DOOR LOCATION	DOOR SWING & HAND	Front Air Path Type	Back Air Path Type
INTLET RETURN AIR	Access Section	108X60 67 in.	18WX54H multipoint door latch	RIGHT	OUTWARD RIGHT REVERSE	FULL OPEN FACE	Entering

AHU-ACCESS SECTION - MODULE 2

Module Type	Module Size WXHXL in.	DOOR SIZE	ACCESS DOOR LOCATION	DOOR SWING & HAND
FAN Section	108X60 61 in.	24WX54H multipoint door latch	RIGHT	OUTWARD LEFT REVERSE

FAN SECTION MODULE 2

MARK	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	AIR FLOW	TSP	External Static Pressure	FAN					MOTOR ELECTRICAL						REMARKS
					suction	TYPE	ARRANGEMENT, ROTATION, AND DISCHARGE	MIN % EFF	DRIVE	FAN MAX RPM	NOMINAL POWER		PHASE	VOLT	RPM	SPEED CONTROL	
			CFM	IN	IN						BHP	hp					
RF-1E1	1 East	AHU-1-E1	18000	4.45	3	DIRECT	INLINE, HORIZ. DISCHARGE	92%	DIRECT	1430	17.7	20	3	480	1200	VARIABLE	EXTERNAL STATIC PRESSURE OF DUCT AT 3 DOES NOT INCLUDE FAN OPENING AND CABINET

VERTICAL Economizer SECTION - MODULE 3

Module Type	Front Air Path Type	Left Side Opening Type	Left Side Air Path Type	Left Side Size	Return Air Type and Path Type	BOTTOM Air Path Type	Module Size WXHXL in.
Return Fan VERTICAL Economizer	Leaving	Parallel Blade Damper Electric Actuator	Relief Air Leaving Fabricated Hood Ducted w/ bird screen	Rectangular Ducted 41X44 Parallel Blade Damper D-3 Electric Actuator	Parallel Blade Damper Electric Actuator Through	Rectangular Ducted 90X21 Parallel Blade Damper D-2 Electric Actuator	108X60 52 in.

VERTICAL Economizer SECTION - MODULE 4

Module Type	Outside Air Back Air Path Type	ACCESS DOOR LOCATION	DOOR SIZE	DOOR SWING & HAND	Module Size WXHXL in.	REMARKS
Outside Air Mixing VERTICAL Economizer	Rectangular Ducted 90X21 Parallel Blade Damper D-1 Electric Actuator	Right	18WX54H multipoint door latch	Outward LEFT REVERSE	108X60 50 in.	DAMPERS D-1,D-2,D-3 SHALL BE ASHRAE 90.1 COMPLIANT

AHU-ACCESS SECTION - MODULE 4

Module Type	ACCESS DOOR LOCATION	DOOR SIZE	DOOR SWING & HAND	PREFILTER GUAGE	AFTER FILTER GUAGE	
FILTER	Right	18WX54H multipoint door latch	Outward LEFT REVERSE	0-2" W.C.	0-3" W.C.	

AIR FILTER SCHEDULE MODULE 4

MARK	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	MERV RATING	AIR FLOW	APD		HOUSING TYPE	CARTRIDGES			REMARKS
					INITIAL	FINAL		#	SIZE	ARRANGEMENT	
				CFM	IN WG	IN WG			IN		
RF-1E1	1 East	AHU-1E1	7	18000	0	0.37	SIDE	4	24 x 24 x 2	2 WIDE BY 2 HIGH	
HF-1E1	1 East	AHU-1E1	11	18000	0	0.46	SIDE	4	24 x 24 x 12	2 WIDE BY 2 HIGH	

AHU-ACCESS SECTION - MODULE 5

Module Position	Module Type	Module Size WXHXL in.	DOOR SIZE	ACCESS DOOR LOCATION	DOOR SWING & HAND	Front Air Path Type	Back Air Path Type	Drain Pan
MIXED AIR	Access Section	108X60 36 in.	18WX54H multipoint door latch	RIGHT	OUTWARD LEFT REVERSE	FULL OPEN FACE	Entering	stainless steel 18"IAQ

AHU-ACCESS SECTION - MODULE 6

Module Position	Module Type	Module Size WXHXL in.	DOOR SIZE	ACCESS DOOR LOCATION	DOOR SWING & HAND	Front Air Path Type	Back Air Path Type
HEATING COIL	Access Section	108X60 47 in.	18WX54H multipoint door latch	RIGHT	OUTWARD LEFT REVERSE	FULL OPEN FACE	Entering

STEAM HEATING COIL SCHEDULE MODULE 6

MARK	APPLICATION	AIR FLOW	MAX FACE VELOCITY	APD	TEMPERATURES		TOTAL MIN CAPACITY	STEAM			REMARKS
					EAT	LAT		ENT CONT VALVE	ENT COIL	FLOW	
		CFM	FPM	IN WG	°F	°F	MBH	PSIG	PSIG	LBS/HR	
SHC1E1	PREHEAT	18000	558	0.18	20	89	1,344	10	5	1548.5	Coil to be certified in accordance with AHRI forced-circulation air-cooling and air - heating coils certification program based in AHRI Standard 410.

AHU-ACCESS SECTION - MODULE 6

Module Position	Module Type	DOOR SIZE	ACCESS DOOR LOCATION	DOOR SWING & HAND	Front Air Path Type	Back Air Path Type
HEATING COIL	Access Section	18WX54H multipoint door latch	RIGHT	OUTWARD LEFT REVERSE	FULL OPEN FACE	Entering

CHILLED WATER COOLING COIL SCHEDULE

Module Position	Module Size WXHXL in.	MARK	SYSTEM AND/OR SERVICE	AIR FLOW	MAX FACE VELOCITY	APD	EAT		LAT		TOTAL CAPACITY	SENSIBLE CAPACITY	CHILLED WATER				REMARKS
							Db	Wb	Db	Wb			FLOW	EWT	LWT	WPD	
				CFM	FPM	IN WG	°F	°F	°F	°F	MBH	MBH	GPM	°F	°F	FT	
COOLING COIL	108X60 33 in.	CC-1E1	AHU-1E1	18000	566	0.83	80	67	52.2	51.8	799	529.2	100	44	54.1	14.5	When attaching coil to a copper or brass piping system, contractor shall use red brass or copper connectors

AHU-ACCESS SECTION

Drain Pan	DOOR SIZE	ACCESS DOOR LOCATION	DOOR SWING & HAND	Front Air Path Type	Back Air Path Type
stainless steel 17"IAQ	18WX54H multipoint door latch	RIGHT	OUTWARD LEFT REVERSE	FULL OPEN FACE	Entering

AHU-ACCESS SECTION - MODULE 8

Module Position	Module Size WXHXL in.	DOOR SIZE	ACCESS DOOR LOCATION	DOOR SWING & HAND	Front Air Path Type	Back Air Path Type	Drain Pan	REMARKS
HUMIDIFICATION	108X60 38 in.	24WX54H multipoint door latch	RIGHT	OUTWARD LEFT REVERSE	FULL OPEN FACE	Entering	stainless steel 39"IAQ	CONTRACTOR TO INSTALL TUBES FOLLOWING MANUFACTURER'S RECOMMENDATIONS ARMSTRONG OR APPROVED EQUAL

AHU-ACCESS SECTION - MODULE 9

Module Position	Module Size WXHXL in.	DOOR SIZE	ACCESS DOOR LOCATION	DOOR SWING & HAND	Front Air Path Type	Back Air Path Type
SUPPLY FAN	108X60 61 in.	24WX54H multipoint door latch	RIGHT	OUTWARD RIGHT REVERSE	FULL OPEN FACE	Entering

FAN SECTION MODULE 9

MARK	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	AIR FLOW	TSP	External Static Pressure	FAN					MOTOR ELECTRICAL						REMARKS
					discharge	TYPE	ARRANGEMENT, ROTATION, AND DISCHARGE	MIN % EFF	DRIVE	FAN MAX RPM	NOMINAL POWER		PHASE	VOLT	RPM	SPEED CONTROL	
			CFM	IN	IN						BHP	hp					
SF-1E1	1 East	AHU-1-E1	18000	7.1	4	DIRECT	INLINE, HORIZ. DISCHARGE	94%	DIRECT	1758	26.98	30	3	480	1800	VARIABLE	----

AHU-ACCESS SECTION - MODULE 10

Module Position	Module Size WXHXL in.	DOOR SIZE	DOOR LOCATION	DOOR SWING & HAND	Front Air Path Type	Back Air Path Type	TOP Air Path Type
SUPPLY AIR DISCHARGE	108X60 31 in.	18WX54H multipoint door latch	RIGHT	OUTWARD LEFT REVERSE	CLOSED	FULL OPEN FACE	Rectangular Ducted 91X17 Smoke Damper Parallel Blade Damper SD-5 Electric Actuator tied with duct smoke detector

HVAC FANS SPECIFICATION 23-34-00

MARK	AREA SERVED	Location	FAN						Motor Data					REMARKS
			AIR FLOW	total ESP	TYPE	ARRANGEMENT, ROTATION, AND DISCHARGE	DRIVE	Model/Size	Watts	PHASE	VOLT	RPM	SPEED CONTROL	
			CFM	IN										
EF-1	General Waiting	Ceiling Room 175	825 (rated) 1181 (rated)	1	Cabinet	INLINE, HORIZ. DISCHARGE	DIRECT	CSP-A1410	822	1	120	1450	Controller	Greenheck CSP with integral backdraft damper in outlet and plug in disconnect switch or approved equal
EF-2	Public Restroom, HAC, Staff Lounge	Ceiling Room 142	532 (rated) 1181 (rated)	1	Cabinet	INLINE, HORIZ. DISCHARGE	DIRECT	CSP-A1410	822	1	120	1450	Controller	
EF-3	Soiled Utility	Ceiling Room 152	84 (rated) 144 (rated)	0.75	Cabinet	INLINE, HORIZ. DISCHARGE	DIRECT	CSP-A290	80	1	120	1050	Controller	

THE VALUES OF HP, FLOW(CFM), GPM ARE INDICATIVE OF RATED OR MAXIMUM CAPACITY. FOR ACTUAL CONTROL POINTS FOLLOW SEQUENCE OF OPERATIONS AND OTHER CONTROL DESCRIPTIONS ELSEWHERE.

Specification
23 36 00 - SINGLE AIR TERMINAL UNITS

PACT - VAV SINGLE DUCT AIR TERMINAL UNIT SCHEDULE

MARK	AIR FLOW			HOT WATER HEATING COIL		
	MAX/Summer	Winter	MIN Un occupied	FLOW	Reheat Load	PIPE RUNOUT SIZE TO COIL
	CFM	CFM	CFM	GPM	BTUH	IN
VAV1-1	338	81	34	0.95	7145	0.375
VAV1-2	487	178	33	1.15	8645	0.375
VAV1-3	464	163	38	1.06	7933	0.375
VAV1-4	435	191	43	1.24	9296	0.375
VAV1-5	1004	298	69	1.93	14490	0.5
VAV1-6	526	175	44	1.13	8496	0.375
VAV1-7	517	173	41	1.12	8412	0.375
VAV1-8	161	161	48	0.00	0	0.375
VAV1-9	448	149	33	0.97	7252	0.375
VAV1-10	541	541	138	0.00	0	0.375
VAV1-11	665	259	43	1.68	12581	0.375
VAV1-12	650	430	42	2.78	20877	0.375
VAV1-13	673	252	47	1.63	12225	0.375
VAV1-14	522	178	41	1.15	8646	0.375
VAV1-15	409	409	147	0.00	0	0.375
VAV1-16	964	964	402	0.00	0	0.375
VAV1-17	565	312	58	1.60	12030	0.375
VAV1-18	525	179	39	1.16	8684	0.375
VAV1-19	525	178	39	1.15	8653	0.375
VAV1-20	525	178	39	1.15	8655	0.375
VAV1-21	525	179	39	1.16	8684	0.375
VAV1-22	526	179	40	1.16	8722	0.375
VAV1-23	528	181	40	1.17	8798	0.375
VAV1-24	509	174	38	1.13	8461	0.375
VAV1-25	516	178	38	1.15	8628	0.375
VAV1-26	500	145	26	0.94	7027	0.375
VAV1-27	500	340	26	2.20	16537	0.375
VAV1-28	607	277	47	1.80	13482	0.375
VAV1-29	439	439	43	2.85	21351	0.375
VAV1-30	277	175	35	1.13	8509	0.375
VAV1-31	248	131	36	0.85	6370	0.375
VAV1-32	482	361	72	2.34	17562	0.375
VAV1-33	298	171	42	1.11	8311	0.375
VAV1-34	298	171	42	1.11	8311	0.375
VAV1-35	285	176	37	1.14	8571	0.375
VAV1-36	304	176	44	1.14	8571	0.375
VAV1-37	288	176	38	1.14	8571	0.375
VAV1-38	288	176	38	1.14	8571	0.375
VAV1-39	294	176	40	1.14	8571	0.375
VAV1-40	288	177	38	1.15	8594	0.375
VAV1-41	289	175	38	1.13	8495	0.375
VAV1-42	299	177	42	1.15	8594	0.375
VAV1-43	652	343	71	2.22	16679	0.375
VAV1-44	1152	1152	145	7.46	55957	0.375
VAV1-45	60	60	17	0.00	0	0.375

NOTES

1. AIR TERMINAL UNIT WITH VAV CONTROLLER BY CONTROLS
2. CONTROL SEQUENCE SHALL BE SELECTED FOR 5 DEGREE DEADBAND
3. SELECTED TERMINAL UNITS HEATING COILS AT 180 DEG F ENTERING WATER 1 ROW 1 CIRCUIT EACH.
4. SELECTED UNIT BY JOHNSON CONTROLS TSL-WC OR APPROVED EQUAL

VERC - VAV SINGLE DUCT AIR TERMINAL UNIT SCHEDULE

MARK	AIR FLOW		HOT WATER HEATING COIL		
	MAX	MIN (IC OR 50%)	FLOW	Reheat Load	PIPE RUNOUT SIZE TO COIL
	CFM	CFM	GPM	BTUH	IN
VAV16A	3036	1291	7.29	16404	0.75

NOTES

1. AIR TERMINAL UNIT WITH VAV CONTROLLER BY CONTROLS
2. CONTROL SEQUENCE SHALL BE SELECTED FOR 5 DEGREE DEADBAND
3. SELECTED TERMINAL UNITS HEATING COILS AT 180 DEG F ENTERING WATER 1 ROW 1 CIRCUIT EACH.
4. SELECTED UNIT BY JOHNSON CONTROLS TSL-WC OR APPROVED EQUAL
5. REHEAT HOT WATER COIL BASIS ENTERING AIR TEMP. 72DEG F, LEAVING AIR TEMP. 90DEG F, WATER TEMP DIFFERENTIAL 15 DEG.
6. BOX TO RECEIVE SOUND ATTENUATORS DOWNSTREAM OF BOX AND COIL
7. MINIMUM DUCT SIZE TO VAV BOXES SHALL CORRESPOND TO MINIMUM
8. OTHER MINIMUM DUCT SIZE TO AREAS NOT SHOWN ON THE DRAWING SHALL CORRESPOND TO 1500 FPM.

BIDDING DOCUMENTS
FULLY SPRINKLERED

BIDDING DOCUMENTS	03/27/2013
Revisions:	Date:

VA Northern Indiana Health Care System, Fort Wayne
2121 Lake Ave., Fort Wayne
IN 46805

CONSULTANTS:
USFin Development, LLC
1105 West Weir Street
Litchfield, Illinois 62056
Viridian Architectural Design, Inc.
2020 East Washington Blvd., Suite 200
Fort Wayne, Indiana 46803

ARCHITECT/ENGINEERS:
AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
EnerTronics ENERGY TO EXCEL
Engineering Corporation
The Farmont Building
9245 Calumet Ave. Suite 205,
Munster, IN 46321
(219) 836-2120 Fax (219) 836-1129

Approved: Medical Center Director
NAME: _____
SIGNATURE: _____
Approved: Medical Center Associate Director
NAME: _____
SIGNATURE: _____

Drawing Title: MECHANICAL SCHEDULES SHEET 1 OF 4
Approved: Engineering Service
NAME: _____ SIGNATURE: _____
Approved: Project Director
NAME: _____ SIGNATURE: _____

Project Title: Renovate First Floor East Wing for PACT
Location: 2121 Lake Ave., Fort Wayne, IN 46805
Date: 03/27/2013
Checked: AMH
Drawn: DS

Project Number: 610A4-12-107
Building Number: 01
Drawing Number: MH-602
Dwg. 38 of 58

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

Specification
23 60 00 – Packaged Water Chillers

AIR COOLED CHILLER SCHEDULE

MARK	LOCATION	TYPE	CAPACITY	# OF COMP	MAX Kw	MIN COP	EVAPORATOR					CONDENSER	ELECTRICAL										REMARKS
							FLOW	EWT	LWT	MAX WPD	FOULING FACTOR	AMBIENT OA TEMP	COMPRESSOR MOTOR				CONDENSER FAN MOTORS						
			TONS				GPM	°F	°F	FT		°F	# COMP	kW	PHASE	VOLT	# FANS	NOMINAL kw	PHASE	VOLT	MCA	MOP	
CH-1	outdoor ground north side east wing	SCROLL	70.8	4	80.73	3.62	167.6	54	44	8.33	0.0001	95 db	4	70.53	3	460	4	10.2	3	460	190	225	AACN or Approved Equal

CLEAN STEAM GENERATOR FOR AHU–1–E1 HUMIDIFICATION
REF. DWG MH–100,401, MH–600, MI–600,601

MARK # & LOCATION	Field Piping Conn.	OUTLET Conn.	inlet water Conn.	inlet steam Capacity @ 10 psig	Service	# tubes HEAT EXCHANGER	Design RH and Temp. Rooms	Duct RH and Temp. Humidifier	Duct Air Velocity	OPERATING WEIGHT	Manufacturer
HU–1 MECH ROOM 147	1 1/2" INLET AND 1 1/2" RETURN	4" FLANGES	1/2"	184.6 lb/hr	STEAM	4	50% RH, 70°F	84.8% RH, 60°F	666.7 fpm	920 LBS	ARMSTRONG MODEL CS14CB ACV–06 HEM OR APPROVED EQUAL. with High Limit Humidistat, Duct Humidistat, Duct Pressure Switch, Outdoor Enclosure and heater

EXPANSION TANK SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SERVICE	TYPE	APPROX TANK VOLUME	SYSTEM TEMPERATURE RANGE		Relief Valve Pressure	INITIAL PRESSURE IN TANK	MAX OPERATING PRESSURE	MIN BLADDER VOLUME	PIPE SIZE TO TANK	REMARKS
					MIN	MAX						
				GAL	°F	°F	PSIG	PSIG	PSIG	GAL	IN	
ET-1	MECHANICAL ROOM 147	HEATING WATER	VERT DIAPHRAGM	100	60	180	125	12	125	23	1	

AIR SEPARATOR SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SERVICE	TYPE	AIR SEPARATOR				REMARKS
				SIZE IN	FLOW	WPD	BUILT-IN STRAINER REQ'D	
				IN	GPM	FT		
AS-1	MECHANICAL ROOM 147	HEATING WATER	FULL FLOW TANGENTIAL	3	120	3.2	YES	

T-1 FILL TANK REFERENCE MH-600 AND MP-400

PUMP CAPACITY– GPM	APPROX. CAPACITY OF FILL TANK- GALLONS	MANUFACTURER
FP-1 - 5 GPM AT 60 PSIG	55	PRE-PIPED AND PLUMBED MOUNTED 120V PRIMER PUMP ARMSTRONG SIMPLEX GMU SERIES WITH PRESSURE SWITCH OR APPROVED EQUAL - GLYCOL SPECIFIED. VERIFY FOR COMMON MANUFACTURER WITH OTHER SYSTEMS IN THIS FACILITY

Control Valves

Control Valve #	QTY	SERVICE	Elec Coil Control Valve Type	Elec Coil Control Valve Size	ELECTRICAL POWER REQUIREMENT	TRANSFORMER SIZING	MANUFACTURER	REFERENCE
FCV–1	1	CHILLED WATER	3 – WAY Modulating VALVE		24VAC ± 20%, 60HZ 24VDC ± 10%, 60HZ	10 VA	BELIMO OR EQUAL	MP–100 MI–600 MI–601
FCV–2	1	STEAM	2 – WAY Modulating Actuator		24VAC ± 20%, 60HZ 24VDC ± 10%, 60HZ	5 VA	BELIMO OR EQUAL	MP–100 MI–600 MI–601
FCV–3 NOTE 1	1	STEAM	2 – WAY Modulating Actuator		24VAC ± 20%, 60HZ 24VDC ± 10%, 60HZ	5 VA	HONEYWELL OR EQUAL	MH–600 MI–600 MI–601
FCV–4	1	STEAM	2 – WAY ON/OFF		24VAC ± 20%, 60HZ 24VDC ± 10%, 60HZ	5 VA	BELIMO OR EQUAL	MP–100 MI–600 MI–601
CV–1	44	HOT WATER HEATING SUPPLY	3 – WAY Modulating Actuator	3/8" NPT	2.5W RUNNING 1W HOLDING 4–20 mA	5 VA	BELIMO OR EQUAL	MP–100 MI–600 MI–601

NOTE: FCV–3 TO BE SUPPLIED BY CLEAN STEAM GENERATOR MANUFACTURER INSTALLED AND HOOK–UP BY MECHANICAL CONTRACTOR

FIRE, SMOKE AND CONTROL DAMPERS REF. DWG MH–400 & 401

Damper No.	Size	Qty.	Type DAMPER	Outdoor	Manufacturer	Remarks
SD–1	6"ø	1	30 MIN SMOKE	No	POTROFF SD–141 or Approved Equal	SOILED UTILITY ROOM 151 SUPPLY
SD–2	6"ø	1	30 MIN SMOKE	No	POTROFF SD–141 or Approved Equal	SOILED UTILITY ROOM 151 EXHAUST
SD–3	6"ø	1	30 MIN SMOKE	No	POTROFF SD–141 or Approved Equal	HAC ROOM 144 SUPPLY
SD–4	6"ø	1	30 MIN SMOKE	No	POTROFF SD–141 or Approved Equal	HAC ROOM 144 EXHAUST
SD–5	24"X 83"	1	30 MIN SMOKE	No	POTROFF SD–141 or Approved Equal	AHU–1E1 SUPPLY AIR DUCT
FD/SD–1	10"X 10"	1	1 HOUR FIRE SMOKE	No	POTROFF FSD–141 or Approved Equal	CLEAN UTILITY ROOM 165 SUPPLY
FD/SD–2	6"ø	1	1 HOUR FIRE SMOKE	No	POTROFF FSD–141 or Approved Equal	CLEAN UTILITY ROOM 165 RETURN AIR
D–4	23W x 10H	1	AUTOMATIC	No	GREENHECK or Approved Equal	EF–1 CEILING ABOVE 175 EXHAUST AIR
D–5	23W x 10H	1	AUTOMATIC	No	GREENHECK or Approved Equal	EF–2 CEILING ABOVE 142 EXHAUST AIR
D–6	23W x 10H	1	AUTOMATIC	No	GREENHECK or Approved Equal	EF–3 CEILING ABOVE 152 EXHAUST AIR

SHELL AND TUBE HEAT EXCHANGER (STEAM TO HOT WATER – GLYCOL)

MARK # & LOCATION	SYSTEM	BTU/HR	SHELL SIDE		WATER (TUBE) SIDE				Preferred Vendor
			Pressure (PSIG)	FLOW (#/Hr)	FLOW (GPM)	EWT (°F)	LWT (°F)	PD (FT) MAX	
HX–1,HX–2 ROOM 48 MECH ROOM	STEAM TO HWH – GLYCOL	710,000	10	746	70	160	180	5	BELL AND GOSSETT HEAT EXCHANGER TYPE SU Or Approved Equal

HOT WATER HEATING – GLYCOL PUMPS

MARK # & LOCATION	SYSTEM	TYPE	CAPACITY (GPM)	HEAD (FT)	SIZE		MOTOR DATA					Preferred Vendor
					DISCHARGE	SUCTION	BHP	HP	RPM	VOLT	PHASE	
P–1A,P–1B ROOM 48 MECH ROOM	HWHR	CENTRIFUGAL BASE MOUNTED	70	60	1 1/2	2	1.76	2.0	3500	460	3	MEMPHIS MPH PUMP PACKAGE MODEL 150–200 TE WITH VFD DRIVE Or Approved Equal

CHILLED WATER PUMP

MARK # & LOCATION	SYSTEM	TYPE	CAPACITY (GPM)	HEAD (FT)	IMPELLER SIZE	SIZE		MOTOR DATA					Preferred Vendor
						DISCHARGE	SUCTION	BHP	HP	RPM	VOLT	PHASE	
CHP–1A, CHP–1B ROOM 147	CH	CENTRIFUGAL BASE MOUNTED	160	50	4–7/16"	2	2 1/2	3.373	5	863	460	3	MEMPHIS MPH PUMP PACKAGE MODEL 200–500 TE WITH VFD DRIVE Or Approved Equal

BIDDING DOCUMENTS FULLY SPRINKLERED

BIDDING DOCUMENTS	03/27/2013
Revisions:	Date:

VA Northern Indiana Health Care System, Fort Wayne
2121 Lake Ave., Fort Wayne IN 46805

CONSULTANTS:
USFin Development, LLC
1105 West Weir Street
Litchfield, Illinois 62056
Viridian Architectural Design, Inc.
2020 East Washington Blvd., Suite 200
Fort Wayne, Indiana 46803

ARCHITECT/ENGINEERS:
AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
EnerTronics ENERGY TO EXCEL
Engineering Corporation
The Fairmont Building
9245 Calumet Ave. Suite 205,
Munster, IN 46321
(219) 836-2120 Fax (219) 836-1129

Approved: Medical Center Director
NAME: _____
SIGNATURE: _____
Approved: Medical Center Associate Director
NAME: _____
SIGNATURE: _____

Drawing Title: MECHANICAL SCHEDULES SHEET 2 OF 4
Approved: Engineering Service
NAME: _____ SIGNATURE: _____
Approved: Project Director
NAME: _____ SIGNATURE: _____

Project Title: Renovate First Floor East Wing for PACT
Location: 2121 Lake Ave., Fort Wayne, IN 46805
Date: 03/27/2013 | Checked: AMH | Drawn: DS

Project Number: 610A4-12-107
Building Number: 01
Drawing Number: MH-603
Dwg. 39 of 58

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

DIFFUSER/GRILLS/LOUVER SCHEDULE PACT

Room No.	Functional Area	Supply Air CFM	Supply Diffuser	QTY	Return Air CFM	Return Register Diffuser	QTY	General Exhaust CFM	Exhaust Grill	QTY	Notes
138	Patient Registation	338	D-1	1	338.36	R-3	1	0.00			(2)(3)(4)(5)(6)
138A	Eligibility	487	D-3	1	487.44	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
138B	Means Testing	464	D-3	1	463.90	R-4	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
139	Staff Lounge	435	D-3	1	125.01	R-5	1	125.01	E-1	1	(1)(2)(3)(4)(5)(6)
140	Small Conference Room	1004	D-3	2	783.00	R-8	1	0.00			(1)(2)(3)(4)(5)(6)
141	Dietitian Office	526	D-3	1	525.86	R-6	1	0.00			(1)(2)(3)(4)(5)(6)
142	Office	517	D-3	1	516.89	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
143	PublicToilet	96	T-1	1	0.00			124.80	E-1	1	(1)(2)(3)(4)(5)(6)
144	HAC	78	D-4	1	0.00			101.40	E-1	1	(1)(2)(3)(4)(5)(6)
175	General Waiting	652	D-1	2	0.00			750.11	E-2	1	(1)(2)(3)(4)(5)(6)
174	Pyxis	60	D-4	1	51.97	R-5	1	0.00			(1)(2)(3)(4)(5)(6)
1E-1	Corridor Area West	313	D-8	1	313.41	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
173	Clerk 1	299	D-1	1	299.12	R-2	1	0.00			(1)(2)(3)(4)(5)(6)
172A	ExamRoom 1-1	289	D-1	1	288.81	R-2	1	0.00			(1)(2)(3)(4)(5)(6)
172	ExamRoom 1-2	288	D-1	1	287.82	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
171	RN 1	294	D-1	1	294.48	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
170	Clerk 2	288	D-1	1	287.70	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
169A	ExamRoom 2-1	288	D-1	1	287.70	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
169	ExamRoom 2-2	304	D-1	1	304.27	R-2	1	0.00	--	--	
168	RN 2	285	D-1	1	285.45	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
0	Wheel Chair Alcove (part of corridor)	19	D-4	1	19.26	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
167	Procedure	298	D-1	1	298.39	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
166	Office	298	D-1	1	297.64	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
165	Clean Utility	186	D-6	1	161.69	R-1	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
0	Crash Cart (part of corridor)	16			15.94			0.00	--	--	(1)(2)(3)(4)(5)(6)
164	Pharmacy Office	296	D-1	1	296.03	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
1E-1	Exam Corridor - East	929	D-8	3	928.94	R-8	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
163	Beh. Health Office	248	D-6	1	248.30	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
162A	Exam Room 3-2	277	D-9	1	276.84	R-2	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
162	Exam Room 3-1	439	D-9	2	439.32	R-3	1	0.00			(1)(2)(3)(4)(5)(6)
161	RN3	477	D-3	1	477.27	R-6	1	0.00			(1)(2)(3)(4)(5)(6)
160A	Printer Alcove	129	D-7	1	129.30			0.00	--	--	(1)(2)(3)(4)(5)(6)
161	Clerk 3	500	D-3	1	500.00	R-8	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
159	Clerk 4	500	D-3	1	499.81	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
158A	ExamRoom 4-1	516	D-3	1	516.30	R-6	1	0.00			(1)(2)(3)(4)(5)(6)
158	ExamRoom 4-2	509	D-3	1	508.99	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
157	RN 4	528	D-3	1	527.56	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
156	Pharmacy Office	526	D-3	1	526.19	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
155	RN 5	525	D-3	1	525.13	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
154A	ExamRoom 5-2	525	D-3	1	524.89	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
154	ExamRoom 5-1	525	D-3	1	524.88	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
153	Clerk 5	525	D-3	1	525.13	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
151	Soiled Utility	65	D-4	1	0.00			84.16	E-1	1	(1)(2)(3)(4)(5)(6)
152	Office	500	D-3	1	500.00	R-8	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
150	Clerk 6	522	D-3	1	522.32	R-6	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
148B	Exam Room 6-1	673	D-1	2	673.26	R-8	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
149	Staff Toilet (South)	111	T-1	1	0.00			144.59	E-1	1	
148A	Exam Corridor - South	430	D-5	1	430.27	R-3	1	0.00			(1)(2)(3)(4)(5)(6)
148A	Exam Corridor - South				T-1						
148A	Exam Room 6-2	650	D-1	2	650.00	R-9	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
148	Telehealth	665	D-1	2	665.41	R-8	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
147	Mechanical Room	1152	D-2	2	1151.59	R-9	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
146	RN	448	D-3	1	447.99	R-4	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
145	Office	83	D-4	1	83.40	R-5	1	0.00	--	--	(1)(2)(3)(4)(5)(6)
	Total	21398		61	19833		46	1330	--	6	(1)(2)(3)(4)(5)(6)

DIFFUSER/GRILLS/LOUVER SCHEDULE VERC

Room No.	Functional Area	Supply Air Rated Design CFM	Supply Diffuser	QTY	Return Air CFM	Return Register Diffuser	QTY	General Exhaust Max	Exhaust Grill	QTY	Notes
	Existing Corridor (existing diffuser data)	190	EX		190	EX		0			(2)(3)(4)(5)(6)
A167	VERC	245	D-5	1	489	R-1	1	0	--	--	(1)(2)(3)(4)(5)(6)
A167	VERC	245	D-5	1	489	R-1	1	0	--	--	(1)(2)(3)(4)(5)(6)
A167	VERC	245	D-5	1							(1)(2)(3)(4)(5)(6)
A167	VERC	245	D-5	1							(1)(2)(3)(4)(5)(6)
A168	CTB	144	D-5	1	144	R-2	1	0	--	--	(1)(2)(3)(4)(5)(6)
100A	Fire Alarm (FA)	77	D-5	1	77	R-3	1	0	--	--	(1)(2)(3)(4)(5)(6)
105	Multpurpose	125	D-5	1	125	R-2	1	0	--	--	(1)(2)(3)(4)(5)(6)
A169	Lockers	74	EX		0			257	E-1	1	(1)(2)(3)(4)(5)(6)
A169	Lockers	149	D-5	1							(1)(2)(3)(4)(5)(6)
100	Existing Private Room	164	EX		164	EX		0	--	--	(1)(2)(3)(4)(5)(6)
A169F	Existing Private Toilet	82	EX		0	EX		106	EX		(1)(2)(3)(4)(5)(6)
A169E	Existing Private Room	183	D-5	1	183	EX		0			(1)(2)(3)(4)(5)(6)
101	Existing Private Room	89	EX		179	EX		0			(1)(2)(3)(4)(5)(6)
101	Existing Private Room	89	EX								
	misc. air load (existing diffuser data)	690	EX		690			0	--	--	
	Total	3036		9	2731		5	363		1	

LEGEND

Supply Diffuser	Model and Size	Return Register	Model and Size	Exhaust Grill	Model and Size
D-1	Titus TBD-80 48", 4 slots, 1" slot width, 10 in oval inlet-TBD-80 with inlet dampers or approved equal	R-1	Titus PAR 24 X 24, 6"dia. Round Neck with butterfly blade round neck dampers AG-85 or approved equal	E-1	Titus PAR 12 x12, 6"dia Round Neck with butterfly blade round neck dampers AG-85 or approved equal
D-2	27"O.D. with 12" dia. Round neck, Carnes SSAA with KXRA volume dampers or approved equal.	R-2	Titus PAR 24 X 24, 8"dia. Round Neck with butterfly blade round neck dampers AG-85 or approved equal	E-2	Titus PAR 24 X 24, 14"dia. Round Neck with butterfly blade round neck dampers AG-85 or approved equal
D-3	Titus TBD-80 48", 4 slots, 1 1/2" slot width, 12"oval inlet-TBD-80 with inlet dampers or approved equal	R-3	Titus PAR 24 X 24, 10"dia. Round Neck with butterfly blade round neck dampers AG-85 or approved equal		
D-4	12 X 12, 5"dia. Round Neck Carnes Model SFPA 1205 with KXMB-05 volume round neck dampers or approved equal with directional baffles as required per drawing.	R-4	Titus PAR 24 X 24, 12"dia. Round Neck with butterfly blade round neck dampers AG-85 or equal		
D-5	24 X 24, 8"dia. Round Neck Carnes Model SFPA 2408 with KXMB-08 volume round neck dampers or approved equal.	R-5	Titus PAR 12 x12, 6"dia Round Neck with butterfly blade round neck dampers AG-85 or approved equal		
D-6	Titus TBD-80 48", 4 slots, 3/4" slot width, 10 in oval inlet-TBD-80 with inlet dampers or approved equal	R-6	Titus PAR 24 X 24, 14"dia. Round Neck with butterfly blade round neck dampers AG-85 or approved equal		
D-7	12 X 12, 5"dia. Round Neck Carnes Model SJTB 1205 with KXMB-05 volume round neck dampers or approved equal.	R-7	Titus PAR 24 X 24, 16"dia. Round Neck with butterfly blade round neck dampers AG-85 or approved equal		
D-8	24 X 24, 10"dia. Round Neck Carnes Model SJTB 2410 with KXMB-10 volume round neck dampers or approved equal.	R-8	Titus PAR 24 X 24, 15"x 15" sq. neck with butterfly blade round neck dampers AG-85 or approved equal		
D-9	Titus TBD-80 24", 4 slots, 1 1/2" slot width, 10 in oval inlet-TBD-80 with inlet dampers or approved equal	R-9	Titus PAR 24 X 24, 18"x 18" sq. neck with butterfly blade round neck dampers AG-85 or approved equal		

NOTES:
(1) ALL DIFFUSERS / GRILLES INSTALLED IN LAYIN TILE CEILINGS SHALL HAVE LAYIN STYLE BORDERS WITH FULL 24X24 MODULES.
(2) PROVIDE SQUARE TO ROUND NECK TRANSITION WHERE APPLICABLE.
(3) COORDINATE BORDER TYPES WITH ARCHITECTURAL FLOOR PLAN AND REFLECTED CEILING PLAN.
(4) COORDINATE FINISH WITH ARCHITECT.
(5) COORDINATE THROW PATTERN AND NUMBER OF DIRECTIONAL BLOW CLIPS WITH MECHANICAL FLOOR PLANS.
(6) SUPPLIED DAMPERS TO BE USED IN HARD DUCT ONLY. NOT FOR USE IN FLEXIBLE DUCTS

BIDDING DOCUMENTS
FULLY SPRINKLERED

BIDDING DOCUMENTS	03/27/2013
Revisions:	Date:

VA Northern Indiana Health Care System, Fort Wayne
2121 Lake Ave., Fort Wayne IN 46805

CONSULTANTS:
USFin Development, LLC
1105 West Weir Street
Litchfield, Illinois 62056
Viridian Architectural Design, Inc.
2020 East Washington Blvd, Suite 200
Fort Wayne, Indiana 46803

ARCHITECT/ENGINEERS:
AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
EnerTronics Engineering Corporation
ENERGY TO EXCEL
The Fairmont Building
9245 Calumet Ave. Suite 205,
Munster, IN 46321
(219) 836-2120 Fax (219) 836-1129

Approved: Medical Center Director
NAME: _____
SIGNATURE: _____
Approved: Medical Center Associate Director
NAME: _____
SIGNATURE: _____

Drawing Title: MECHANICAL SCHEDULES SHEET - 3 OF 4
Approved: Engineering Service
NAME: _____ SIGNATURE: _____
Approved: Project Director
NAME: _____ SIGNATURE: _____

Project Title: Renovate First Floor East Wing for PACT
Location: 2121 Lake Ave., Fort Wayne, IN 46805
Date: 03/27/2013 | Checked: DS | Drawn: DK

Project Number: 610A4-12-107
Building Number: 01
Drawing Number: MH-604
Dwg. 40 of 58

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231