



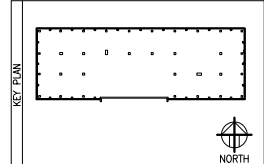
ARLINGTON COUNTY HVAC REPLACEMENT

2020 14TH STREET, ARLINGTON, VA 22201

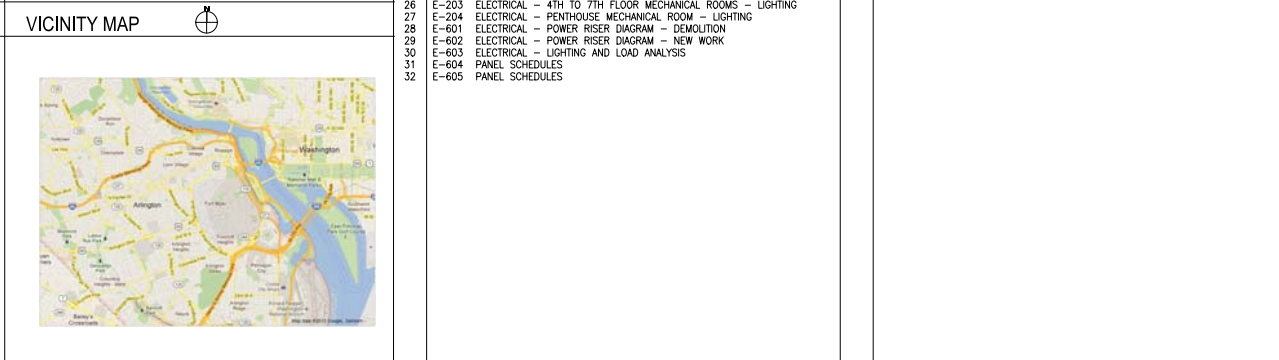
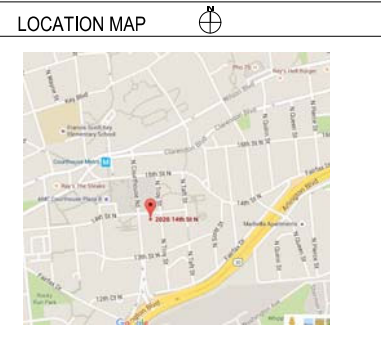
ARLINGTON VIRGINIA
Approved: 6/1/2023
Subject to Field Inspection
CYB02301012

REV	DATE	DESCRIPTION
	02/##/23	RE-REVISED PERMIT SET
	04/23/18	REVISED PERMIT SET
	05/24/17	REDUCED SCOPE
	01/13/17	BID-SET

GRAPHIC SCALE
USE GRAPHIC SCALE FOR REDUCED PRINTS



PROJECT TEAM		APPLICABLE CODES & REGULATIONS	INDEX OF DRAWINGS
PRIME ENGINEERS JVP ENGINEERS, P.C. 5101 Wisconsin Avenue, NW Suite 400 Washington, DC 20016-4140 Tel: (202) 362-3001 Fax: (202) 362-5541	ARCHITECT PECK PECK + ASSOCIATES 12506 LAKE RIDGE DRIVE, Suite C WOODBRIDGE, VA 22192 Tel: (703) 690-3121 Fax: (703) 362-5541	2012 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC) 2012 ICC INTERNATIONAL BUILDING CODE 2012 ICC INTERNATIONAL PLUMBING CODE 2012 ICC INTERNATIONAL MECHANICAL CODE 2012 ICC INTERNATIONAL ENERGY CONSERVATION CODE 2011 NFPA 70 NATIONAL ELECTRIC CODE 2012 NFPA 70E ELECTRICAL SAFETY IN THE WORKPLACE 2010 NFPA 72 NATIONAL FIRE ALARM CODE	GENERAL 01 G-001 COVER SHEET ARCHITECTURE 02 CS-01 CODE ANALYSIS 03 A-101 MECHANICAL ROOMS - DEMOLITION 04 A-102 MECHANICAL ROOMS - NEW WORK 05 A-103 PENTHOUSE - NEW WORK MECHANICAL 06 M-001 MECHANICAL SYMBOLS & ABBREVIATIONS 07 M-101 MECHANICAL PARTIAL PLANS - DEMOLITION 08 M-102 MECHANICAL PENTHOUSE - HVAC DUCTWORK - DEMOLITION 09 M-103 MECHANICAL PENTHOUSE - HVAC PIPING - DEMOLITION 10 M-201 MECHANICAL PARTIAL PLANS - NEW WORK 11 M-202 MECHANICAL PENTHOUSE - HVAC DUCTWORK - NEW WORK 12 M-203 MECHANICAL PENTHOUSE - HVAC PIPING - NEW WORK 13 M-204 MECHANICAL 4TH AND 5TH FLOOR PLANS - TEMPERATURE CONTROL 14 M-205 MECHANICAL 6TH AND 7TH FLOOR PLANS - TEMPERATURE CONTROL 15 M-501 MECHANICAL DETAILS 16 M-601 MECHANICAL PIPING DIAGRAM 17 M-602 MECHANICAL SCHEDULES 18 M-701 MECHANICAL CONTROLS 19 M-702 MECHANICAL CONTROLS 20 M-703 MECHANICAL CONTROLS ELECTRICAL 21 E-001 ELECTRICAL - GENERAL NOTES, ABBREVIATIONS & SYMBOLS 22 E-101 ELECTRICAL - 4TH TO 7TH FLOOR MECHANICAL ROOMS - DEMOLITION 23 E-102 ELECTRICAL - PENTHOUSE MECHANICAL ROOM - DEMOLITION 24 E-201 ELECTRICAL - 4TH TO 7TH FLOOR MECHANICAL ROOMS - NEW WORK 25 E-202 ELECTRICAL - PENTHOUSE MECHANICAL ROOM - NEW WORK 26 E-203 ELECTRICAL - 4TH TO 7TH FLOOR MECHANICAL ROOMS - LIGHTING 27 E-204 ELECTRICAL - PENTHOUSE MECHANICAL ROOM - LIGHTING 28 E-601 ELECTRICAL - POWER RISER DIAGRAM - DEMOLITION 29 E-602 ELECTRICAL - POWER RISER DIAGRAM - NEW WORK 30 E-603 ELECTRICAL - LIGHTING AND LOAD ANALYSIS 31 E-604 PANEL SCHEDULES 32 E-605 PANEL SCHEDULES
STRUCTURAL	PROJECT MANAGER ARLINGTON COUNTY, VIRGINIA DEPT. OF ENVIRONMENTAL SERVICES FACILITIES DESIGN & CONSTRUCTION 1400 N. UHLE ST. Suite 403 Arlington, VA 22201 Tel: (703) 228-4509 Fax: (703) 228-3963		

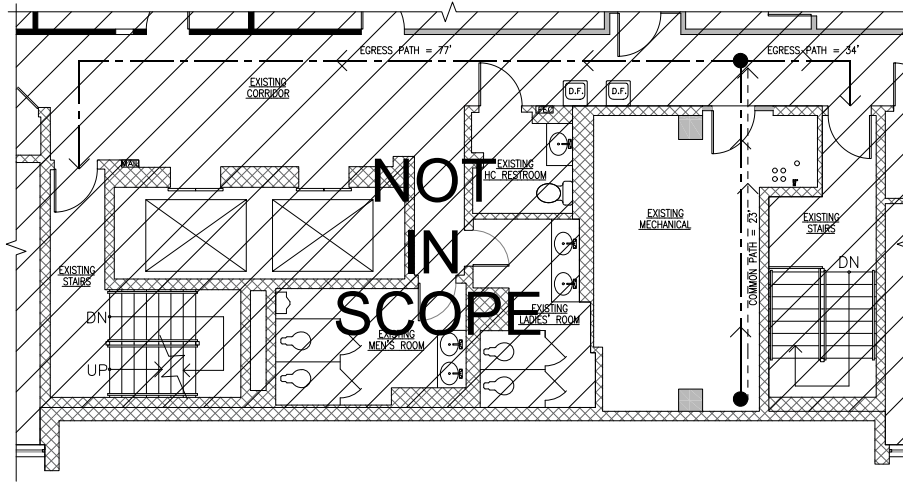


CONTRACTOR	
CONTRACT NUMBER	CONSTRUCTION A/E DESIGN
PRIME	JVP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Suite 400 Washington, DC 20016-4140 Tel: (202)362-3001 Fax: (202)362-5541
A/E DESIGN	CONSULT
SEALS	

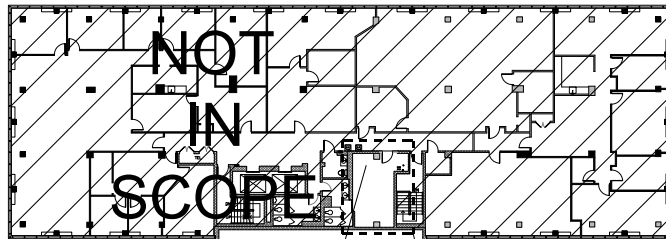
CLIENT	
ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201	
NAME	ARLINGTON COUNTY
ADDRESS	1400 N. UHLE STREET ARLINGTON, VA 22201
NUMBER	
FLOORS	
OTHER BLDGS	
DESCRIPTION	2020 14TH STREET HVAC REPLACEMENT
PROJECT NUMBER	BID # 17-136-ITB JVP# 10-19.10.0
PROJ. MGR.	-

DRAWING	
DRAWN BY	RH DATE
CHECKED BY	DK
TITLE	COVER SHEET
NUMBER	G 0 01
DISCIPLINE	SHEET TYPE
SHEET	1 OF 15

SHEET SIZE: 30x42



ENLARGED PARTIAL FLOOR PLAN
(FLOORS 4-7, TYP.) - CODE ANALYSIS
1/4"=1'-0"



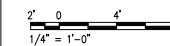
OVERALL FLOOR PLAN (FLOORS 4-7, TYP.)
1/4"=1'-0"



LEGEND:

- > EGRESS PATH
- - -> COMMON PATH
- ⊙ EXIT SYMBOL
- /// NOT IN SCOPE
- (TEXT) ROOM DESIGNATION AND NUMBER

GRAPHIC SCALE:



CODE ANALYSIS

APPLICABLE CODES AND STANDARDS
 VIRGINIA CONSTRUCTION CODE (IBC-2012), USBC, PART I
 VIRGINIA REHABILITATION CODE (IBC-2012), USBC, PART II
 INTERNATIONAL PLUMBING CODE 2012
 INTERNATIONAL MECHANICAL CODE 2012
 INTERNATIONAL ENERGY CONSERVATION CODE 2012
 INTERNATIONAL FUEL GAS CODE 2012
 NFPA 70 - NATIONAL ELECTRIC CODE 2011
 NFPA 72 - NATIONAL FIRE ALARM CODE 2010
 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES (ICC/ANSI A117.1) 2009
 VIRGINIA UNIFORM STANDARD BUILDING CODE (VUSBC) 2012

BUILDING CODE DATA IBC Ref.

USE GROUP	BUSINESS (B)	
	INSTITUTIONAL (I-1)	
	ASSEMBLY (A-2, A-3)	
	PARKING GARAGE (S-2)	304

CONSTRUCTION TYPE IB 602.2

YEAR BUILDING CONSTRUCTED 1966

ALLOWABLE HEIGHT (WITH SPRINKLER SYSTEM)
NINE STORIES, 160' TABLE 503

EXISTING HEIGHT - SEVEN STORIES (OCCUPIED), 68' (±)
 BUILDING IS FULLY SPRINKLERED
 EXISTING SPRINKLER STANDPIPES ARE LOCATED IN EXISTING STAIRWELLS.
 EXISTING AUTOMATIC FIRE ALARM & VOICE ALARM SYSTEM IS IN PLACE.

ALLOWABLE AREA: 55,000 S.F./FLOOR TABLE 503

EXISTING FLOOR AREA: 9,696 S.F./FLOOR

OCCUPANT LOAD ALLOWED
 BUSINESS (B) - 1/100 S.F. GROSS
 SLEEPING AREA (I-1) - 1/120 S.F. GROSS
 COMMERCIAL KITCHEN (A-2) - 1/200 S.F. GROSS
 ADULT CLASSROOM (A-3) - 1/200 S.F. GROSS
 PARKING GARAGE - 1/200 S.F. GROSS TABLE 1004.1.2

SCOPE OF CONTRACT (AREA USED IN CODE ANALYSIS)
 260 S.F./300 = 1 OCCUPANT
 ON EACH OF FOUR FLOORS = 4 OCCUPANTS

WORK IS LOCATED ON BUSINESS OCCUPANCY FLOORS ONLY. THERE WILL BE NO CHANGE OF OCCUPANCY TO THESE FLOORS.

EXITS REQUIRED 2 1015.1
 EXISTING EXITS PROVIDED 2

MAXIMUM PATH OF EGRESS:
 A-2, A-3, I-1 & S-2 250 L.F.
 B 300 L.F. TABLE 1016.2

DEAD END MAXIMUM DISTANCE:
 A-2 & A-3 20 L.F.
 B, I-1 & S-2 50 L.F. 1018.4

MAXIMUM COMMON PATH OF EGRESS:
 A-2, A-3 & I-1 75 L.F.
 B & S-2 100 L.F. 1014.3

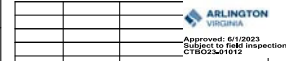
MINIMUM EGRESS WIDTH
 STAIRWAY/CORRIDOR: 44 IN. 1009.1/1017.2

RATED CONSTRUCTION (CONSTRUCTION TYPE IB) TABLE 601

PRIMARY STRUCTURAL FRAME 2HR
 BEARING WALLS - EXTERIOR 2HR
 - INTERIOR 2HR
 NON-BEARING WALLS/PARTITIONS 0HR
 FLOOR CONSTRUCTION 2HR
 ROOF CONSTRUCTION 1HR
 EXIT ENCLOSURE <4 STORIES 2HR
 1022.1/708.4

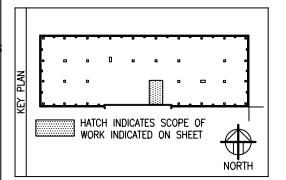
SHAFT ENCLOSURE ≤2 STORIES 2HR 708.2.7

CORRIDOR FIRE RESISTANCE RATING TABLE 1018.1
 A-2, A-3, B & S-2 0HR
 I-1



REV	DATE	DESCRIPTION
	02/16/23	REVISED PERMIT SET
	05/24/17	REDUCED SCOPE
	12/06/16	BID SET
	09/23/16	PERMIT SET
		DESCRIPTION

USE GRAPHIC SCALE FOR REDUCED PRINTS



CONTRACTOR
 CONTRACT NUMBER
 CONSTRUCTION A/E DESIGN
 PRIME JVP Engineers, P.C.
 5101 Wisconsin Avenue, N.W., Suite 400
 Arlington, VA 22204
 Tel: (202) 362-3001
 Fax: (202) 362-5541

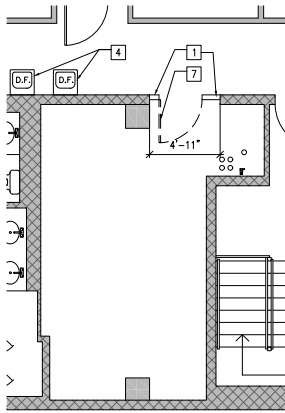
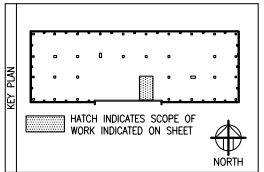


CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME ARLINGTON COUNTY ADDRESS 1400 N. UHLE STREET ARLINGTON, VA 22201
PROJECT	DESCRIPTION 2020 14TH STREET HVAC REPLACEMENT NUMBER BID # 17-136-ITB JVP# 10-19.10.0 PROJ. MGR. -

DRAWN BY	BR	DATE	02/12/18
CHECKED BY	MS	TITLE	CODE ANALYSIS
NUMBER	C S 01	SHEET	2 OF 32

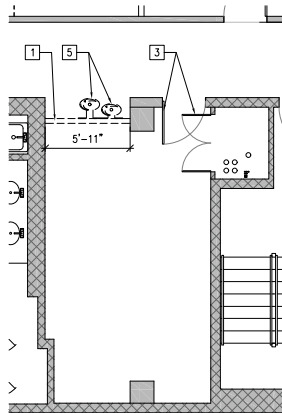
02/16/23	REVISED PERMIT SET	
10/05/17	REISSUED FOR PERMIT	
05/24/17	REDUCED SCOPE	
12/06/16	BID SET	
09/23/16	ISSUE FOR PERMIT	
REV	DATE	DESCRIPTION

GRAPHIC SCALE
 USE GRAPHIC SCALE FOR REDUCED PRINTS



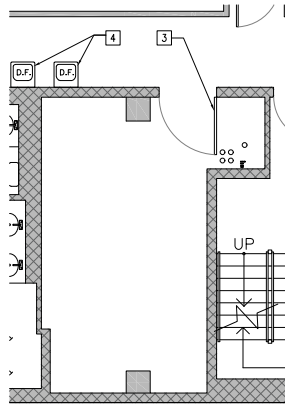
7TH FLOOR MECHANICAL ROOM PLAN - DEMOLITION
 1/4"=1'-0"

2
 A101/A101



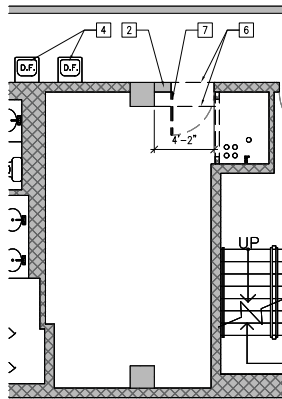
6TH FLOOR MECHANICAL ROOM PLAN - DEMOLITION
 1/4"=1'-0"

1
 A101/A101



5TH FLOOR MECHANICAL ROOM PLAN - DEMOLITION
 1/4"=1'-0"

2
 A101/A101



4TH FLOOR MECHANICAL ROOM PLAN - DEMOLITION
 1/4"=1'-0"

1
 A101/A101

DEMOLITION NOTES:

- 1 REMOVE EXIST. GYP. BOARD AND METAL STUD PARTITION AS INDICATED. COORDINATE OPENING SIZE W/MECHANICAL.
- 2 REMOVE EXIST. CMU PARTITION WALL AS INDICATED. COORDINATE OPENING SIZE W/ MECHANICAL.
- 3 EXIST. DOOR, FRAME AND HARDWARE TO REMAIN
- 4 EXIST. WATER COOLERS TO REMAIN.
- 5 REMOVE EXIST. WATER COOLERS & MODULAR CONDENSING UNITS. REMOVE AND STORE FOR REINSTALLATION.
- 6 CONCRETE BEAM ABOVE TO REMAIN.
- 7 REMOVE EXIST. DOOR, FRAME AND HARDWARE, AND STORE FOR REINSTALLATION.

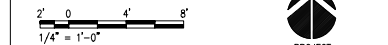
GENERAL NOTES:

1. --

DEMOLITION LEGEND:

- EXIST. MTL. STUD PARTITION TO REMAIN
- ==== DEMO. MTL. STUD PARTITION
- ▒ EXIST. CMU PARTITION TO REMAIN
- DEMO. CMU PARTITION

GRAPHIC SCALE:



CONTRACTOR

CONTRACT NUMBER	CONSTRUCTION
	A/E DESIGN
A/E DESIGN	JVP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Suite 400 Washington, DC 20096-2151 Tel: (202)362-3801 Fax: (202)362-5541
CONSULT	



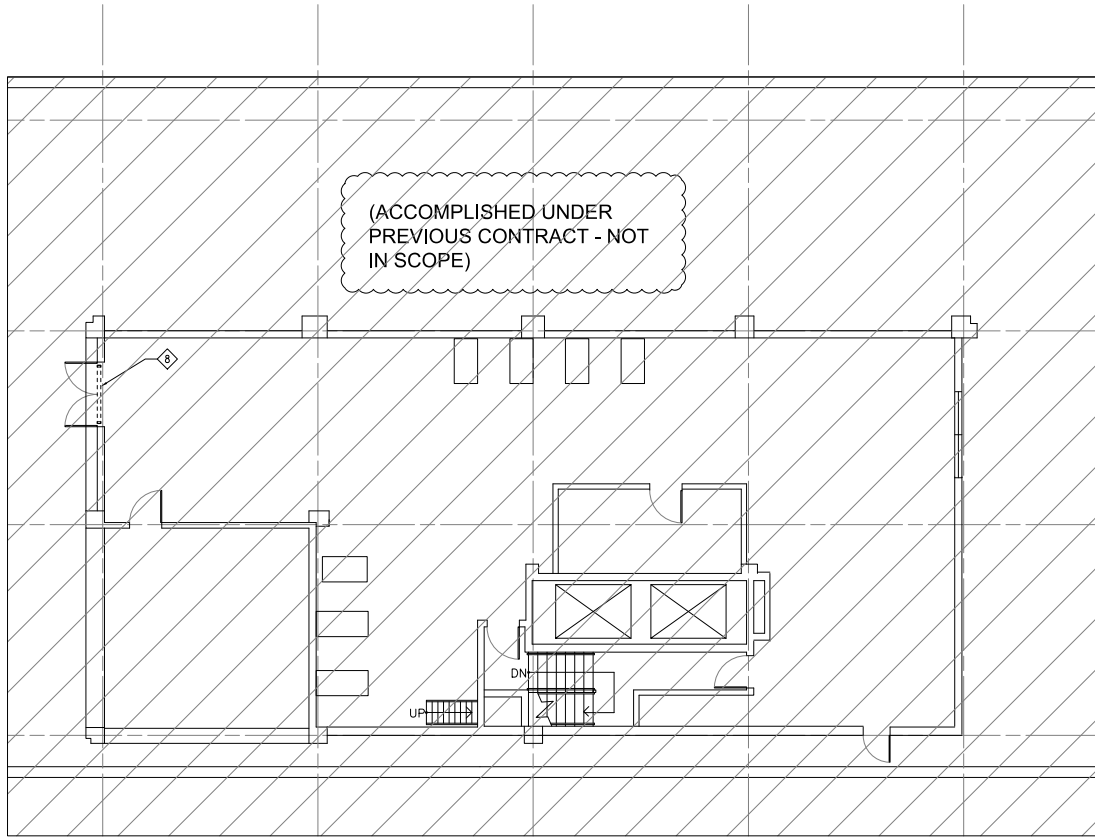
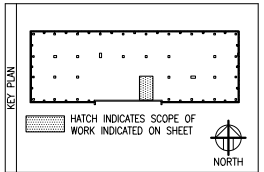
CLIENT

ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201	
NAME	ARLINGTON COUNTY
ADDRESS	1400 N. UHLE STREET ARLINGTON, VA 22201
NUMBER	
FLOORS	
OTHER BLDGS	
PROJECT DESCRIPTION	2020 14TH STREET HVAC REPLACEMENT
NUMBER	BID # 17-136-ITB JVP 10-19.10.0
PROJ. MGR.	--

DRAWN BY	BR	DATE	02/12/18
CHECKED BY	MS		
TITLE	MECHANICAL ROOMS - DEMOLITION		
NUMBER	A 1 01		
	SCALE	SHEET TYPE	SEQUENCE
		3	OF 32

REV	DATE	DESCRIPTION
	02/16/23	REVISED PERMIT SET
	05/24/17	REDUCED SCOPE
	12/06/16	BID SET
	09/23/16	PERMIT SET

USE GRAPHIC SCALE FOR REDUCED PRINTS



NEW WORK NOTES:

- B REMOVE GLASS AND GLAZING IN EXISTING WINDOW SYSTEM TO FACILITATE INSTALLATION OF A NEW 32"x65" LOUVER WITHIN THE OPENING OF THE WINDOW FRAMING SYSTEM. G.C. TO INSTALL A 6" PLENUM BEHIND THE 32"x65" LOUVER. INSTALL REFRIGERANT AT 3'-0" AFF AND PULL STATION TO SHUT OFF TO CHILLERS. ACTIVATE FAN AND ALARM. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

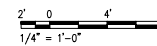
GENERAL NOTES:

- 1. --

NEW WORK LEGEND:

- EXIST. MTL. STUD PARTITION TO REMAIN
- NEW MTL. STUD PARTITION
- EXIST. CMU PARTITION TO REMAIN
- NEW CMU PARTITION

GRAPHIC SCALE:



PENTHOUSE MECHANICAL ROOM PLAN - NEW WORK
 3/16"=1'-0"



CONTRACTOR	CONTRACT NUMBER	CONSTRUCTION
	PRIME	A/E DESIGN
A/E DESIGN	 JVP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Suite 400 ••••• Washington, DC 20098-2151 Tel: (202)362-3001 Fax: (202)362-5541	
CONSULT		
SEALS		

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201	
BUILDING	NAME	ARLINGTON COUNTY
	ADDRESS	1400 N. UHLE STREET ARLINGTON, VA 22201
	NUMBER FLOORS	
OTHER BLDGS	2020 14TH STREET	
PROJECT	DESCRIPTION	HVAC REPLACEMENT
	NUMBER	BID # 17-136-ITB JVP# 10-19.10.0
	PROJ. MGR.	--

DRAWING	DRAWN BY	BR	DATE	02/12/18
	CHECKED BY	MS		
DRAWING	TITLE	PENTHOUSE - NEW WORK		
	NUMBER	A 1 03		
	SCHEME SHEET TYPE	SHEET 5 OF 32		

GENERAL NOTES

- SCOPE: PROVIDE AND INSTALL ALL ELECTRICAL SYSTEMS AS INDICATED AND REQUIRED, COMPLETE AND OPERABLE.
- FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, SERVICES AND SKILLED SUPERVISION NECESSARY FOR THE CONSTRUCTION, RIGGING, ERECTION, INSTALLATION, CONNECTION, TESTING AND ADJUSTMENT OF ALL CIRCUITS AND ELECTRICAL EQUIPMENT SPECIFIED HEREIN OR SHOWN, OR NOTED ON THE DRAWINGS. DELIVER MATERIALS AND EQUIPMENT TO SITE PROTECTED, COMPLETE IN ALL RESPECTS, READY FOR INSTALLATION.
- APPLICABLE CODES, REGULATIONS & PRACTICES: ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING CODES, REGULATIONS & PUBLICATIONS:
 - A. ICC INTERNATIONAL BUILDING CODE, 2012
 - B. ICC INTERNATIONAL MECHANICAL CODE, 2012
 - C. ICC INTERNATIONAL PLUMBING CODE, 2012
 - D. NFPA 70, NATIONAL ELECTRICAL CODE, 2011
 - E. NFPA 72, NATIONAL FIRE ALARM CODE, 2010
 - F. ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES (ICC/ANSI A117.1) 2009
 - G. VIRGINIA UNIFORM STATEWIDE BUILDING CODE 2012
- DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE INTENT OF THE PLANS AND SPECIFICATIONS. MANUFACTURER AND CATALOG NUMBERS ARE USED HERE STRICTLY AS REFERENCE. THEY REPRESENT THE TYPE, SIZE, CONSTRUCTION, PERFORMANCE AND LEVEL OF QUALITY DESIRED. EQUIPMENT AND APPURTENANCES FROM OTHER MANUFACTURERS THAT MATCH OR SURPASS THE CHARACTERISTICS OF THOSE REFERENCED WILL BE ACCEPTABLE, SUBJECT TO APPROVAL BY THE COUNTY PROJECT OFFICER.
- CONSULT PLANS AND DETAILS FOR TYPES OF CONSTRUCTION, HEAD ROOM, FINISHES, FURRED CEILINGS, EXACT LOCATION OF FIXTURES, EQUIPMENT AND EXACT DIMENSIONS. COUNTY PROJECT OFFICER MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON THESE DRAWINGS.
- COORDINATE MOUNTING HEIGHT OF DEVICES ON FINISHED WALLS TO PROVIDE A NEAT AND SYMMETRICAL APPEARANCE. SEE PLANS, ELEVATIONS AND DETAILS FOR HEIGHTS AND LOCATIONS OF RACEWAYS, DEVICES, AND OTHER ELECTRICAL DEVICES.
- MATERIALS AND SUBSTITUTIONS: THE CONTRACTOR SHALL SUBMIT A LIST OF ALL MATERIALS AND FIXTURES TO THE COUNTY PROJECT OFFICER FOR APPROVAL. NO SUBSTITUTION WILL BE ALLOWED WITHOUT PERMISSION IN WRITING.
- MOUNTING HEIGHTS, UNLESS OTHERWISE NOTED, ARE TO CENTERLINE OF EQUIPMENT.
- CONDUITS: ALL CONDUITS SHALL BE NEW AND SHALL BE CUT TO EXACT LENGTHS TO SUIT THE FIELD CONDITIONS. BURRS SHALL BE REMOVED. PROVIDE BUSHINGS WHERE CONDUIT ENDS ARE EXPOSED TO CABLING.
- CONDUIT SYSTEMS: ALUMINUM CONDUIT SHALL NOT BE PERMITTED. MINIMUM SIZE OF CONDUIT IS 3/4". RUN CONDUIT PARALLEL TO WALLS AND CEILING.
- WIRE AND CABLE: TYPE THIN OR THIN, 600 VOLT, COPPER CONDUCTORS COLOR CODED. THE MINIMUM SIZE SHALL BE #12 AWG, 75C TEMPERATURE RATING PER NEC.
- GROUNDING: ALL SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH THE NEC, RECOMMENDED PRACTICES OF IEEE STD 1100, AND ALL LOCAL CODES. CONDUIT OR CABLE ARMOR SHALL NOT BE SOLE MEANS OF GROUNDING FOR ANY CIRCUIT.
- IDENTIFICATION: PROVIDE EQUIPMENT ENCLOSURES WITH ENGRAVED LAMINATE PLACARDS DISPLAYING EQUIPMENT DESIGNATION AND SOURCE OF POWER. LABEL JUNCTION BOX COVERS WITH ALL CIRCUIT NUMBERS.
- TESTING: ALL ELECTRICAL WORK SHALL BE TESTED AS REQUIRED BY ALL AUTHORITIES HAVING JURISDICTION, USING NETA STANDARD METHODS AND EQUIPMENT.
- CLEANING: REMOVE FROM SITE ALL MATERIALS NOT USED IN THIS PROJECT. CLEAR ALL DEBRIS FROM AREA OF WORK AND LEAVE SITE IN CLEAN CONDITION. CLEAN ALL EQUIPMENT ENCLOSURES, INSIDE AND OUTSIDE.

GENERAL DEMOLITION NOTES

- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS TO DETERMINE EXTENT OF DEMOLITION WORK PRIOR TO INSTALLATION OF NEW WORK.
- ALL CUTTING AND PATCHING SHALL BE PERFORMED IN A WORKMANLIKE MANNER ACCEPTABLE TO THE COUNTY PROJECT OFFICER.
- OTHER DEVICES & EQUIPMENT FOUND ON WALLS TO BE DEMOLISHED, BUT NOT SHOWN ON DRAWINGS, SHALL ALSO BE REMOVED, UNLESS OTHERWISE NOTED.
- DURING DEMOLITION, VERIFY THAT JUNCTION BOXES ARE CORRECTLY LABELED WITH CIRCUITS CONTAINED WITHIN.
- CONTRACTOR SHALL COORDINATE AND REQUEST PERMISSION FOR SHUTDOWN OF EXISTING SERVICES. THE CONTRACTOR SHALL SEND A NOTICE TO THE COUNTY TWO DAYS IN ADVANCE PRIOR TO OUTAGE. NOTICE TIME AND MANNER OF SHUTDOWN SHALL BE SCHEDULED AND APPROVED BY THE COUNTY PROJECT OFFICER.
- CONTRACTOR SHALL REMOVE FROM SITE ALL ELECTRICAL EQUIPMENT AND MATERIALS NOT UTILIZED IN THIS CONTRACT AND SHALL DISPOSE OF PROPERLY OR AS DIRECTED BY THE COUNTY PROJECT OFFICER.

SYMBOL (NEW WORK)	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD AND HOA SELECTOR SWITCH	A, AMP ABBREV	AMPERES	(R) RECEPT, REC.	RELOCATED ITEM
	PANELBOARD	AC AF AFF AFG AHU ANC AWG BLDG	ALTERNATING CURRENT AMPERE FRAME ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AIR HANDLING UNIT AMPERE INTERRUPTING CAPACITY AMERICAN WIRE GAUGE BUILDING	RGS RMS SPEC SW SWBD SWGR SYS TYP UG UNON UL COTR	RIGID GALVANIZED STEEL ROOT MEAN SQUARE SPECIFICATION SWITCH SWITCHBOARD SWITCHGEAR SYSTEM TYPICAL UNDERGROUND UNLESS OTHERWISE NOTED UNDERWRITER'S LABORATORY
	JUNCTION BOX	CB CKT COTR	CIRCUIT BREAKER CIRCUIT	V VA V VW W/O X XFMR	VOLT VOLT AMPERE WIRE WITH WEATHERPROOF WIREWAY WITHOUT EQUIPMENT IS TO BE DEMOLISHED TRANSFORMER
	MOTOR CONNECTION	CT (CU) CU DIA DN DWG E, EM (E) EF ELECT EMT (ER) EA, EXIST. FSS GRD, G GRS GW HD HOA HP HAC HZ JB, J-BOX KV KVA KW KWH LV MAX MCB MH MIN MDP MCM, KCM MTD MLD MTG N NC NEC NIC NTS P PF PH PNL	SAFETY SWITCH FUSED, SIZE AS INDICATED SAFETY SWITCH NON-FUSED CONDUIT, CONCEALED IN CEILING OR WALL OR CHASE UNON NEW WORK KEY NOTES DEMOLITION KEY WORK NOTES CONNECTION TO EXISTING VARIABLE FREQUENCY DRIVE	CT (CU) CU DIA DN DWG E, EM (E) EF ELECT EMT (ER) EA, EXIST. FSS GRD, G GRS GW HD HOA HP HAC HZ JB, J-BOX KV KVA KW KWH LV MAX MCB MH MIN MDP MCM, KCM MTD MLD MTG N NC NEC NIC NTS P PF PH PNL	REPRESENTATIVE CIRCUIT BREAKER CIRCUIT CONTRACTING OFFICERS TECHNICAL CURRENT TRANSFORMER CONDENSING UNIT COPPER DIAMETER DOWN DRAWING EMERGENCY EXISTING TO RELOCATE EXHAUST FAN ELECTRICAL ELECTRICAL METALLIC TUBING EXISTING TO RELOCATE EXISTING FUSED SAFETY SWITCH GROUND GALVANIZED RIGID STEEL GROUND WIRE HEAVY DUTY HAND-OFF-AUTOMATIC HORSE POWER HEATING, VENTILATING AND AIR CONDITIONING HERTZ JUNCTION BOX KILOVOLT KILOVOLT-AMPERE KILOWATT KILOWATT-HOUR LOW VOLTAGE MAXIMUM MAIN CIRCUIT BREAKER MOUNTING HEIGHT MINIMUM MAIN DISTRIBUTION PANEL THOUSAND CIRCULAR MILLS MOUNTED MAIN LUGS ONLY MOUNTING NEUTRAL NORMALLY CLOSED NATIONAL ELECTRIC CODE NOT IN CONTRACT NOT TO SCALE POLE OR POLES POWER FACTOR PHASE PHASE

 Approved: 6/1/2023 Subject to Field Inspection EYB02361612		
REV	DATE	DESCRIPTION
	02/16/23	REVISED PERMIT SET
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	01/13/17	BID-SET
	08/23/18	PERMIT SET

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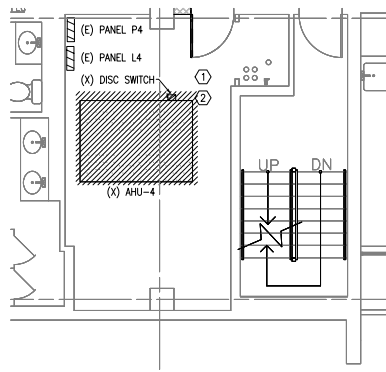
GRAPHIC SCALE

CONTRACTOR	CONTRACT NUMBER	CONSTRUCTION
	Z/E DESIGN	Z/E DESIGN
Z/E DESIGN	PRIME	5101 Wisconsin Avenue, N.W. Englewood, P.C. Suite 400 Washington, DC 20092-2931 Tel: (202)382-3600 Fax: (202)382-6844
	CONSULT	

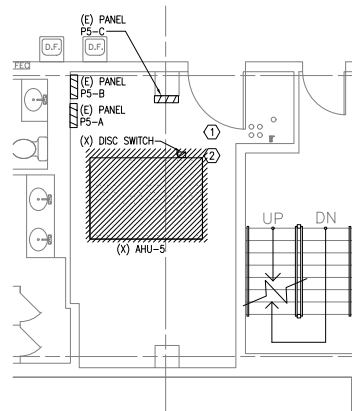


CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: FLOORS: OTHER BLDGS:
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-ITB PROJ. MGR.: JPH 10-19-10.0

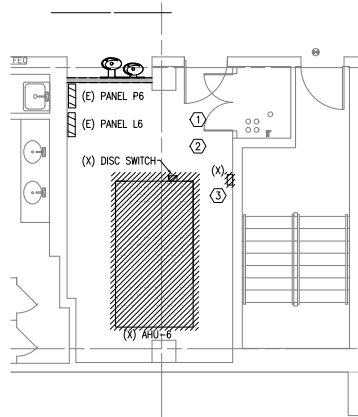
DRAWN BY	---	DATE	02/12/18
CHECKED BY	---	GENERAL NOTES, ABBREVIATIONS AND SYMBOLS	
TITLE	E 0 01		
NUMBER	BOOK	SHEET	TOTAL
		OF	



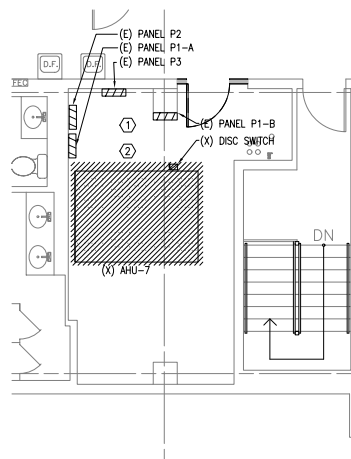
1 4TH FLOOR MECHANICAL ROOM - DEMOLITION
E-101/E-101 SCALE: 1/4" = 1'-0"



2 5TH FLOOR MECHANICAL ROOM - DEMOLITION
E-101/E-101 SCALE: 1/4" = 1'-0"



3 6TH FLOOR MECHANICAL ROOM - DEMOLITION
E-101/E-101 SCALE: 1/4" = 1'-0"



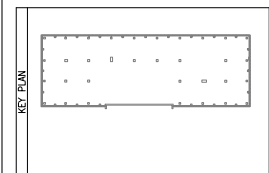
4 7TH FLOOR MECHANICAL ROOM - DEMOLITION
E-101/E-101 SCALE: 1/4" = 1'-0"

DEMOLITION NOTES

- ① REMOVE EXISTING LIGHTING FIXTURES IN THE MECHANICAL ROOM AND RETAIN THE CONNECTED CONDUIT AND WIRING. TRACE AND IDENTIFY THE ELECTRICAL CIRCUIT FOR CONNECTION TO NEW LIGHTING FIXTURES.
- ② REMOVE EXISTING SMOKE DETECTORS. TRACE + IDENTIFY THE CONNECTED CIRCUITS FOR CONNECTION OF NEW SMOKE DETECTORS IN NEW WORK.
- ③ TRACE AND IDENTIFY THE CONNECTED ELECTRICAL AND CONTROL WIRING. REMOVE CONTROL PANEL AND ALL CONNECTED CONDUITS AND WIRING. COORDINATE CONNECTION OF EXISTING CONTROL PANEL THAT IS TO REMAIN WITH THE NEW CONTROL PANEL.

Approved: 6/12/23 Subject to Field Inspection E1602321012	
REV	DESCRIPTION
02/16/23	REVISED PERMIT SET
05/24/17	REDUCED SCOPE
01/13/17	BID-SET
09/23/16	PERMIT SET

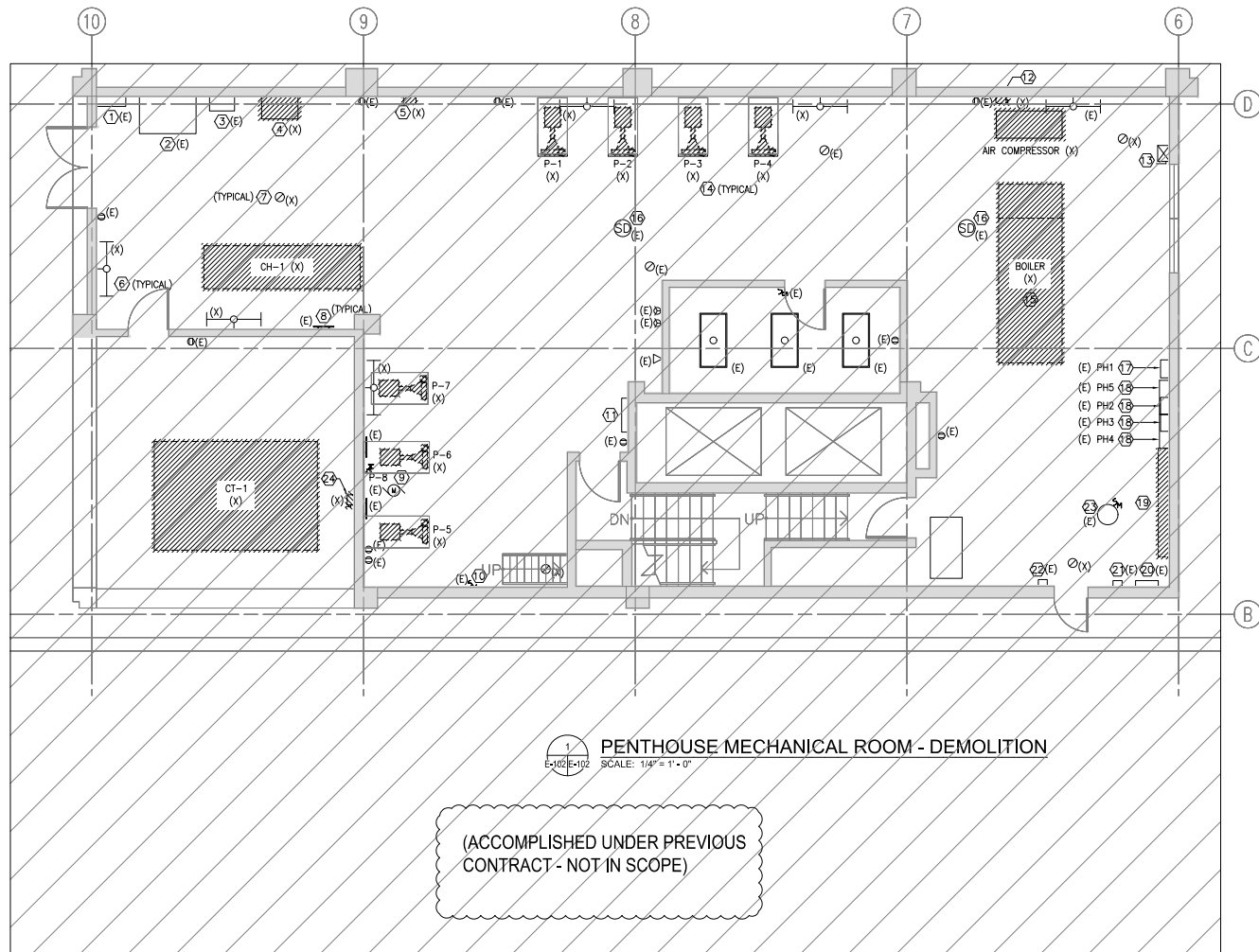
GRAPHIC SCALE
USE GRAPHIC SCALE FOR REDUCED PRINTS



CONTRACTOR	CONSTRUCTION
NUMBER	A/E DESIGN
PRIME	JVP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Washington, DC 20098-2151 Tel: (202)362-3800 Fax: (202)362-5541
A/E DESIGN	CONSULT
SEALS	

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: FLOORS: OTHER BLDGS:
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-ITB JVP# 10-19.10.0 PROJ. MGR.:

DRAWN BY	DATE	02/12/18
CHECKED BY	TITLE	4TH TO 7TH FLOOR MECHANICAL ROOMS - DEMOLITION
NUMBER	SCALE	OF
E 1 01		
SHEET	OF	



PENTHOUSE MECHANICAL ROOM - DEMOLITION
 SCALE: 1/4" = 1'-0"

(ACCOMPLISHED UNDER PREVIOUS CONTRACT - NOT IN SCOPE)

DEMOLITION NOTES

- 1 EXISTING PULLBOX
- 2 EXISTING TRANSFORMER, 400KVA, 208/120V-480/277V
- 3 EXISTING 400A DISCONNECT SWITCH
- 4 CHILLER CONTROLLER TO BE DEMOLISHED.
- 5 AIR FAN SWITCH TO BE DEMOLISHED.
- 6 DEMOLISH WALL MOUNTED FLUORESCENT STRIP LIGHTING FIXTURE AND THE CONNECTED CONDUIT AND WIRING BACK TO THE SOURCE. TRACE AND IDENTIFY THE ELECTRICAL CIRCUIT FOR CONNECTION TO NEW LIGHTING FIXTURES.
- 7 DEMOLISH CEILING MOUNTED INCANDESCENT LIGHTING FIXTURE AND THE CONNECTED CONDUIT AND WIRING BACK TO THE SOURCE. TRACE AND IDENTIFY THE ELECTRICAL CIRCUIT FOR CONNECTION TO NEW LIGHTING FIXTURES.
- 8 EXISTING GROUND BAR
- 9 TOGGLE P-8 MOTOR DISCONNECT SWITCH TO REMAIN.
- 10 EXISTING TOGGLE MOTOR DISCONNECT SWITCH, TRACE AND IDENTIFY THE CONNECTED LOAD.
- 11 EXISTING COMMUNICATION EQUIPMENT
- 12 DISCONNECT SWITCH AND CONNECTED CONDUIT AND WIRING FOR AIR COMPRESSOR TO BE DEMOLISHED.
- 13 EXISTING MOTOR STARTER FOR FAN
- 14 PUMP TO BE DEMOLISHED. CONNECTED CONDUIT AND WIRING TO BE MAINTAINED FOR CONNECTION OF EQUIPMENT IN NEW WORK.
- 15 BOILER, CONNECTED CONDUIT AND WIRING TO BE DEMOLISHED BACK TO PANELBOARDS PH1 AND PH5.
- 16 EXISTING SMOKE DETECTOR AND CONNECTED CONDUIT AND WIRING TO BE MAINTAINED.
- 17 EXISTING PANELBOARD PH1, 100A, 120/208V
- 18 EXISTING PANELS PH4 AND PH5 BELOW AND PANELS PH2 AND PH3 ABOVE.
- 19 WIRE TROUGH WITH CONNECTED MOTOR STARTERS FOR VFD AND PUMPS 1,2,3,4,5,6 AND 7 TO BE DEMOLISHED.
- 20 EXISTING PANEL PL, 250A, 208/120V
- 21 EXISTING GENERATOR REMOTE DISPLAY PANEL
- 22 EXISTING FAN CONTROLLER AND CONNECTED CONDUIT AND WIRING TO BE MAINTAINED.
- 23 EXISTING WATER HEATER, PUMP AND CONNECTED DISCONNECT SWITCH, CONDUIT AND WIRING TO BE MAINTAINED.
- 24 DISCONNECT SWITCH FOR COOLING TOWER, CONNECTED CONDUIT AND WIRING TO BE DEMOLISHED BACK TO PANELBOARD PH5.

PHASING NOTES

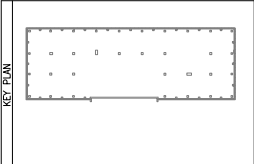
- 1 PROVIDE BOILER AND ASSOCIATED PUMPS AND DEMOLITION.
- 2 PROVIDE CHILLER, INDICATED PUMPS, CONTROLS, VENTILATION, LIGHTING AND ASSOCIATED DEMOLITION. EXISTING COOLING TOWER WILL REMAIN AND BE CONNECTED TO CHILLER



Approved: 6/1/2023
 Subject to Field Inspection
 E1802301012

REV	DATE	DESCRIPTION
	02/16/23	REVISED PERMIT SET
	05/24/17	REDUCED SCOPE
	01/13/17	BID-SET
	09/23/16	PERMIT SET

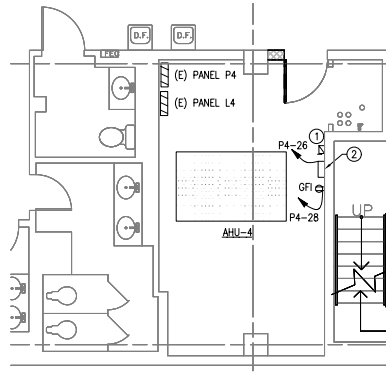
USE GRAPHIC SCALE FOR REDUCED PRINTS



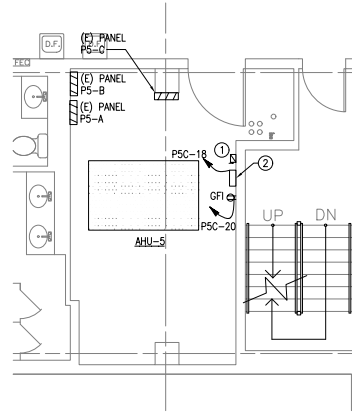
CONTRACTOR	CONSTRUCTION	
	NUMBER	A/E DESIGN
A/E DESIGN	PRIME	JWP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Suite 400 Washington, DC 20096-2151 Tel: (202)362-3800 Fax: (202)362-5541
	CONSULT	
SEALS		

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201	
BUILDING	NAME	ARLINGTON COUNTY
	ADDRESS	1400 N. UHLE STREET ARLINGTON, VA 22201
PROJECT	NUMBER	
	DESCRIPTION	2020 14TH STREET HVAC REPLACEMENT
	NUMBER	BID # 17-136-ITB JWP 10-19-10.0
	PROJ. MGR.	-

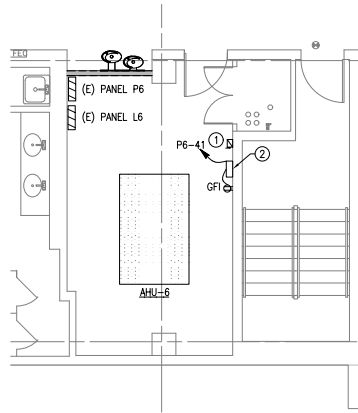
DRAWING	DRAWN BY	EL	DATE	02/12/18
	CHECKED BY	RH		
	TITLE	PENTHOUSE MECHANICAL ROOM - DEMOLITION		
	NUMBER	E 1 02		
		DISCIPLINE SHEET TYPE	SEQUENCE	
			SHEET - OF -	



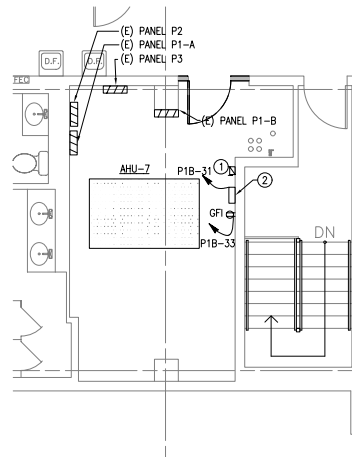
1 4TH FLOOR MECHANICAL ROOM - POWER
E-201 E-201 SCALE: 1/4" = 1'-0"



2 5TH FLOOR MECHANICAL ROOM - POWER
E-201 E-201 SCALE: 1/4" = 1'-0"



3 6TH FLOOR MECHANICAL ROOM - POWER
E-201 E-201 SCALE: 1/4" = 1'-0"



4 7TH FLOOR MECHANICAL ROOM - POWER
E-201 E-201 SCALE: 1/4" = 1'-0"

POWER NOTES

- ① NEW VARIABLE FREQUENCY DRIVE. REFER TO DRAWING E-603 FOR DETAIL. PROVIDE FINAL CONNECTION TO AHU WITH FMC CONDUIT.
- ② HVAC CONTROL PANEL

REV	DATE	DESCRIPTION
	02/16/23	REVISED PERMIT SET
	05/24/17	REDUCED SCOPE
	01/13/17	BID-SET
	09/23/16	PERMIT SET
		DESCRIPTION

USE GRAPHIC SCALE FOR REDUCED PRINTS

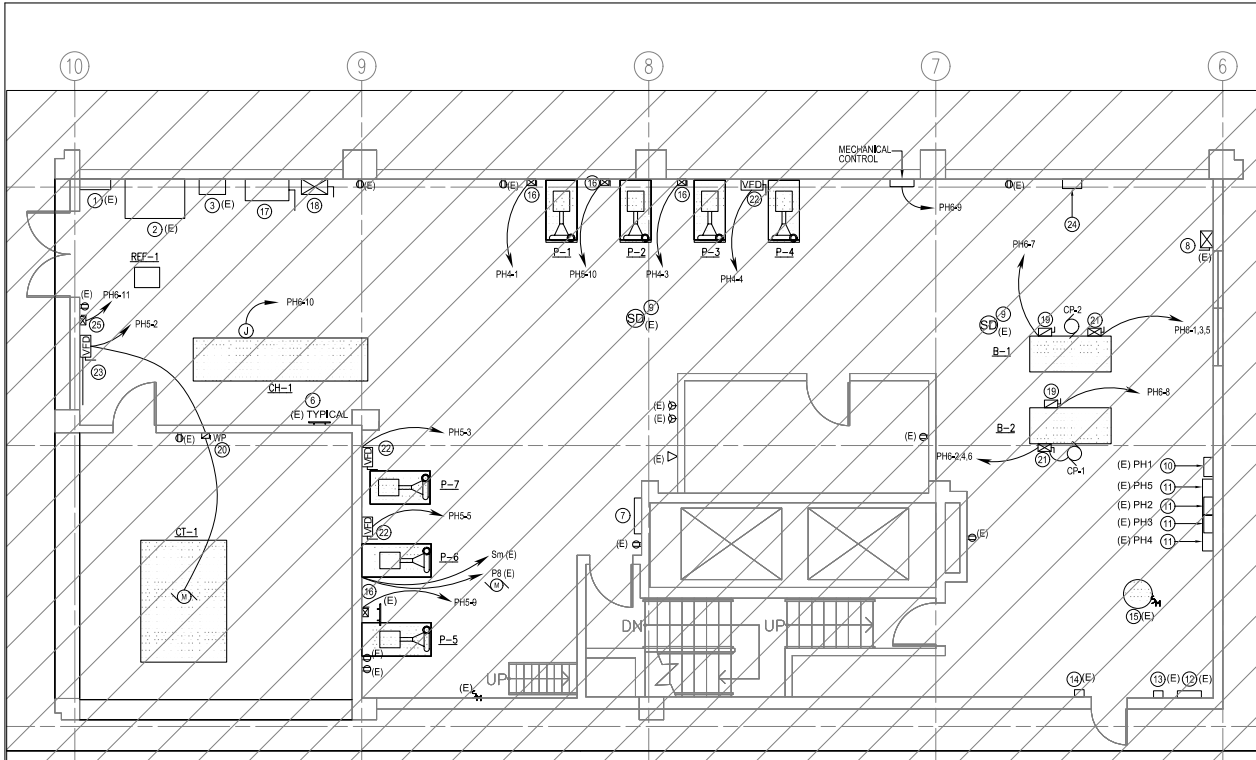
GRAPHIC SCALE

KEY PLAN

CONTRACTOR	
CONTRACT NUMBER	CONSTRUCTION A/E DESIGN
PRIME	JVP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Washington, DC 20008-2101 Tel: (202)362-3000 Fax: (202)362-5541
A/E DESIGN	CONSULT
SEALS	

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: FLOORS: OTHER BLDGS:
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-ITB JVP 10-19.10.0 PROJ. MGR.:

DRAWN BY	DATE	02/12/18
CHECKED BY	4TH TO 7TH FLOOR MECHANICAL ROOMS - POWER	
TITLE		
NUMBER	E 2 01	
	DISCIPLINE SHEET TYPE	SEQUENCE
	SHEET	OF



1 PENTHOUSE MECHANICAL ROOM - POWER
E-202E-202 SCALE: 1/4" = 1'-0"

(ACCOMPLISHED UNDER PREVIOUS CONTRACT - NOT IN SCOPE)

GENERAL NOTES

- EXISTING PANELBOARDS PH4 AND PH5 WERE MANUFACTURED BY CLAMPATIC ITE IMPERIAL CORPORATION CAT#V2F304. CONTRACTOR TO VERIFY THE AVAILABILITY OF PANELBOARD SPARE COMPONENTS WITH SIEMENS OR OTHER MANUFACTURER.

POWER NOTES

- EXISTING PULLBOX
- EXISTING TRANSFORMER, 400KVA, 208/120V-480/277V
- EXISTING 400A DISCONNECT SWITCH
- EXISTING WALL MOUNTED FLUORESCENT STRIP LIGHTING FIXTURE
- EXISTING CEILING MOUNTED INCANDESCENT LIGHTING FIXTURE
- EXISTING GROUND BAR
- EXISTING COMMUNICATION EQUIPMENT
- EXISTING MOTOR STARTER FOR FAN
- EXISTING SMOKE DETECTOR
- EXISTING PANELBOARD PH1, 100A, 120/208V
- EXISTING PANELS PH4 AND PH5 BELOW AND PANELS PH2 AND PH3 ABOVE.
- EXISTING PANEL PL, 250A, 208/120V
- EXISTING GENERATOR REMOTE DISPLAY PANEL
- EXISTING FAN CONTROLLER AND CONNECTED CONDUIT AND WIRING TO BE MAINTAINED.
- EXISTING WATER HEATER, PUMP AND CONNECTED DISCONNECT SWITCH, CONDUIT AND WIRING TO BE MAINTAINED.
- NEW COMBINATION MOTOR STARTER AND DISCONNECT SWITCH FOR PUMP.
- NEW NON-FUSIBLE 1200A DISCONNECT SWITCH FOR TRANSFORMER.
- NEW CHILLER CONTROLLER.
- NEW FUSIBLE DISCONNECT SWITCH FOR BOILER.
- NEW FUSIBLE DISCONNECT SWITCH FOR COOLING TOWER.
- NEW COMBINATION MOTOR STARTER DISCONNECT SWITCH FOR BOILER PUMP.
- NEW VFD FOR WATER PUMP.
- NEW VFD FOR COOLING TOWER.
- NEW PANEL PH6 70A, 208V, 3-PHASE. PROVIDE PER PANEL SCHEDULE ON DWG E-804.
- NEW COMBINATION MOTOR STARTER AND DISCONNECT SWITCH FOR REFRIGERANT EXHAUST FAN.

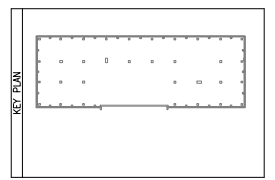
PHASING NOTES

- PROVIDE BOILER AND ASSOCIATED PUMPS AND DEMOLITION.
- PROVIDE CHILLER, INDICATED PUMPS, CONTROLS, VENTILATION, LIGHTING AND ASSOCIATED DEMOLITION. EXISTING COOLING TOWER WILL REMAIN AND BE CONNECTED TO CHILLER



REV	DATE	PERMIT SET DESCRIPTION
02/16/23		REVISED PERMIT SET
05/24/17		REDUCED SCOPE
01/13/17		BID-SET
09/23/16		PERMIT SET DESCRIPTION

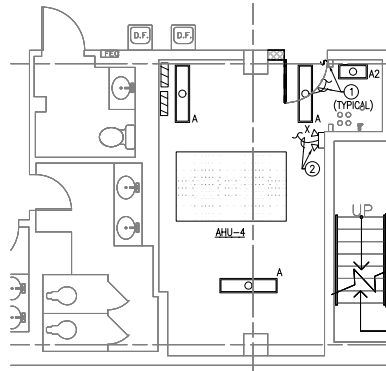
USE GRAPHIC SCALE FOR REDUCED PRINTS



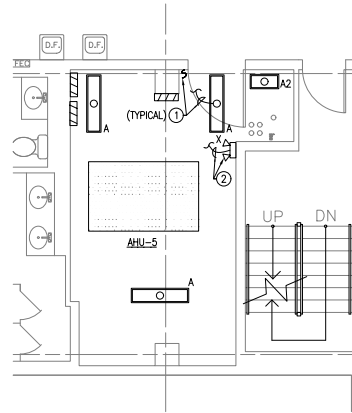
CONTRACTOR	CONTRACT NUMBER	CONSTRUCTION A/E DESIGN
	PRIME	JVP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Washington, DC 20016-2151 Tel: (202)362-3001 Fax: (202)362-5541
A/E DESIGN	CONSULT	
SEALS		

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: FLOORS: OTHER BLDGS:
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-ITB JVP# 10-19.10.0 PROJ. MGR.:

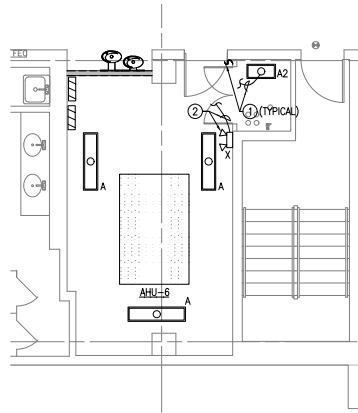
DRAWN BY	DATE	02/12/18
CHECKED BY	PENTHOUSE MECHANICAL ROOM - POWER	
TITLE		
NUMBER	E 2 02	
	SCOPE SHEET	TYPE OF



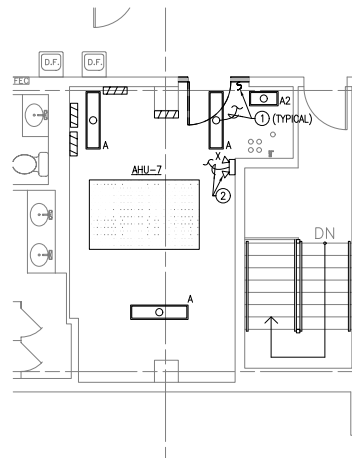
1 4TH FLOOR MECHANICAL ROOM - LIGHTING
E-203/E-203 SCALE: 1/4" = 1'-0"



2 5TH FLOOR MECHANICAL ROOM - LIGHTING
E-203/E-203 SCALE: 1/4" = 1'-0"



3 6TH FLOOR MECHANICAL ROOM - LIGHTING
E-203/E-203 SCALE: 1/4" = 1'-0"



4 7TH FLOOR MECHANICAL ROOM - LIGHTING
E-203/E-203 SCALE: 1/4" = 1'-0"

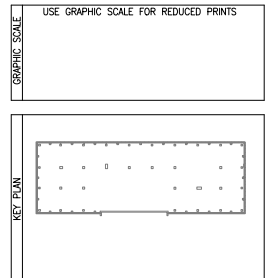
GENERAL NOTES

1. LIGHTING FIXTURES MOUNTED BELOW DUCTWORK AND PIPING TO BE SUPPORTED INDEPENDENTLY FROM THE CEILING.
2. COORDINATE MOUNTING OF LIGHTING FIXTURES TO AVOID ADJACENT DUCTWORK AND PIPING.

LIGHTING NOTES

- ① CONNECT NEW LIGHTING FIXTURES AND TOGGLE SWITCH TO THE EXISTING ELECTRICAL CIRCUIT IN THE MECHANICAL ROOM THAT WAS TRACED, IDENTIFIED AND RETAINED IN THE DEMOLITION WORK.
- ② CONNECT EMERGENCY LIGHTING WALL PACK AHEAD OF THE TOGGLE SWITCH TO THE EXISTING ELECTRICAL CIRCUIT IN THE MECHANICAL ROOM THAT WAS TRACED, IDENTIFIED AND RETAINED IN THE DEMOLITION WORK.

		<small>Approved: 6/1/2023 Subject to PAE Inspection E16023-01012</small>
REV	DATE	DESCRIPTION
	02/16/23	REVISED PERMIT SET
	05/24/17	REDUCED SCOPE
	01/13/17	BID-SET
	09/23/16	PERMIT SET

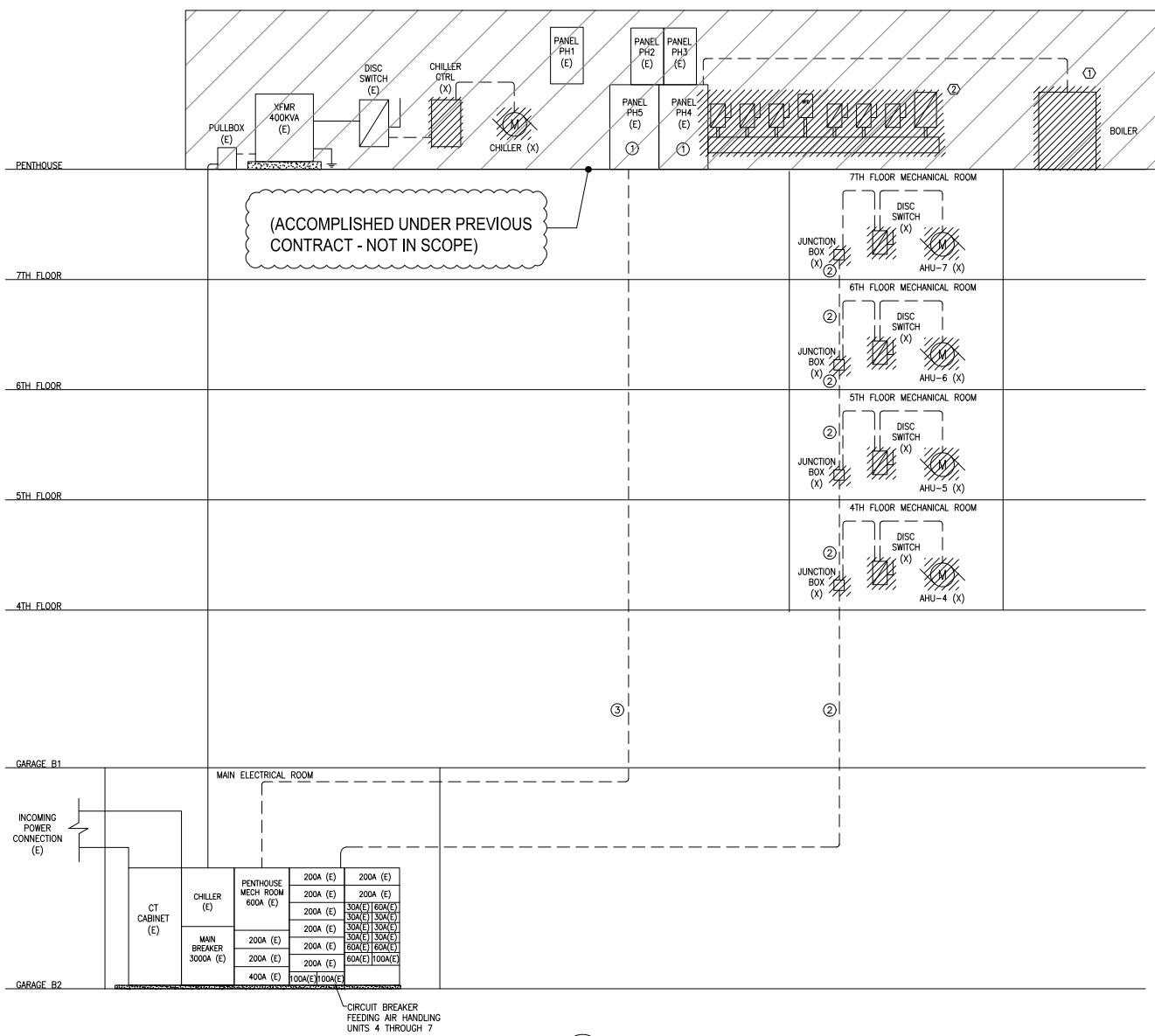


CONTRACTOR		
	CONTRACT NUMBER	CONSTRUCTION
A/E DESIGN	PRIME	 <small>JVP Engineers, P.C. Scale 400 5101 Wisconsin Avenue, N.W. Washington, DC 20098-2151 Tel: (202)362-3000 Fax: (202)362-5541</small>
	CONSULT	
SEALS		

CLIENT	 ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201	
	NAME	ARLINGTON COUNTY
BUILDING	ADDRESS	1400 N. UHLE STREET ARLINGTON, VA 22201
	NUMBER	
OTHER BLDGS	FLOORS	
PROJECT	DESCRIPTION	2020 14TH STREET HVAC REPLACEMENT
	NUMBER	BID # 17-136-ITB JVP# 10-19-10.0
	PROJ. MGR.	-

DRAWING	DRAWN BY		DATE	02/12/18
	CHECKED BY			
	TITLE	4TH TO 7TH FLOOR MECHANICAL ROOMS - LIGHTING		
	NUMBER	E 2 03		
		SCOPE	SHEET TYPE	SEQUENCE
		SHEET	OF	

SHEET DATE: 08/20/18



- ### RISER DIAGRAM NOTES
- ① CONTRACTOR TO TRACE AND IDENTIFY THE SOURCE OF POWER FOR THIS PANELBOARD FOR CONNECTION OF MECHANICAL EQUIPMENT IN NEW WORK.
 - ② DEMOLISH POWER RISER SERVING AIR HANDLING UNITS AHU-4, AHU-5, AHU-6 & AHU-7, INCLUDING CONDUIT, JUNCTION BOXES AND WIRING BACK TO SOURCE. COORDINATE POWER OUTAGE WITH COUNTY PROJECT OFFICER.
 - ③ REMOVE EXISTING FEEDER FROM THE ELECTRICAL SWITCHBOARD IN THE MAIN ELECTRICAL ROOM TO THE PANELBOARD PH4/PH5 IN THE PENTHOUSE MECHANICAL ROOM. MAINTAIN CONDUIT FOR NEW FEEDER CONNECTION.

- ### PHASING NOTES
- ① PROVIDE BOILER AND ASSOCIATED PUMPS AND DEMOLITION.
 - ② PROVIDE CHILLER, INDICATED PUMPS, CONTROLS, VENTILATION, LIGHTING AND ASSOCIATED DEMOLITION. EXISTING COOLING TOWER WILL REMAIN AND BE CONNECTED TO CHILLER.

1
5-801E-601 POWER RISER DIAGRAM - DEMOLITION
SCALE: NONE



Approved: 8/1/2018
Subject to PAE Inspector
EY602301012

REV	DATE	DESCRIPTION
02/16/23		REVISED PERMIT SET
05/24/17		REDUCED SCOPE
01/13/17		BID-SET
08/23/18		PERMIT SET
		DESCRIPTION

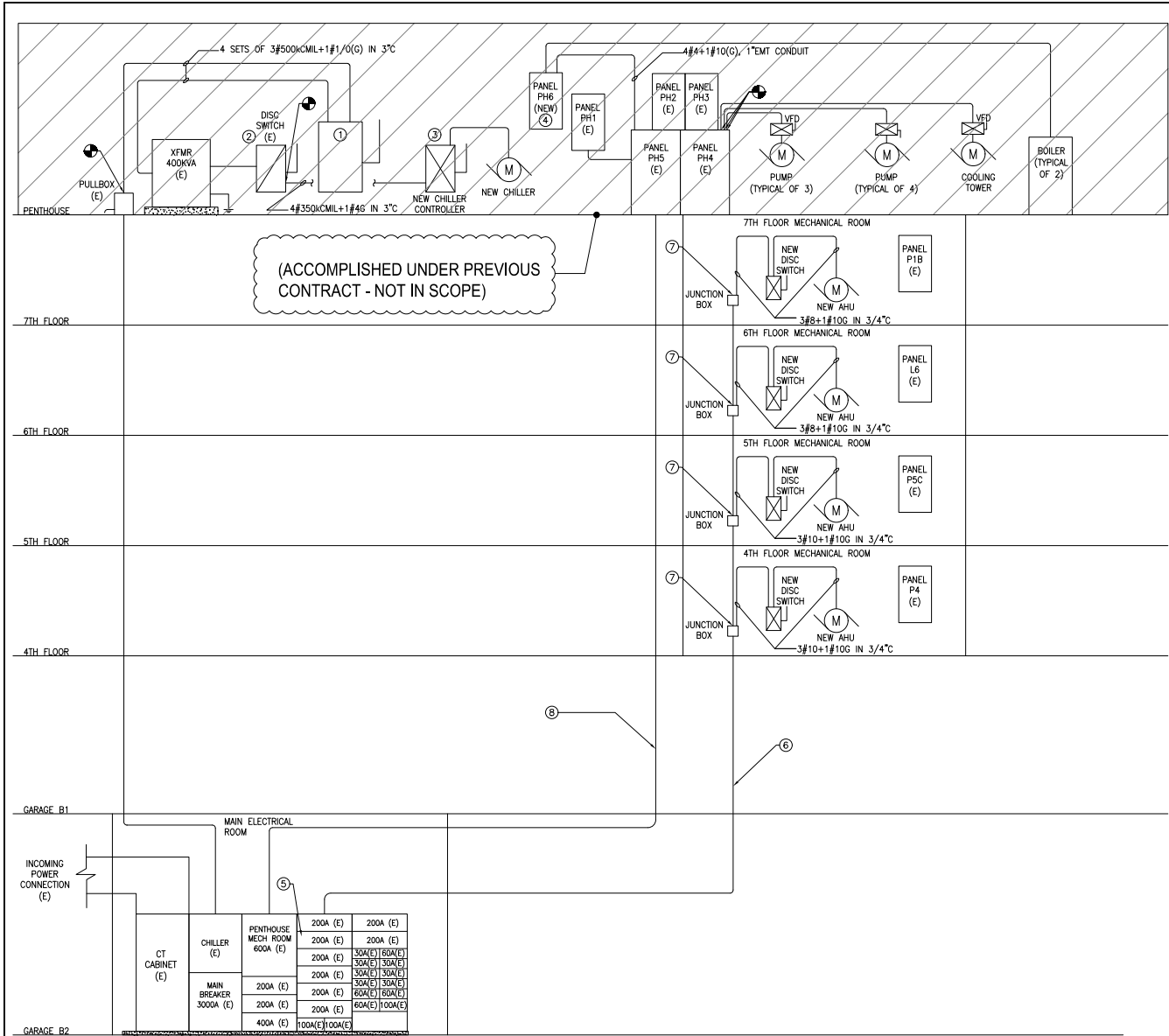
GRAPHIC SCALE
USE GRAPHIC SCALE FOR REDUCED PRINTS

KEY PLAN

CONTRACTOR	CONTRACT NUMBER	CONSTRUCTION
	A/E DESIGN	
A/E DESIGN	PRIME	 JEP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Suite 400 Washington, DC 20098-2101 Tel: (202)362-3000 Fax: (202)362-8544
	CONSULT	
SEALS		

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: FLOORS: OTHER BLDGS:
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-ITB PRJ # 10-19-10.0 PROJ. MGR.:

DRAWN BY	---	DATE	02/12/18
CHECKED BY	---	POWER RISER DIAGRAM - DEMOLITION	
TITLE			
NUMBER	E 6 01		
	GROUP	SHEET TYPE	ISSUANCE
	SHEET	OF	



RISER DIAGRAM NOTES

- ① NEW 1200A NON-FUSIBLE DISCONNECT SWITCH.
- ② REPLACE FUSE AT EXISTING DISCONNECT SWITCH 400A, 480V WITH NEW 225A FUSE. COORDINATE FINAL FUSE SIZE WITH CHILLER MANUFACTURER.
- ③ NEW MOTOR STARTER CONTROLLER FOR CHILLER.
- ④ NEW PANEL PH6, 70A, 208/120V, 3Φ, 4W. PROVIDE PER PANEL SCHEDULE.
- ⑤ REPLACE THE EXISTING FUSE DISCONNECT SWITCH I.T.E. VACU-BREAK SWITCH WITH NEW ONE, 200A FUSED AT 125A FOR NEW POWER RISER SERVING NEW AIR HANDLING UNITS. COORDINATE POWER OUTAGE WITH COUNTY PROJECT OFFICER. PROVIDE NEW LABEL TO SWITCH COMPARTMENT.
- ⑥ PROVIDE NEW FEEDER 125A, TO SERVE NEW AHU WITH 4#1+1#6 IN 1-3/4" EMT CONDUIT. ROUTE CONDUITS VIA EXISTING PATH. PROVIDE NEW CONDUITS PENETRATIONS AS REQUIRED FOR CONDUITS.
- ⑦ NEW JUNCTION BOX 12"x12"x6".
- ⑧ PROVIDE NEW FEEDERS, 2 SETS OF 4#300CM+1#1AW(G) IN THE TWO EXISTING CONDUITS FROM THE GARAGE MAIN ELECTRICAL ROOM TO THE PENTHOUSE MECHANICAL ROOM.
- ⑨ NOT USED.

PHASING NOTES

- ① PROVIDE BOILER AND ASSOCIATED PUMPS AND DEMOLITION.
- ② PROVIDE CHILLER, INDICATED PUMPS, CONTROLS, VENTILATION, LIGHTING AND ASSOCIATED DEMOLITION. EXISTING COOLING TOWER WILL REMAIN AND BE CONNECTED TO CHILLER



REV	DATE	DESCRIPTION
	02/16/23	REVISED PERMIT SET
	05/24/17	REDUCED-SCOPE
	01/13/17	BID-SET
	09/23/18	PERMIT SET
		DESCRIPTION

GRAPHIC SCALE: USE GRAPHIC SCALE FOR REDUCED PRINTS

KEY PLAN

CONTRACTOR: [Blank]

A/E DESIGN: [Blank]

CONSULT: [Blank]

SEALS: [Professional Engineer Seal]

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: FLOORS: OTHER BLDGS:
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-ITB JRF 10-19-10.0 PROJ. MGR.:

DRAWN BY	---	DATE	02/12/18
CHECKED BY	---	POWER RISER DIAGRAM - NEW WORK	
TITLE	E 6 02		
NUMBER	E 6 02	GROUP	SHEET TYPE
			SHEET OF

1 POWER RISER DIAGRAM - NEW WORK SCALE: NONE

SHEET SIZE: 36"X48"

LUMINAIRE SCHEDULE								
FIXTURE TYPES	MANUFACTURER (OR APPROVED EQUAL)	CATALOG NO. (OR APPROVED EQUAL)	DESCRIPTION (OR APPROVED EQUAL)	MOUNTING HEIGHT (AFF)	LAMPS		VOLTS	REMARKS
					QTY.	TYPE / COLOR TEMP.		
A	H.E. WILLIAMS	GLN-4-L63/835-WG11-VBY-DRV-UNV	1'X4' PENDANT MOUNTED LINEAR LED LIGHTING FIXTURE WITH WIREGUARD	PENDANT	1	LED 56W 3500K	120/277	COORDINATE MOUNTING WITH ADJACENT DUCTWORK AND PIPING
A2	H.E. WILLIAMS	11-2-L26/835-F-AF12125-DRV-UNV	1'X2' SURFACE MOUNTED LINEAR LED LIGHTING FIXTURE WITH ACRYLIC LENS	CEILING	1	LED 27W 3500K	120/277	
B	H.E. WILLIAMS	GL-4-L150/840-WG11-GC2/Y18/5-DRV-UNV	PENDANT MOUNTED HIGH BAY LED LIGHTING FIXTURE WITH WIREGUARD	5' BELOW CEILING	1	LED 149W 3500K	120/277	
C	H.E. WILLIAMS	VMP H-L30/740-T3-BLK SDBL-PC-EM/10WC-UNV	WALL MOUNTED LED LIGHTING FIXTURE WITH BUILT-IN PHOTOCELL AND BATTERY BACKUP	10'	1	LED 36W 4000K	120/277	
X	LIGHT ALARMS	LC1250-2LD7-WG10-L	EMERGENCY LIGHTING WALL PACK WITH NICKEL CADMIUM BATTERY BACKUP FOR 90 MINUTES	7'	2	MR16 LED 4W	120/277	
X2	H.E. WILLIAMS	EXIT-R-EM-WHT-SDT	EMERGENCY EXIT SIGN WITH NICKEL CADMIUM BATTERY BACKUP FOR 90 MINUTES	9'	1	LED 3.8W	120/277	

MECHANICAL EQUIPMENT DISCONNECT SCHEDULE											
TAG	DESCRIPTION	EQUIP. LOADS HP, FULL LOAD AMPS	VOLTS	Ø	DISCONNECT SWITCHES			PANEL	FEEDER SIZES	REMARKS	
					SWITCH SIZES (A)	VOLTAGE (V)	CONTROLLER TYPE				ENCLOSURE TYPE
CT-1	COOLING TOWER	7.5HP	208	3	60AS 40AF	240	VFD	NEMA 3R	PH5 NOTE 4	3#4+1#10(G), 1" C	ROOF
CH-1	CHILLER	165A	480	3	400AS 225AF	600	5	NEMA 1	400KVA XFRM	3#350+1#4AWG, 3" C	PENTHOUSE MECH ROOM
P-1	PUMP #1	7.5HP	208	3	60AS 40AF	240	1	NEMA 1	PH4 NOTE 1	3#8+1#10(G), 3/4" C	PENTHOUSE MECH ROOM
P-2	PUMP #2	7.5HP	208	3	60AS 40AF	240	1	NEMA 1	PH4 NOTE 1	3#8+1#10(G), 3/4" C	PENTHOUSE MECH ROOM
P-3	PUMP #3	7.5HP	208	3	60AS 40AF	240	1	NEMA 1	PH5 NOTE 2	3#8+1#10(G), 3/4" C	PENTHOUSE MECH ROOM
P-4	PUMP #4	7.5HP	208	3	60AS 40AF	240	VFD	NEMA 1	PH4 NOTE 1	3#8+1#10(G), 3/4" C	PENTHOUSE MECH ROOM
P-5	PUMP #5	10HP	208	3	60AS 50AF	240	2	NEMA 1	PH5 NOTE 3	3#6+1#10(G), 3/4" C	PENTHOUSE MECH ROOM
P-6	PUMP #6	10HP	208	3	60AS 50AF	240	VFD	NEMA 1	PH5 NOTE 3	3#6+1#10(G), 3/4" C	PENTHOUSE MECH ROOM
P-7	PUMP #7	7.5HP	208	3	60AS 40AF	240	VFD	NEMA 1	PH5 NOTE 2	3#8+1#10(G), 3/4" C	PENTHOUSE MECH ROOM
B-1	BOILER B-1	1.0KVA	120V	1	30AS 20AF	120	N/A	NEMA 1	PH6	2#12+1#12(G), 3/4" C	PENTHOUSE MECH ROOM
B-2	BOILER B-2	1.0KVA	120V	1	30AS 20AF	120	N/A	NEMA 1	PH6	2#12+1#12(G), 3/4" C	PENTHOUSE MECH ROOM
CP-1	BOILER B-1 PUMP	3/4HP	208	3	30AS 15AF	240	0	NEMA 1	PH6	3#12+1#12(G), 3/4" C	PENTHOUSE MECH ROOM
CP-2	BOILER B-2 PUMP	3/4HP	208	3	30AS 15AF	240	0	NEMA 1	PH6	3#12+1#12(G), 3/4" C	PENTHOUSE MECH ROOM
AHU-4	AHU-4	5HP	208	3	60AS 30AF	240	1	NEMA 1	MAIN SWBD	3#10+1#10(G), 3/4" C	4TH FLOOR MECH ROOM
AHU-5	AHU-5	5HP	208	3	60AS 30AF	240	1	NEMA 1	MAIN SWBD	3#10+1#10(G), 3/4" C	5TH FLOOR MECH ROOM
AHU-6	AHU-6	7.5HP	208	3	60AS 40AF	240	1	NEMA 1	MAIN SWBD	3#8+1#10(G), 3/4" C	6TH FLOOR MECH ROOM
AHU-7	AHU-7	7.5HP	208	3	60AS 40AF	240	1	NEMA 1	MAIN SWBD	3#8+1#10(G), 3/4" C	7TH FLOOR MECH ROOM
REF-1	REFRIGERANT EXHAUST FAN	1/4HP	120	1	30AS 10AF	240	1	NEMA 1	PH6	2#12+1#12(G), 3/4" C	PENTHOUSE MECH ROOM

- NOTES:
1. PROVIDE NEW FUSE 40A, 240V AT EXISTING PANEL PH4. REPLACE THE EXISTING ONE.
 2. PROVIDE NEW FUSE 40A, 240V AT EXISTING PANEL PH5. REPLACE THE EXISTING ONE.
 3. PROVIDE NEW FUSE 50A, 240V AT EXISTING PANEL PH5. REPLACE THE EXISTING ONE.
 4. FEEDER SIZE BASED ON AVERAGE AMBIENT OF 94.5°F PER ASHRAE HANDBOOK FUNDAMENTALS, 25°F TEMPERATURE ADDER PER NEC 2011 TABLE 310.15(B)(3)(c) AND AMBIENT TEMPERATURE CORRECTION OF 119.5°F IN NEC 2011 TABLE 310.15(B)(2)(c).

(ACCOMPLISHED UNDER PREVIOUS CONTRACT - NOT IN SCOPE)

LOAD ANALYSIS							
DEMOLISHED LOADS				NEW WORK LOADS			
NAME	VOLTS / PHASE	POWER (KVA)	CONNECTED CIRCUIT	NAME	VOLTS / PHASE	POWER (KVA)	CONNECTED CIRCUIT
CHILLER	480/3	171	MAIN SWITCHBOARD VIA 400KVA 208-480/277V XFRM	CHILLER	480/3	137KVA (165A)	MAIN SWITCHBOARD VIA 400KVA 208-480/277V XFRM
COOLING TOWER	208/3	11.1 (10HP)	PH5-2	COOLING TOWER	208/3	8.7KVA (7.5HP)	PH5-2
PUMP#1	208/3	8.7 (7.5HP)	PH4-1	PUMP#1	208/3	8.7KVA (7.5HP)	PH4-1
PUMP#2	208/3	8.7 (7.5HP)	PH5-10	PUMP#2	208/3	8.7KVA (7.5HP)	PH5-10
PUMP#3	208/3	8.7 (7.5HP)	PH4-3	PUMP#3	208/3	8.7KVA (7.5HP)	PH4-3
PUMP#4	208/3	16.6 (15HP)	PH4-4	PUMP#4	208/3	8.7KVA (7.5HP)	PH4-4
PUMP#5	208/3	16.6 (15HP)	PH5-9	PUMP#5	208/3	11.6KVA (10HP)	PH5-9
PUMP#6	208/3	16.6 (15HP)	PH5-5	PUMP#6	208/3	11.6KVA (10HP)	PH5-5
PUMP#7	208/3	11.1 (10HP)	PH5-3	PUMP#7	208/3	8.7KVA (7.5HP)	PH5-3
BOILER BLOWER	208/3	3.8 (3HP)	PH5-6	BOILER#1	120/1	1.0KVA	PH6-7
-	-	-	-	BOILER#2	120/1	1.0KVA	PH6-8
AIR COMPRESSOR	208/3	3.8 (3HP)	PH5-12	-	-	-	-
-	-	-	-	CP-1	208/3	1.2KVA (3/4HP)	PH6-1,3,5
-	-	-	-	CP-2	208/3	1.2KVA (3/4HP)	PH6-2,4,6
AHU-4	208/3	2.7 (2HP)	MAIN SWBD COMPARTMENT #4	AHU-4	208/3	6.3KVA (5HP)	MAIN SWBD
AHU-5	208/3	6.3 (5HP)	MAIN SWBD COMPARTMENT #4	AHU-5	208/3	6.3KVA (5HP)	MAIN SWBD
AHU-6	208/3	6.3 (5HP)	MAIN SWBD COMPARTMENT #4	AHU-6	208/3	8.7KVA (7.5HP)	MAIN SWBD
AHU-7	208/3	10.0 (7.5HP)	MAIN SWBD COMPARTMENT #4	AHU-7	208/3	8.7KVA (7.5HP)	MAIN SWBD
TOTAL DEMOLISHED LOADS: 292KVA				TOTAL NEW WORK LOADS: 246KVA			

PHASING NOTES

1. PROVIDE BOILER AND ASSOCIATED PUMPS AND DEMOLITION.
2. PROVIDE CHILLER, INDICATED PUMPS, CONTROLS, VENTILATION, LIGHTING AND ASSOCIATED DEMOLITION. EXISTING COOLING TOWER WILL REMAIN AND BE CONNECTED TO CHILLER

REV	DATE	DESCRIPTION
02/16/23		REVISED PERMIT SET
05/24/17		REDUCED SCOPE
01/13/17		BID-SET
08/23/16		PERMIT SET
		DESCRIPTION

USE GRAPHIC SCALE FOR REDUCED PRINTS

GRAPHIC SCALE

CONTRACT NUMBER	CONSTRUCTION
	A/E DESIGN

5101 Wisconsin Avenue, N.W.
 LRP Engineers, P.C. Suite 400
 11000 Washington, P.O. Box 9099-2501
 Arlington, VA 22209-2501
 Tel: (202)362-3600 Fax: (202)362-8541



CLIENT	ARLINGTON COUNTY GOVERNMENT
1400 N. UHLE STREET, SUITE 403	ARLINGTON, VA 22201
NAME	ARLINGTON COUNTY
ADDRESS	1400 N. UHLE STREET
ARLINGTON, VA 22201	
NUMBER	
FLOORS	
OTHER BLDGS	
PROJECT DESCRIPTION	2020 14TH STREET HVAC REPLACEMENT
NUMBER	17-136-ITB
BID #	JPF 10-19-10.0
PROJ. MGR.	-

DRAWN BY	DATE
	02/12/18
CHECKED BY	
TITLE	MECHANICAL EQUIPMENT AND LIGHTING SCHEDULES AND LOAD ANALYSIS
NUMBER	E 6 03
SHEET	OF

PANEL: PH4 (EXISTING) FED FROM: MAIN SWBD		NEUTRAL BUS: 100% GROUND BUS: YES ISOL. GND. BUS: NO		LOCATION: MAIN ELECTRICAL ROOM MOUNTING: SURFACE SSC RATING: 10 KAIC		VOLTAGE: 208Y/120V 3Ø 4 WIRE + GND MANS BUS: 600A COPPER 600A MLO		MAIN PROT. DEVICE: 70A MCB	
CR. NO.	DESCRIPTION	FEEDER CONF.	KVA LOAD A B C	BREAKER amps/frames	KVA LOAD A B C	FEEDER CONF.	DESCRIPTION	CR. NO.	
1	PUMP #1	SEE MECHANICAL DISCONNECT SCHEDULE	3.0 3.0 3.0	40/3	30/3	2.0 2.0 2.0	EXISTING	HOT WATER PRI (E)	2
3	PUMP #3	SEE MECHANICAL DISCONNECT SCHEDULE	3.0 3.0 3.0	40/3	40/3	3.0 3.0 3.0	SEE MECHANICAL DISCONNECT SCHEDULE	PUMP #4	4
9	BOILER EXHAUST FAN (E)	EXISTING	2.0 2.0 2.0	30/3	30/3	2.0 2.0 2.0	EXISTING	COMPRESSOR CONTROL AIR (E)	6
7	EXISTING	EXISTING	14.4 14.4 14.4	200/3		0.0 0.0 0.0			8
SUBTOTAL			22.422	422.4		7.0	7.0	7.0	
			EST. LOAD (kVA) SEE TOTAL BELOW		7.0		7.0	7.0	
			SUBTOTAL		29.429		429.4	TOTAL	
PANEL, EIPA LOAD ANALYSIS									
TOTAL CONNECTED LOAD (kVA)									
DEMAND FACTOR									
TOTAL DEMAND LOAD (kVA)									
(*) REC. DEMAND FACTOR=(1ST 100%+REMAINDER50%)									

(ACCOMPLISHED UNDER PREVIOUS CONTRACT - NOT IN SCOPE)

PANEL: PH5 (EXISTING) FED FROM: MAIN SWBD		NEUTRAL BUS: 100% GROUND BUS: YES ISOL. GND. BUS: NO		LOCATION: MAIN ELECTRICAL ROOM MOUNTING: SURFACE SSC RATING: 10 KAIC		VOLTAGE: 208Y/120V 3Ø 4 WIRE + GND MANS BUS: 600A COPPER 600A MLO		MAIN PROT. DEVICE: 70A MCB	
CR. NO.	DESCRIPTION	FEEDER CONF.	KVA LOAD A B C	BREAKER amps/frames	KVA LOAD A B C	FEEDER CONF.	DESCRIPTION	CR. NO.	
1	PANEL PH5 (E)	EXISTING	5.0 5.0 5.0	60/3	40/3	3.0 3.0 3.0	SEE MECHANICAL DISCONNECT SCHEDULE	COOLING TOWER	2
3	PUMP #7	SEE MECHANICAL DISCONNECT SCHEDULE	3.0 3.0 3.0	40/3	70/3	6.0 6.0 6.0	SEE MECHANICAL DISCONNECT SCHEDULE	PANEL PH6 (NEW)	4
5	PUMP #6	SEE MECHANICAL DISCONNECT SCHEDULE	3.9 3.9 3.9	50/3	60/3	0.0 0.0 0.0		SPARE	6
7	PENTHOUSE AC (E)	EXISTING	2.0 2.0 2.0	30/3	30/3	2.0 2.0 2.0	EXISTING	BOILER SUPPLY FAN (E)	8
9	PUMP #5	SEE MECHANICAL DISCONNECT SCHEDULE	3.9 3.9 3.9	50/3	40/3	3.0 3.0 3.0	SEE MECHANICAL DISCONNECT SCHEDULE	PUMP #2	10
11	BATH EXHAUST (E)	EXISTING	2.0 2.0 2.0	30/3	30/3	0.0 0.0 0.0		SPARE	12
SUBTOTAL			19.8	19.8		14.0	13.0	12.0	
			EST. LOAD (kVA) SEE TOTAL BELOW		14.0		13.0	12.0	
			SUBTOTAL		33.8		32.8	31.8	TOTAL
PANEL, EIPA LOAD ANALYSIS									
TOTAL CONNECTED LOAD (kVA)									
DEMAND FACTOR									
TOTAL DEMAND LOAD (kVA)									
(*) REC. DEMAND FACTOR=(1ST 100%+REMAINDER50%)									

PANEL: PH6 (NEW) FED FROM: PH5		NEUTRAL BUS: 100% GROUND BUS: YES ISOL. GND. BUS: NO		LOCATION: MAIN ELECTRICAL ROOM MOUNTING: SURFACE SSC RATING: 10 KAIC		VOLTAGE: 208Y/120V 3Ø 4 WIRE + GND MANS BUS: 100A COPPER		MAIN PROT. DEVICE: 70A MCB	
CR. NO.	DESCRIPTION	FEEDER CONF.	KVA LOAD A B C	BREAKER amps/frames	KVA LOAD A B C	FEEDER CONF.	DESCRIPTION	CR. NO.	
3	BOILER PUMP #1	3#12+1#12(G), 3/4"	2.0 2.0 2.0	20/3	20/3	2.0 2.0 2.0	3#12+1#12(G), 3/4"	BOILER PUMP #2	4
5			2.0			2.0			6
7	BOILER #1	2#12+1#12(G), 3/4"	1.0 1.0 1.0	20/1	20/1	1.0 1.0 1.0	2#12+1#12(G), 3/4"	BOILER #2	8
9	MECHANICAL CONTROLS	2#12+1#12(G), 3/4"	0.5 0.5 0.5	20/1	20/1	0.5 0.5 0.5	2#12+1#12(G), 3/4"	CHILLER CONTROLS	10
11	REF EXHAUST FAN	2#12+1#12(G), 3/4"	0.7 0.7 0.7	20/1		0.0 0.0 0.0		SPARE	12
13			0.0			0.0			14
15	SPACE		0.0			0.0			16
17			0.0			0.0			18
SUBTOTAL			3.0	2.5	2.7				
			EST. LOAD (kVA) SEE TOTAL BELOW		3.0		2.5	2.0	
			SUBTOTAL		6.0		5.0	4.7	TOTAL
PANEL, EIPA LOAD ANALYSIS									
TOTAL CONNECTED LOAD (kVA)									
DEMAND FACTOR									
TOTAL DEMAND LOAD (kVA)									
(*) REC. DEMAND FACTOR=(1ST 100%+REMAINDER50%)									

- PHASING NOTES**
- ① PROVIDE BOILER AND ASSOCIATED PUMPS AND DEMOLITION.
 - ② PROVIDE CHILLER, INDICATED PUMPS, CONTROLS, VENTILATION, LIGHTING AND ASSOCIATED DEMOLITION. EXISTING COOLING TOWER WILL REMAIN AND BE CONNECTED TO CHILLER

DESCRIPTION	CONNECTED LOAD (kVA)	
	SUMMER	WINTER
COOLING TOWER	9.0	0.0
PUMP P1, P2 & P3 (ONE STANDBY)	18.0	18.0
PUMP P4	0.0	9.0
PUMP P5, P6 & P7 (P5 OR P6 STANDBY)	20.7	0
HOT WATER PRI	0.0	6.0
COMPRESSOR AIR CONTROLS AND FANS	24.0	24.0
PENTHOUSE A/C	6.0	0.0
PANELS PH1 & PH6	16.0	30.0
PH4-7 (E)	43.2	43.2
25% OF LARGEST MOTOR (10.0HP)	1.9	1.9
TOTAL ESTIMATED LOAD (kVA)	138.8	132.0
TOTAL DEMAND LOAD (kVA) - 1.25 X ESTIMATED LOADS (CONTINUOUS)	173.5	165.0
TOTAL ESTIMATED DEMAND (AMPS)	481.9	458.3
NEW FEEDER CAPACITY (AMPS)	570	570
VOLTAGE SERVICE (V)	208/120	208/120

LOAD ANALYSIS PENTHOUSE FEEDER (PANELS PH4 & PH5)

- NEW WORK KEYNOTES**
- ① REPLACE THE EXISTING FUSE DISCONNECT SWITCHES I.T.E. VACU-BREAK SWITCH WITH NEW ONES AS INDICATED ON PANEL SCHEDULE.
 - ② REPLACE THE EXISTING FUSE DISCONNECT SWITCHES I.T.E. VACU-BREAK SWITCH WITH NEW ONES AS INDICATED ON PANEL SCHEDULE FOR NEW PANELBOARD.
 - ③ NOT USED.
 - ④ CONTRACTOR TO TRACE AND IDENTIFY THE CONNECTED CIRCUIT.

ARLINGTON VIRGINIA	
Approved: 6/12/23 Subject to Field Inspection EY602301012	
02/16/23	REVISED PERMIT SET
05/24/17	REDUCED SCOPE
01/17/17	BID-SET
09/23/18	PERMIT SET
DATE	DESCRIPTION

USE GRAPHIC SCALE FOR REDUCED PRINTS

GRAPHIC SCALE

KEY PLAN

CONTRACTOR	CONSTRUCTION
NUMBER	A/E DESIGN
PRIME	5101 Wisconsin Avenue, N.W. LDP Engineers, P.C. Suite 400 Washington, DC 20098-2501 Tel: (202)382-3000 Fax: (202)382-8841
A/E DESIGN	
CONSULT	
SEALS	

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: FLOORS: OTHER BLDGS:
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-ITB JWP 10-19-10.0 PRJ. MGR.:

DRAWN BY	DATE	02/12/18
CHECKED BY		
TITLE	PANEL SCHEDULES	
NUMBER	E 6 04	
	BOOK	SHEET TYPE
	SHEET	OF

PANEL: 4TH FL-P4 (E) FED FROM: MAIN SWBD				NEUTRAL BUS: 100K GROUND BUS: YES ISOL. GND. BUS: NO		LOCATION: MAIN ELECTRICAL ROOM MOUNTING: SURFACE SSC RATING: 10 KVA		VOLTAGE: 208Y/120V 3Ø 4 WIRE + GND MANS BUS: 200A COPPER MAN PROT. DEVICE: 200A MLO	
CR. NO.	DESCRIPTION	FEEDER CONFIG.	KVA LOAD A B C amps/feet	BREAKER amps/feet A B C	KVA LOAD A B C amps/feet	FEEDER CONFIG.	DESCRIPTION	CR. NO.	
1	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	2	
3	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	4	
5	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	6	
7	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	8	
9	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	10	
11	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	12	
13	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	14	
15	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	16	
17	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	18	
19	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	20	
21	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	22	
23	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	24	
25	EXISTING	EXISTING	0.5	20/1	20/1	0.5	2Ø12+1Ø12(G), 3/4" CONTROL PANEL	26	
27	EXISTING	EXISTING	0.5	20/1	20/1	0.2	2Ø12+1Ø12(G), 3/4" RECEPTACLE	28	
29	EXISTING	EXISTING	0.5	20/1	SPACE	0.0	SPACE	30	
31	EXISTING	EXISTING	0.5	20/1	SPACE	0.0	SPACE	32	
33	EXISTING	EXISTING	0.5	20/2	20/3	0.0	SPACE	34	
35	EXISTING	EXISTING	0.5	20/1	20/1	0.0	SPACE	36	
37	EXISTING	EXISTING	0.5	20/1	20/3	0.0	SPACE	38	
39	EXISTING	EXISTING	0.5	20/1	20/3	0.0	SPACE	40	
41	EXISTING	EXISTING	0.5	20/1	20/3	0.0	SPACE	42	
SUBTOTAL			3.5 3.5 3.5	EST. LOAD (KVA) SEE TOTAL BELOW		3.0 2.7 2.5	SUBTOTAL		
						6.5 6.2 6.0	TOTAL		

PANEL EDPA LOAD ANALYSIS				HWAC	MISC.	TOTAL
TOTAL CONNECTED LOAD (KVA)				18.0	0.7	18.7
DEMAND FACTOR				1.0	1.0	
TOTAL DEMAND LOAD (KVA)				18.0	0.7	18.7
(*) REC DEMAND FACTOR=(1ST 10KW@100%+REMANDER@50%)						

PANEL: 6TH FL-P6 (E) FED FROM: MAIN SWBD				NEUTRAL BUS: 100K GROUND BUS: YES ISOL. GND. BUS: NO		LOCATION: MAIN ELECTRICAL ROOM MOUNTING: SURFACE SSC RATING: 10 KVA		VOLTAGE: 208Y/120V 3Ø 4 WIRE + GND MANS BUS: 200A COPPER MAN PROT. DEVICE: 200A MLO	
CR. NO.	DESCRIPTION	FEEDER CONFIG.	KVA LOAD A B C amps/feet	BREAKER amps/feet A B C	KVA LOAD A B C amps/feet	FEEDER CONFIG.	DESCRIPTION	CR. NO.	
1	EXISTING	EXISTING	1.0	20/2	20/1	0.5	EXISTING	2	
3	EXISTING	EXISTING	1.0	20/2	20/1	0.5	EXISTING	4	
5	EXISTING	EXISTING	1.0	20/2	20/1	0.5	EXISTING	6	
7	EXISTING	EXISTING	1.0	20/2	20/1	0.5	EXISTING	8	
9	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	10	
11	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	12	
13	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	14	
15	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	16	
17	EXISTING	EXISTING	0.5	20/2	20/1	0.5	EXISTING	18	
19	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	20	
21	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	22	
23	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	24	
25	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	26	
27	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	28	
29	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	30	
31	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	32	
33	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	34	
35	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	36	
37	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	38	
39	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	40	
41	CONTROL PANEL + RECEPTACLE	2Ø12+1Ø12(G), 3/4"	1.0	20/1	20/1	0.5	EXISTING	42	
SUBTOTAL			4.5 4.0 4.5	EST. LOAD (KVA) SEE TOTAL BELOW		3.5 3.5 3.5	SUBTOTAL		
						8.0 7.5 8.0	TOTAL		

PANEL EDPA LOAD ANALYSIS				HWAC	MISC.	TOTAL
TOTAL CONNECTED LOAD (KVA)				22.8	0.7	23.5
DEMAND FACTOR				1.0	1.0	
TOTAL DEMAND LOAD (KVA)				22.8	0.7	23.5
(*) REC DEMAND FACTOR=(1ST 10KW@100%+REMANDER@50%)						

PANEL: 5TH FL-P5C (E) FED FROM: P5-B				NEUTRAL BUS: 100K GROUND BUS: YES ISOL. GND. BUS: NO		LOCATION: MAIN ELECTRICAL ROOM MOUNTING: SURFACE SSC RATING: 10 KVA		VOLTAGE: 208Y/120V 3Ø 4 WIRE + GND MANS BUS: 250A COPPER MAN PROT. DEVICE: 70A MCB	
CR. NO.	DESCRIPTION	FEEDER CONFIG.	KVA LOAD A B C amps/feet	BREAKER amps/feet A B C	KVA LOAD A B C amps/feet	FEEDER CONFIG.	DESCRIPTION	CR. NO.	
1			0.0		20/3	0.1	EXISTING	2	
3	MAIN		0.0		20/3	0.1	EXISTING	4	
5			0.0		20/1	0.1	EXISTING	6	
7	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	8	
9	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	10	
11	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	12	
13	EXISTING	EXISTING	0.5	20/1	15/2	0.5	EXISTING	14	
15	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	16	
17	EXISTING	EXISTING	0.5	20/1	20/1	0.5	2Ø12+1Ø12(G), 3/4" CONTROL PANEL	18	
19	EXISTING	EXISTING	0.5	20/1	20/1	0.5	2Ø12+1Ø12(G), 3/4" RECEPTACLE	20	
21	SPACE		0.0		SPACE	0.0	SPACE	22	
23	SPACE		0.0		SPACE	0.0	SPACE	24	
25	SPACE		0.0		SPACE	0.0	SPACE	26	
27	SPACE		0.0		SPACE	0.0	SPACE	28	
29	SPACE		0.0		SPACE	0.0	SPACE	30	
SUBTOTAL			2.5 2.0 2.0	EST. LOAD (KVA) SEE TOTAL BELOW		3.0 2.2 2.0	SUBTOTAL		
						5.5 4.2 4.0	TOTAL		

PANEL EDPA LOAD ANALYSIS				HWAC	MISC.	TOTAL
TOTAL CONNECTED LOAD (KVA)				13.0	0.7	13.7
DEMAND FACTOR				1.0	1.0	
TOTAL DEMAND LOAD (KVA)				13.0	0.7	13.7
(*) REC DEMAND FACTOR=(1ST 10KW@100%+REMANDER@50%)						

PANEL: 7TH FL-P1B (E) FED FROM: P1-A				NEUTRAL BUS: 100K GROUND BUS: YES ISOL. GND. BUS: NO		LOCATION: MAIN ELECTRICAL ROOM MOUNTING: SURFACE SSC RATING: 10 KVA		VOLTAGE: 208Y/120V 3Ø 4 WIRE + GND MANS BUS: 250A COPPER MAN PROT. DEVICE: 125A MLO	
CR. NO.	DESCRIPTION	FEEDER CONFIG.	KVA LOAD A B C amps/feet	BREAKER amps/feet A B C	KVA LOAD A B C amps/feet	FEEDER CONFIG.	DESCRIPTION	CR. NO.	
1	EXISTING	EXISTING	1.0	1.0	20/2	1.0	EXISTING	2	
3	EXISTING	EXISTING	1.0	1.0	20/2	1.0	EXISTING	4	
5	EXISTING	EXISTING	1.0	0.5	20/1	20/1	0.5	EXISTING	6
7	EXISTING	EXISTING	1.5	1.5	30/2	20/1	0.5	EXISTING	8
9	EXISTING	EXISTING	1.5	1.5	30/2	20/1	0.5	EXISTING	10
11	EXISTING	EXISTING	1.5	1.5	30/2	20/1	0.5	EXISTING	12
13	EXISTING	EXISTING	1.5	1.5	30/2	20/1	0.5	EXISTING	14
15	EXISTING	EXISTING	1.0	1.0	20/2	20/2	1.0	EXISTING	16
17	EXISTING	EXISTING	1.0	1.0	20/2	20/2	1.0	EXISTING	18
19	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	20	
21	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	22	
23	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	24	
25	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	26	
27	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	28	
29	EXISTING	EXISTING	0.5	20/1	20/1	0.5	EXISTING	30	
31	CONTROL PANEL	2Ø12+1Ø12(G), 3/4"	0.5	20/1	20/1	0.0	SPACE	32	
33	RECEPTACLE	2Ø12+1Ø12(G), 3/4"	0.5	20/1	20/1	0.0	SPACE	34	
35	SPACE		0.0		SPACE	0.0	SPACE	36	
37	SPACE		0.0		SPACE	0.0	SPACE	38	
39	SPACE		0.0		SPACE	0.0	SPACE	40	
41	SPACE		0.0		SPACE	0.0	SPACE	42	
SUBTOTAL			5.5 5.0 4.0	EST. LOAD (KVA) SEE TOTAL BELOW		3.0 3.5 3.0	SUBTOTAL		
						8.5 8.5 7.0	TOTAL		

PANEL EDPA LOAD ANALYSIS				HWAC	MISC.	TOTAL
TOTAL CONNECTED LOAD (KVA)				23.3	0.7	24.0
DEMAND FACTOR				1.0	1.0	
TOTAL DEMAND LOAD (KVA)				23.3	0.7	24.0
(*) REC DEMAND FACTOR=(1ST 10KW@100%+REMANDER@50%)						

NEW WORK KEYNOTES

- ① REPLACE 20/3 CIRCUIT BREAKER WITH TWO (2) 20/1 CIRCUIT BREAKERS AND SPACE.
- ② PROVIDE 20/1 CIRCUIT BREAKER IN SPACE.

REV	DATE	DESCRIPTION
02/16/23		REVISED PERMIT SET
05/24/17		REDUCED SCOPE
01/13/17		BID-SET
08/23/16		PERMIT SET
		DESCRIPTION

USE GRAPHIC SCALE FOR REDUCED PRINTS

GRAPHIC SCALE

KEY PLAN

CONTRACTOR

CLIENT

ARLINGTON COUNTY GOVERNMENT
1400 N. UHLE STREET, SUITE 403
ARLINGTON, VA 22201

NAME: ARLINGTON COUNTY
ADDRESS: 1400 N. UHLE STREET
ARLINGTON, VA 22201

NUMBER: _____
FLOORS: _____

OTHER BLDGS: _____

DESCRIPTION: 2020 14TH STREET
HWAC REPLACEMENT

PROJECT NUMBER: BID # 17-136-ITB JWP 10-10-10.0
PROJ. MGR. _____

DRAWN BY: --- DATE: 02/12/18
CHECKED BY: ---

TITLE: PANEL SCHEDULES

NUMBER: E 6 05
SHEET: --- OF ---

SYMBOLS

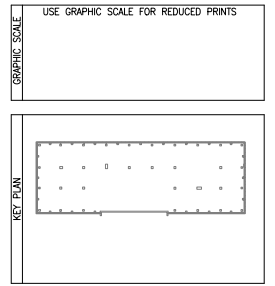
ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING TO REMAIN		DIAMETER
	EXISTING TO BE REMOVED		PIPE ELBOW TURNED UP
	NEW WORK		PIPE ELBOW TURNED DOWN
	POINT OF DISCONNECTION		PIPE TEE, SIDE
	POINT OF NEW CONNECTION		PIPE TEE, BOTTOM
	THERMOSTAT		PIPE TEE, TOP
	DUCT SIZE, IN FIRST FIGURE IS SIDE SHOWN		CHECK VALVE
	ROUND DUCT SIZE, IN		GATE VALVE (SHUT-OFF)
	DUCTWORK OR EQUIPMENT TO BE DEMOLISHED		BUTTER FLY VALVE
	CHANGE OF ELEVATION (R)RISE (D)DROP		BALL VALVE
	SUPPLY DUCT TURNED DOWN		STRAINER
	SUPPLY DUCT TURNED UP		COMBINATION BALANCING
	RETURN DUCT TURNED DOWN		2-WAY CONTROL VALVE
	RETURN DUCT TURNED UP		3-WAY CONTROL VALVE
	CEILING GRILLE OR CEILING REGISTER WITH VOLUME DAMPER		PRESSURE GAUGE W/GAUGE COCK
	DUCT BRANCH CONNECTION WITH VOLUME DAMPER (RECT. x RECT)		THERMOMETER W/WELL
	DUCT BRANCH CONNECTION WITH VOLUME DAMPER AND FLEXIBLE DUCT CONNECTED TO SUPPLY DIFFUSER		CAPPED PIPE
	FLEXIBLE DUCT CONNECTION		DIRECTION OF FLOW
	TRANSITION		PIPE UNION
	SQUARE TO ROUND TRANSITION		DUAL TEMPERATURE WATER SUPPLY
	ELBOW WITH TURNING VANES		DUAL TEMPERATURE WATER RETURN

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A	AMPERE	L	LITER
AD	ACCESS DOOR	L/s	LITER PER SECOND
AFF	ABOVE FINISHED FLOOR	LAT	LEAVING AIR TEMPERATURE
AHU	AIR HANDLING UNIT	LGA	LOCKED ROTOR AMPERES
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LVG	LEAVING WATER TEMPERATURE
APPROX	APPROXIMATELY	LWT	LEAVING WATER TEMPERATURE
AS	AIR SEPARATOR	M	METER
AWG	AMERICAN WIRE GAUGE	M/S	METER PER SECOND
B	BOILER	MAX	MAXIMUM
BHP	BRAKING HORSEPOWER	MBH	1000 BRITISH THERMAL UNITS PER HOUR
BLDG	BUILDING	MCB	MAIN CIRCUIT BREAKER
BSMT	BASEMENT	MD	MOTORIZED DAMPER
BTUH	BRITISH THERMAL UNITS PER HOUR	MECH	MECHANICAL
°C	DEGREES CELSIUS	M.E.R.	MECHANICAL EQUIPMENT ROOM
CD	CEDILING DIFFUSER	MFR	MANUFACTURER
CFM	CUBIC FEET PER MINUTE	MH	MOUNTING HEIGHT
CH	CHILLER	MIN	MINIMUM
CHWR	CHILLED WATER RETURN	MFR	MANUFACTURER
CHWS	CHILLED WATER SUPPLY	MM	MILLIMETER
CLG	CEILING	NC	NORMALLY CLOSED, NOISE CRITERIA
CMU	CONCRETE MASONRY UNIT	NO	NORMALLY OPEN
CO	CARBON MONOXIDE	No.	NUMBER
COTR	CONTRACTING OFFICER'S REPRESENTATIVE	NOM	NOMINAL
CT	COOLING TOWER	NTS	NOT TO SCALE
CW	COLD WATER	OA	OUTSIDE AIR
D	DRAIN	P	PUMP
DB	DRY BULB	PD	PRESSURE DROP
DEMOL	DEMOLITION, DEMOLISH	PH	PHASE
DHW	DOMESTIC HOT WATER	PLUM	PLUMBING
DIA	DIAMETER	PNL	PANELBOARD
DN	DOWN	POS.	POSITIVE
DWG	DRAWING	PSI	POUNDS PER SQUARE INCH
DWH	DOMESTIC WATER HEATER	RA	RETURN AIR
DX	DIRECT EXPANSION	RCP	REFLECTED CEILING PLAN
E	EXISTING	RH	RELATIVE HUMIDITY
EA	EACH, EXHAUST AIR	RL	REFRIGERANT LIQUID
EAT	ENTERING AIR TEMPERATURE	RLA	RUNNING LOAD AMPERES
EER	ENERGY EFFICIENCY RATIO	RM	ROOM
EF	EXHAUST FAN	RFM	REVOLUTIONS PER MINUTE
ELEC	ELECTRICAL	RS	REFRIGERANT SUCTION
EMT	ELECTRICAL METALLIC TUBING	SA	SUPPLY AIR
ENT	ENTERING	SD	SMOKE DETECTOR
EQ	EQUAL, EQUALIZER	SF	SQUARE FEET
ESP	EXTERNAL STATIC PRESSURE	SP	STATIC PRESSURE
ET	EXPANSION TANK	SS	STAINLESS STEEL, STEAM SEPARATOR
ETR	EXISTING TO REMAIN	TEL/DATA	TELEPHONE/DATA COMMUNICATION
EW	ENTERING WATER TEMPERATURE	TYP	TYPICAL
EX	EXISTING	V	VOLT
EXH	EXHAUST	VD	VOLUME DAMPER
°F	DEGREES FAHRENHEIT	W	WATT
FD	FLOOR DRAIN, FIRE DAMPER	W/	WITH
FLA	FULL LOAD AMPERES	WB	WET BULB
FP	FIRE PROTECTION	WMS	WIRE MESH SCREEN
FS	FEET PER SECOND		
FPS	FEET PER SECOND		
FT	FEET		
G	GAS		
C	CROUND		
GA	GAUGE		
GALV	GALVANIZED		
GPM	GALLONS PER MINUTE		
HC	HEATING COIL		
HP	HORSEPOWER		
HWR	HOT WATER RETURN		
HWS	HOT WATER SUPPLY		
HX	HEAT EXCHANGER		
HZ	HERTZ (CYCLES PER SECOND)		
IN	INCHES		
IN WG	INCHES WATER GAUGE		
K	KELVINS		
KPa	KILOPASCAL		
KW	KILOWATT		
kWh	KILOWATT-HOUR		
kVA	KILOVOLT-AMPERE		

ARLINGTON VIRGINIA
Approved: 6/1/2023
Subject to FASE Inspection
CYB02301012

REV	DATE	DESCRIPTION
02/16/23		REVISED PERMIT SET
04/23/18		REVISED PERMIT SET
05/24/17		REDUCED SCOPE
01/13/17		BID-SET
09/23/16		PERMIT SET



CONTRACTOR

CONTRACT NUMBER	CONSTRUCTION
PRIME	A/E DESIGN

A/E DESIGN

CONSULT

SEALS

CLIENT

ARLINGTON VIRGINIA ARLINGTON COUNTY GOVERNMENT
1400 N. UHLE STREET, SUITE 403
ARLINGTON, VA 22201

BUILDING

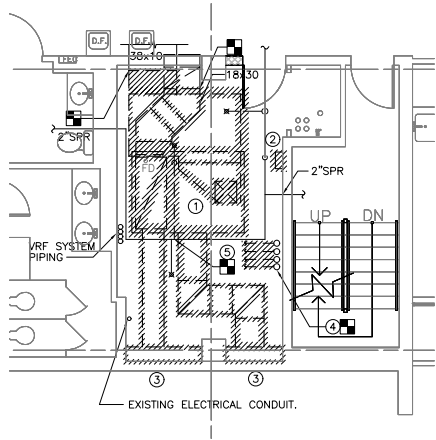
NAME	ARLINGTON COUNTY
ADDRESS	1400 N. UHLE STREET ARLINGTON, VA 22201
NUMBER	
FLOORS	

OTHER BLDGS

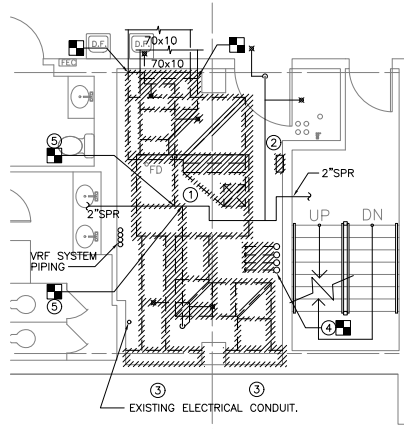
PROJECT

DESCRIPTION	2020 14TH STREET HVAC REPLACEMENT
NUMBER	BID # 17-136-ITB JPP 10-19-10.0
PROJ. MGR.	-

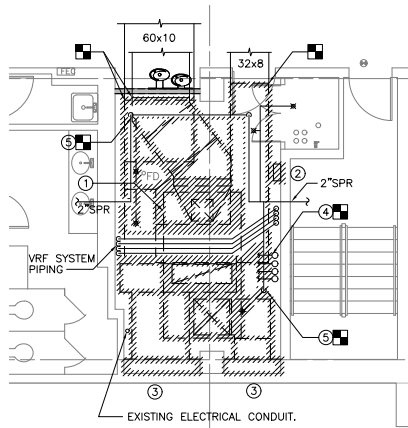
DRAWN BY		DATE	02/12/18
CHECKED BY		MECHANICAL SYMBOLS & ABBREVIATION	
TITLE			
NUMBER	M 0 01	DISCIPLINE	SHEET TYPE
			OF



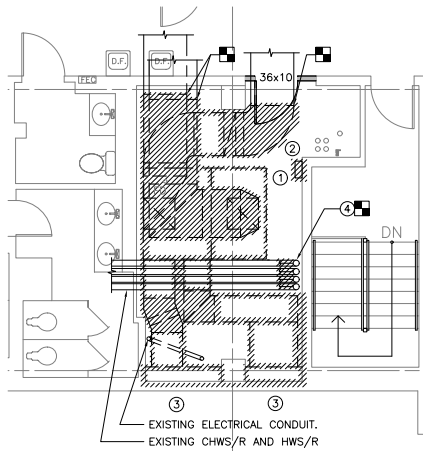
1 4 TH FLOOR PLAN - HVAC - DEMOLITION
 SCALE: 1/4" = 1'-0"



2 5 TH FLOOR PLAN - HVAC - DEMOLITION
 SCALE: 1/4" = 1'-0"



3 6 TH FLOOR PLAN - HVAC - DEMOLITION
 SCALE: 1/4" = 1'-0"



4 7 TH FLOOR PLAN - HVAC - DEMOLITION
 SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. FIELD VERIFY PRIOR TO DEMOLITION. NOTIFY OWNER REPRESENTATIVE IF ANY POSSIBLE OBSTRUCTION TO THE DEMOLITION.
2. EXISTING HOT WATER SYSTEM SERVING ERU ON 2ND FLOOR AND AHU AT RESTAURANT. EXISTING CHILLED WATER SERVING ERU ON 2ND FLOOR. COORDINATE AND SCHEDULE PRIOR TO DEMOLITION.
3. COORDINATE WITH ARLINGTON COUNTY. ASBESTOS ABATEMENT IS NOT IN SCOPE AND SHALL BE DONE BY COUNTY.

KEY NOTES

- ① REMOVE EXISTING AHU AND ASSOCIATED CONTROLS, SUPPORTS, PIPING AND DUCTWORK TO POINT OF DISCONNECTION.
- ② REMOVE EXISTING CONTROL PANEL.
- ③ REMOVE EXISTING PLENUM. EXISTING LOUVER TO BE RECONNECT TO NEW PLENUM.
- ④ REMOVE EXISTING PIPING TO RISER TO BE RE-CONNECTED TO NEW AHU. REMOVE RISER INSULATION.
- ⑤ REMOVE EXISTING SPRINKLER, AND SPRINKLER HEAD AND CAP.

REV	DATE	DESCRIPTION
02/16/23		REVISED PERMIT SET
04/23/18		REVISED PERMIT SET
10/05/17		REISSUED FOR PERMIT
05/24/17		REDUCED SCOPE
01/13/17		BID-SET
09/23/16		PERMIT SET

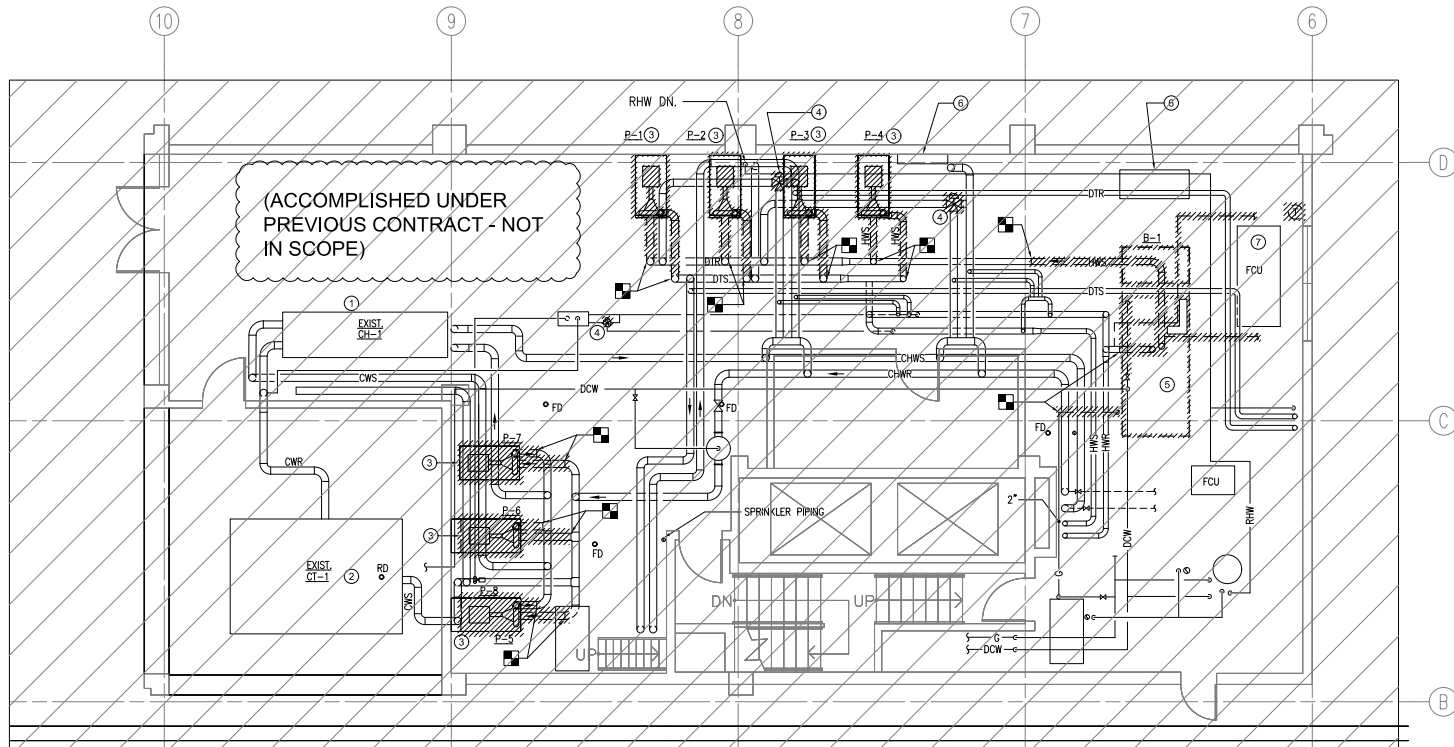
GRAPHIC SCALE
 USE GRAPHIC SCALE FOR REDUCED PRINTS

KEY PLAN

CONTRACTOR	
CONTRACT NUMBER	CONSTRUCTION A/E DESIGN
PRIME	JVP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Suite 400 Washington, DC 20098-2151 Tel: (202)362-3001 Fax: (202)362-5541
A/E DESIGN	
CONSULT	
SEAL(S)	

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME ARLINGTON COUNTY ADDRESS 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER FLOORS OTHER BLDGS
PROJECT	DESCRIPTION 2020 14TH STREET HVAC REPLACEMENT NUMBER BID # 17-136-ITB JVP# 10-19.10.0 PROJ. MGR. -

DRAWN BY		DATE	02/12/18
CHECKED BY		TITLE	MECHANICAL PARTIAL PLANS - DEMOLITION
NUMBER	M 1 01	DISCIPLINE	SHEET TYPE
		SHEET	OF



2 PENTHOUSE - HVAC PIPING - DEMOLITION
SCALE: 1/4" = 1' - 0"

GENERAL NOTES

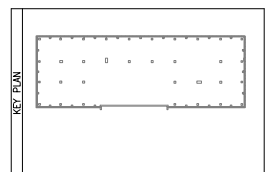
1. FIELD VERIFY PRIOR TO DEMOLITION. NOTIFY OWNER REPRESENTATIVE IF ANY POSSIBLE OBSTRUCTION TO THE DEMOLITION.
2. EXISTING HOT WATER SYSTEM SERVING ERU ON 2ND FLOOR AND AHU AT RESTAURANT. EXISTING CHILLED WATER SERVING ERU ON 2ND FLOOR. COORDINATE AND SCHEDULE PRIOR TO DEMOLITION.
3. COORDINATE WITH ARLINGTON COUNTY. ASBESTOS ABATEMENT IS NOT IN SCOPE AND SHALL BE DONE BY COUNTY.
4. EXISTING WATER TREATMENT SHALL REMAIN AND REUSE FOR NEW PIPING.

KEY NOTES

- ① EXISTING CHILLER.
- ② EXISTING COOLING TOWER.
- ③ REMOVE EXISTING PUMP, STEEL BASE, AND ASSOCIATED PIPING TO POINT OF DISCONNECTION.
- ④ REMOVE EXISTING PNEUMATIC THREE WAY CONTROL VALVE AND ASSOCIATED PIPING AND CONTROLS. VERIFY EXISTING OPERATION TO BE INSTALLED IN KIND.
- ⑤ REMOVE EXISTING BOILER AND ASSOCIATED PIPING TO POINT OF DISCONNECTION. REMOVE PIPING TO EXPANSION TANK.
- ⑥ EXISTING PNEUMATIC CONTROL PANEL AND ASSOCIATED AIR COMPRESSOR SHALL REMAIN UNTIL AHU PNEUMATIC CONTROL HAVE BEEN REPLACED.
- ⑦ REMOVE PIPING, CONTROL VALVE AND THERMOSTAT ASSOCIATED TO FCU. RECORD EXISTING FLOW RATE FOR REBALANCING.

REV	DATE	DESCRIPTION
02/16/23		REVISED PERMIT SET
04/23/18		REVISED PERMIT SET
10/05/17		REISSUED FOR PERMIT
08/08/17		REVISED PERMIT SET
05/24/17		REDUCED SCOPE
01/13/17		BID-SET
11/10/16		PERMIT REVISION
09/23/16		PERMIT SET

USE GRAPHIC SCALE FOR REDUCED PRINTS



CONTRACTOR	
CONTRACT NUMBER	CONSTRUCTION
A/E DESIGN	<p>PRIME JWP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Washington, DC 20098-2151 Tel: (202)362-3001 Fax: (202)362-5541</p>
CONSULT	

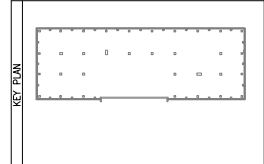


CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: FLOORS: OTHER BLDGS:
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-ITB PRQJ. MGR.:

DRAWN BY	DATE	02/12/18
CHECKED BY	TITLE	MECHANICAL PENTHOUSE - HVAC PIPING - DEMOLITION
NUMBER	DISCIPLINE	SHEET TYPE
M 1 03		
	SHEET	OF

REV	DATE	DESCRIPTION
02/16/23		REVISED PERMIT SET
04/23/18		REVISED PERMIT SET
10/05/17		REISSUED FOR PERMIT
05/24/17		REDUCED SCOPE
01/13/17		BID-SET
09/23/16		PERMIT SET

GRAPHIC SCALE
USE GRAPHIC SCALE FOR REDUCED PRINTS



CONTRACTOR	
CONTRACT NUMBER	CONSTRUCTION
A/E DESIGN	A/E DESIGN
PRIME	JVP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Suite 400 Washington, DC 20096-2151 Tel: (202)362-3001 Fax: (202)362-5541
CONSULT	
SEALS	

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: _____ FLOORS: _____ OTHER BLDGS: _____
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: _____ BID # 17-136-ITB JVP# 10-19.10.0 PROJ. MGR. _____

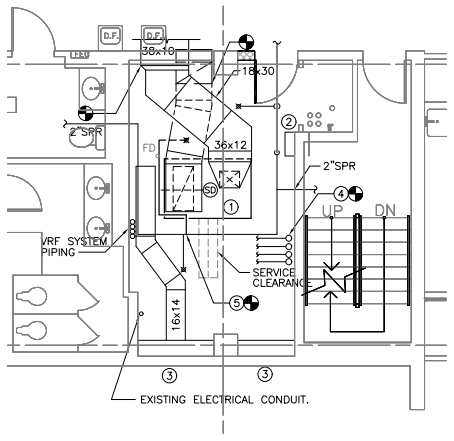
DRAWN BY		DATE	02/12/18
CHECKED BY		TITLE	MECHANICAL PARTIAL PLANS - NEW WORK
NUMBER	M 2 01	DISCIPLINE	SHEET TYPE
		SHEET	OF

GENERAL NOTES

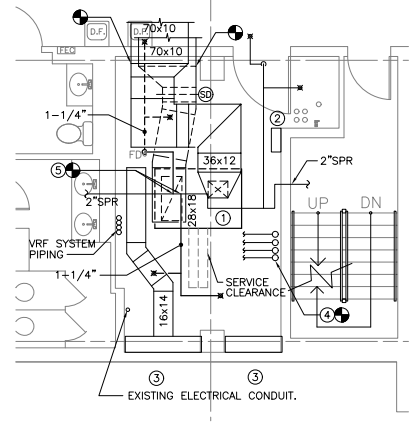
1. FIELD VERIFY PRIOR TO DEMOLITION. NOTIFY OWNER REPRESENTATIVE IF ANY POSSIBLE OBSTRUCTION TO NEW WORK.
2. EXISTING HOT WATER SYSTEM SERVING ERU ON 2ND FLOOR AND AHU AT RESTAURANT. EXISTING CHILLED WATER SERVING ERU ON 2ND FLOOR. COORDINATE AND SCHEDULE PRIOR TO NEW WORK.
3. COORDINATE WITH ARLINGTON COUNTY. ASBESTOS ABATEMENT IS NOT IN SCOPE AND SHALL BE DONE BY COUNTY.

KEY NOTES

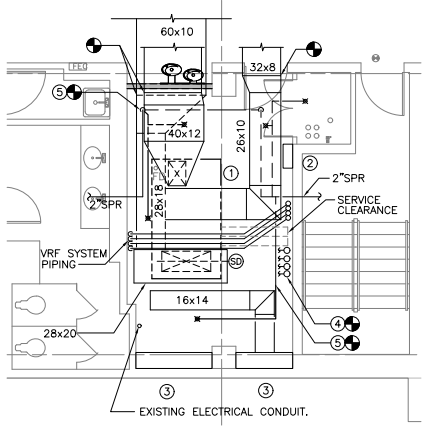
- 1 NEW AHU WITH DUCTWORK, PIPING, SUPPORTS AND CONTROLS. PROVIDE 1/2" CONDENSATE DRAIN TO NEAREST FLOOR DRAIN. PROVIDE DUCT SMOKE DETECTOR AT RETURN AIR DUCTWORK.
- 2 120V AHU CONTROL PANEL POWERED BY ELECTRICAL. COORDINATE ON AIR AND RETURN AIR DAMPERS. THE DAMPER ACTUATORS SHALL BE POWER FROM CONTROL PANEL.
- 3 NEW PLENUM SIZE MATCHING EXISTING LOUVER.
- 4 INSTALL 1-1/2" HWS/R, 2" CHWS/R AND ASSOCIATED CONTROLS FOR AHU. INSULATE PIPING AND RISER.
- 5 INSTALL SPRINKLER HEAD AND 1" SPR PIPING UNLESS INDICATED ON PLAN.



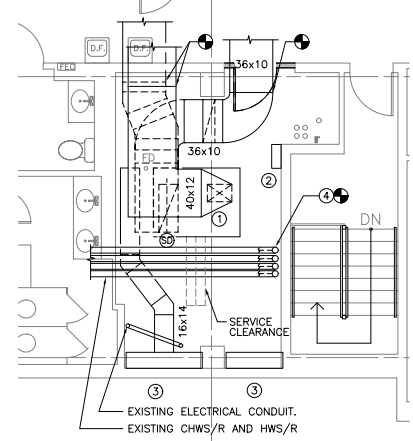
1 4 TH FLOOR PLAN - HVAC - NEW WORK
SCALE: 1/4" = 1'-0"



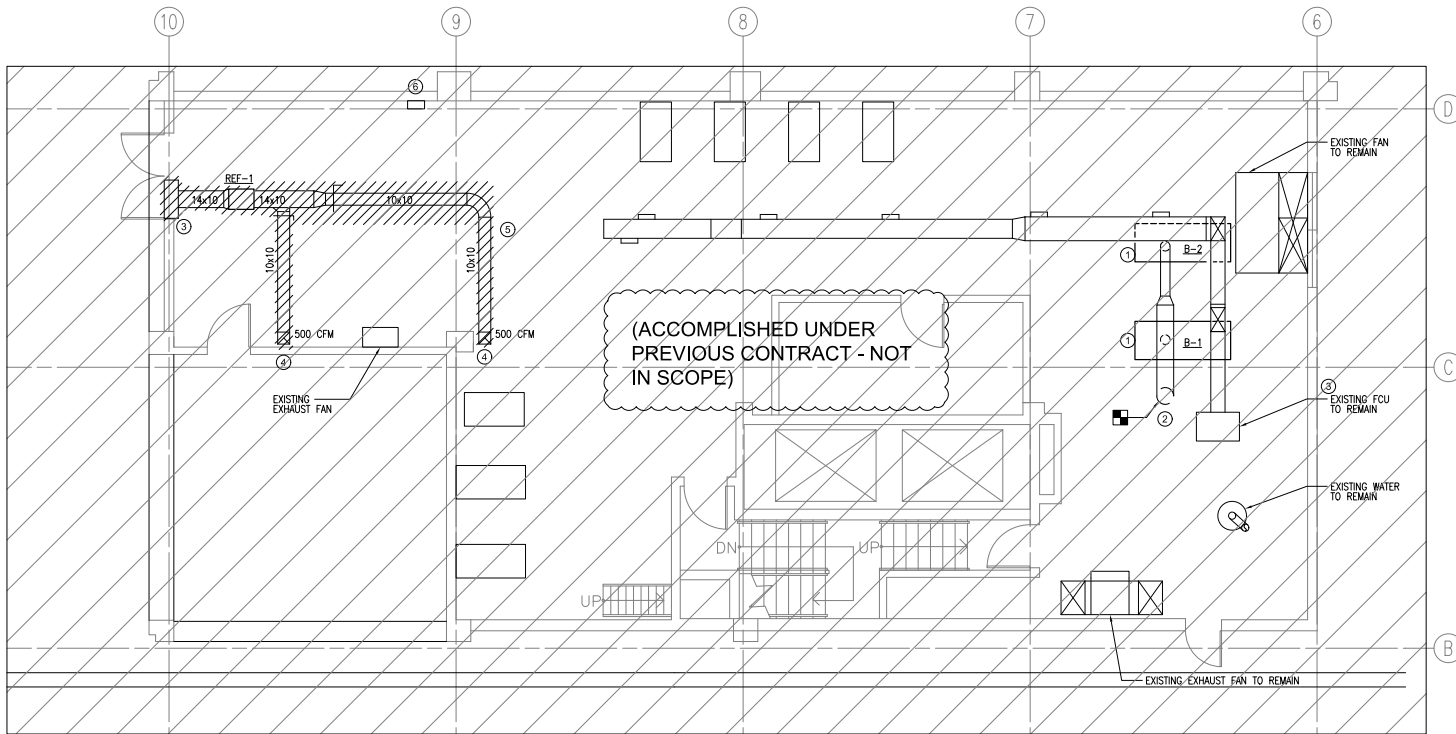
2 5 TH FLOOR PLAN - HVAC - NEW WORK
SCALE: 1/4" = 1'-0"



3 6 TH FLOOR PLAN - HVAC - NEW WORK
SCALE: 1/4" = 1'-0"



4 7 TH FLOOR PLAN - HVAC - NEW WORK
SCALE: 1/4" = 1'-0"



1 PENTHOUSE - HVAC DUCTWORK - NEW WORK
SCALE: 1/4" = 1' - 0"

GENERAL NOTES

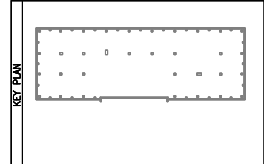
1. FIELD VERIFY PRIOR TO DEMOLITION. NOTIFY OWNER REPRESENTATIVE IF ANY POSSIBLE OBSTRUCTION TO NEW WORK.
2. EXISTING HOT WATER SYSTEM SERVING ERU ON 2ND FLOOR AND AHU AT RESTAURANT. EXISTING CHILLED WATER SERVING ERU ON 2ND FLOOR. COORDINATE AND SCHEDULE PRIOR TO NEW WORK.

KEY NOTES

1. 8" FLUE FROM BOILER.
2. CONNECT 12" FLUE TO EXISTING FLUE.
3. 6" PLENUM BEHIND 65"x32" LOUVER. INSTALL REFRIGERANT SENSOR AT 3'-0" AFF AND ACTIVATE EXHAUST FAN, SHUT DOWN THE CHILLER AND ALARM. COORDINATE LOCATION IN FIELD.
4. INSTALL EXHAUST GRILLE 18" AFF, EXTEND DUCT AS REQUIRED.
5. REMOVE EXISTING DUCTWORK AND EXHAUST FAN, SALVAGE FAN AND RETURN TO ARLINGTON COUNTY.
6. CONNECT EXISTING REFRIGERANT DETECTOR TO BAS.

REV	DATE	DESCRIPTION
02/16/23		REVISED PERMIT SET
01/16/19		AS-BUILT
05/24/17		REDUCED SCOPE
01/13/17		BID-SET
08/23/18		PERMIT SET

USE GRAPHIC SCALE FOR REDUCED PRINTS



CONTRACTOR

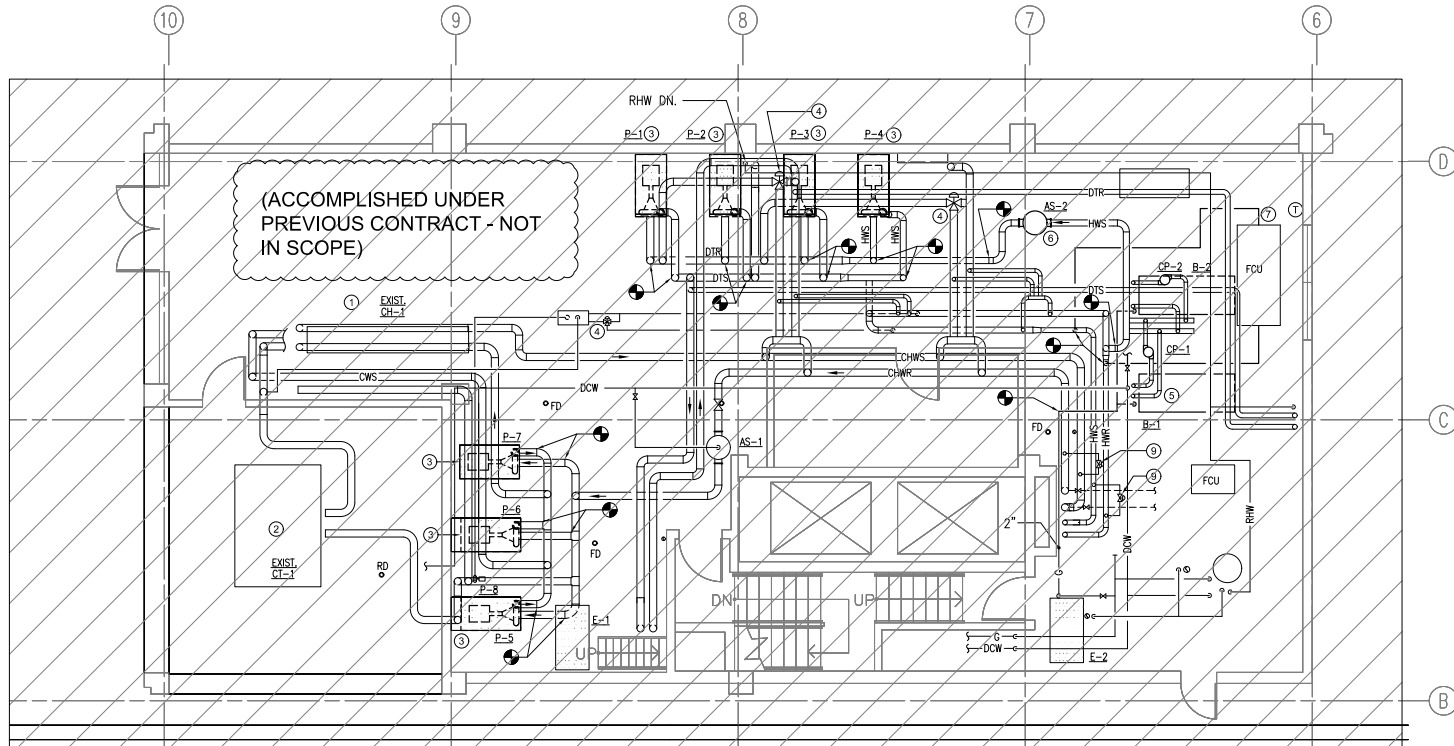
CONTRACT NUMBER	CONSTRUCTION
	A/E DESIGN
PRIME	5101 Wisconsin Avenue, N.W. P.O. Box 400 Arlington, VA 22201 Tel: (202)382-3000 Fax: (202)382-8844
A/E DESIGN	
CONSULT	



CLIENT
ARLINGTON COUNTY GOVERNMENT
1400 N. UHLE STREET, SUITE 403
ARLINGTON, VA 22201

NAME	ARLINGTON COUNTY
ADDRESS	1400 N. UHLE STREET ARLINGTON, VA 22201
NUMBER	
FLOORS	
OTHER BLDGS	
PROJECT DESCRIPTION	2020 14TH STREET HVAC REPLACEMENT
NUMBER	BID # 17-136-ITB
PRJ. MGR.	JPH 10-19-10

DRAWN BY	DATE	02/12/18
CHECKED BY	PENTHOUSE - HVAC DUCTWORK - NEW WORK	
TITLE		
NUMBER	M 2 02	
	BOOKING SHEET TYPE	ISSUANCE
	SHEET	OF



1 PENTHOUSE - HVAC PIPING - NEW WORK
SCALE: 1/4" = 1' - 0"

GENERAL NOTES

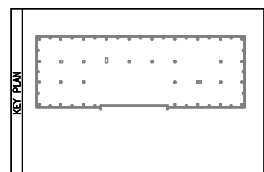
1. FIELD VERIFY PRIOR TO DEMOLITION. NOTIFY OWNER REPRESENTATIVE IF ANY POSSIBLE OBSTRUCTION TO NEW WORK.
2. EXISTING HOT WATER SYSTEM SERVING ERU ON 2ND FLOOR AND AHU AT RESTAURANT. EXISTING CHILLED WATER SERVING ERU ON 2ND FLOOR. COORDINATE AND SCHEDULE PRIOR TO NEW WORK.
3. COORDINATE WITH ARLINGTON COUNTY. ASBESTOS ABATEMENT IS NOT IN SCOPE AND SHALL BE DONE BY COUNTY.
4. COORDINATE VALVES AND ACCESSORIES WITH DIAGRAM, SPECIFICATION AND DETAILS.

KEY NOTES

1. EXIST. CHILLER.
2. EXIST. COOLING TOWER.
3. NEW PUMP WITH BASE, AND ASSOCIATED PIPING TO POINT OF CONNECTION.
4. NEW AUTOMATIC CONTROL VALVE.
5. NEW BOILER AND ASSOCIATED PIPING AND PUMP. PROVIDE 1" MAKE UP WATER AND 1" GAS LINE WITH PRESSURE REGULATOR. PROVIDE 1" DRAIN TO NEAREST FD. PROVIDE 4" CONCRETE PAD WITH MINIMUM 2" LARGER THAN BOILER DIMENSION.
6. NEW AIR SEPARATOR. CONNECT TO EXPANSION TANK.
7. 1-1/4" HOT WATER WITH CONTROL VALVE AND THERMOSTAT.
8. INSULATE CHILLED WATER, HOT WATER AND DUAL TEMPERATURE PIPING. COLORING SYSTEM MATCH EXISTING.
9. 2" BYPASS.

ARLINGTON VIRGINIA		
Approved: 6/1/2023 Subject to F&E Inspection CY802301012		
02/16/23	REVISED PERMIT SET	
04/23/18	REVISED PERMIT SET	
10/05/17	REISSUED FOR PERMIT	
05/24/17	REDUCED SCOPE	
01/13/17	BID-SET	
11/10/16	PERMIT REVISION	
08/23/16	PERMIT SET	
REV	DATE	DESCRIPTION

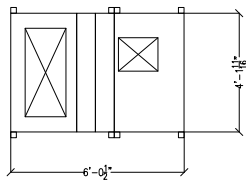
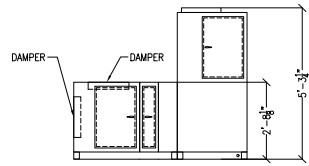
USE GRAPHIC SCALE FOR REDUCED PRINTS



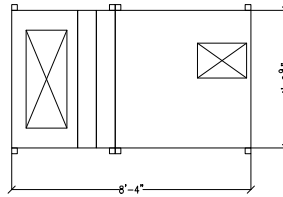
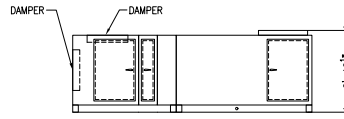
CONTRACTOR	
CONTRACT NUMBER	CONSTRUCTION
A/E DESIGN	
PRIME	5101 Wisconsin Avenue, N.W. Suite 400 Arlington, VA 22204 Tel: (703)385-3000 Fax: (703)385-8844
A/E DESIGN	
CONSULT	
SEAL(S)	

CLIENT	
ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201	
BUILDING	
NAME: ARLINGTON COUNTY	
ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201	
NUMBER:	
FLOORS:	
OTHER BLDGS:	
PROJECT	
2020 14TH STREET HVAC REPLACEMENT	
NUMBER	BID # 17-136-ITB
DATE	JUN 10-19-10
PROJ. MGR.	-

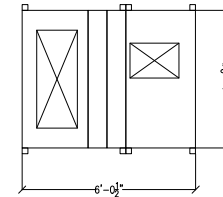
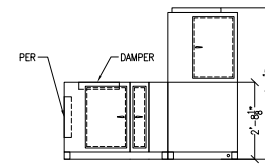
CHECKED BY	DATE	02/12/18
PENTHOUSE - HVAC PIPING - NEW WORK		
TITLE		
NUMBER	M 2 03	
GROUP	DESIGN	ISSUE
SHEET	OF	



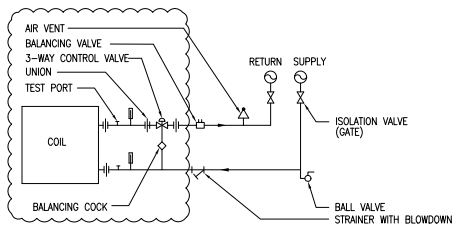
Ⓐ AHU-4 AND AHU-5 DETAIL



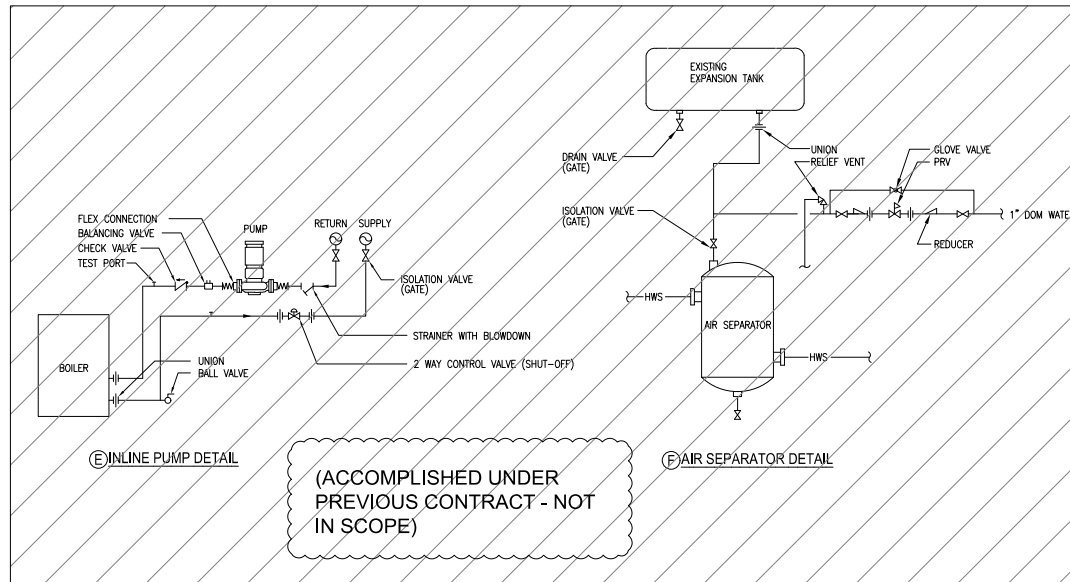
Ⓑ AHU-6 DETAIL



Ⓒ AHU-7 DETAIL



Ⓓ COOLING/ HEATING COIL DETAILS (3-WAY VALVE)



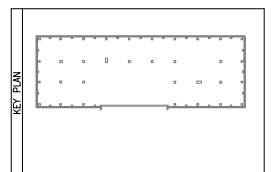
Ⓔ INLINE PUMP DETAIL

Ⓕ AIR SEPARATOR DETAIL

(ACCOMPLISHED UNDER PREVIOUS CONTRACT - NOT IN SCOPE)

ARLINGTON VIRGINIA	
Approved: 6/1/2023 Subject to F&E Inspection CY02301012	
REV	DATE DESCRIPTION
02/16/23	REVISED PERMIT SET
04/23/18	REVISED PERMIT SET
10/05/17	REISSUED FOR PERMIT
05/24/17	REDUCED SCOPE
01/13/17	BID-SET
09/23/16	PERMIT SET

USE GRAPHIC SCALE FOR REDUCED PRINTS



CONTRACTOR	
CONTRACT NUMBER	CONSTRUCTION A/E DESIGN
PRIME	JWP Engineers, P.C. Scale 400 5101 Wisconsin Avenue, N.W. Washington, DC 20092-2151 Tel: (202)362-3000 Fax: (202)362-5541
A/E DESIGN	
CONSULT	
SEALS	

CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: FLOORS: OTHER BLDGS:
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-ITB PROJ. MGR.: JWP# 10-19.10.0

DRAWN BY	DATE	02/12/18
CHECKED BY	MECHANICAL DETAILS	
NUMBER	M 5 01	
	DISCIPLINE SHEET TYPE	SEQUENCE
	SHEET	OF

COOLING TOWERS										
UNIT NO.	NOMINAL TONS	GPM	EWT °F	LWT °F	AIR FLOW (CFM)	FAN MOTOR		BASIS OF DESIGN (APPROVED EQUAL BY COUNTY)	OPER WT LBS	REMARKS
						HP	V/PH/Hz			
CT-1	138	420	95	85	29,700	7.5	208/3/60	EVAP00 UT	6,000	(1)
① DISCONNECT SWITCH AND VFD										

PUMP SCHEDULES												
UNIT NO.	LOCATION	SERVES	TYP	FLUID	GPM	PRESSURE HEAD (FT)	HP	ELECTRICAL			BASIS OF DESIGN (APPROVED EQUAL BY COUNTY)	REMARKS
								VOLT	PH	Hz		
P-1	PENTHOUSE	DUAL TEMP WATER	BASE MOUNTED	WATER	355	45	7 1/2	208	3	60	B&G e-1510	(1)
P-2	PENTHOUSE	DUAL TEMP WATER	BASE MOUNTED	WATER	355	45	7 1/2	208	3	60	B&G e-1510	(1)
P-3	PENTHOUSE	DUAL TEMP WATER	BASE MOUNTED	WATER	355	45	7 1/2	208	3	60	B&G e-1510	(1)
P-4	PENTHOUSE	HOT WATER	BASE MOUNTED	WATER	250	62	7 1/2	208	3	60	B&G e-1510	(2)
P-5	PENTHOUSE	CONDENSER WATER	BASE MOUNTED	WATER	525	50	10	208	3	60	B&G e-1510	(1)
P-6	PENTHOUSE	CHILLED/CONDENSER WATER	BASE MOUNTED	WATER	525	50	10	208	3	60	B&G e-1510	(2)
P-7	PENTHOUSE	CHILLED WATER	BASE MOUNTED	WATER	340	53	7 1/2	208	3	60	B&G e-1510	(2)
CP-1	PENTHOUSE	B-1 PUMP	INLINE CENTRIFUGAL	WATER	125	15	3/4	208	3	60	B&G 80	(1)
CP-2	PENTHOUSE	B-2 PUMP	INLINE CENTRIFUGAL	WATER	125	15	3/4	208	3	60	B&G 60	(1)
① MOTOR STARTER ② VFD CONTROLLER												

WATER BOILER SCHEDULES														
UNIT NO.	LOCATION	SERVING	TYPE	HOT WATER CAPACITY				GAS CONNECTION SIZE (INCH)	AIR INLET DIAMETER (INCH)	FLUE OUTLET DIAMETER (INCH)	EFFICIENCY %	ELECTRICAL V/PH/Hz	BASIS OF DESIGN (APPROVED EQUAL BY COUNTY)	
				INPUT MBH	AHR OUTPUT MBH	FLOW GPM	EWT °F							LWT °F
B-1	PENTHOUSE	HOT WATER	CONDENSING	1500	1250	125	160	180	2	8	8	95	120/60/1	WEIL MCLAIN
B-2	PENTHOUSE	HOT WATER	CONDENSING	1500	1250	125	160	180	2	8	8	95	120/60/1	WEIL MCLAIN
① FLOW SWITCH														

(ACCOMPLISHED UNDER PREVIOUS CONTRACT - NOT IN SCOPE)

CHILLER SCHEDULES																				
UNIT NO.	LOCATION	REFRIGERANT	CAPACITY TONS	KW/TON	EVAPORATOR				CONDENSER			COMPRESSOR TYPE	ELECTRICAL			WEIGHT LBS	BASIS OF DESIGN (APPROVED EQUAL BY COUNTY)	REMARKS		
					FLOW (GPM)	EWT (°F)	LWT (°F)	PRESSURE DROP (FT)	LOW GPM	EWT (°F)	LWT (°F)		(FT)	VOLT	PH				Hz	
CH-1	BSMT MER	134A	125	0.74	300	55	45	20	420	85	95	25	SCREW	460	3	60	165	6500	CARRIER	(1)(2)
① MOTOR STARTER ② 120V FOR CONTROL																				

AIR HANDLING UNIT SCHEDULES																														
SYSTEM NO.	SERVING	SUPPLY FAN DATA				FILTER DATA		HEATING COIL DATA						COOLING COIL DATA						ELECTRICAL	REMARKS									
		CFM	O.A. CFM	ESP	MOTOR HP	PRE-FILTER	PRIMARY FILTER	AIR			WATER			CAP. (MBH)	AIR			WATER				TOT CAP (MBH)	SEN CAP (MBH)	V	Ph	Hz				
								PD(N.WG)	EDB	LDB	GPM	PD(FT)	EWT		LWT	183	PD (mWS)	EDB	EWB								LDB	GPM	PD (FT)	EWT
AHU-4	4TH FLOOR	4200	840	1.5	5.0	MERV 8	MERV 13	0.4	63	102	18.8	5.0	180	160	183	0.85	79	65	55.5	55	25	5.0	45	55	124	104	208	3	60	TRANE UCCA SIZE 10 (1)(2)(4)
AHU-5	5TH FLOOR	4200	840	1.5	5.0	MERV 8	MERV 13	0.4	63	102	18.8	5.0	180	160	183	0.85	79	65	55.5	55	25	5.0	45	55	124	104	208	3	60	TRANE UCCA SIZE 10 (1)(2)(4)
AHU-6	6TH FLOOR	5000	1000	1.5	7.5	MERV 8	MERV 13	0.4	63	101	21	5.0	180	160	210	0.85	79	65	55	54.5	31	5.0	45	55	156	128	208	3	60	TRANE UCCA SIZE 10 (1)(2)(4)
AHU-7	7TH FLOOR	5000	1000	1.5	7.5	MERV 8	MERV 13	0.4	63	101	21	5.0	180	160	210	0.85	79	65	55	54.5	31	5.0	45	55	156	128	208	3	60	TRANE UCCA SIZE 10 (1)(2)(4)
① VARIABLE FREQUENCY DRIVE ② VERTICAL UNIT ③ HORIZONTAL UNIT ④ COORDINATE LEFT-RIGHT CONNECTION AND ACCESS WITH MECHANICAL FLOOR PLAN.																														

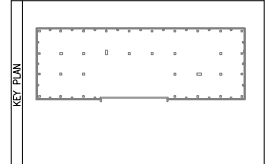
OUTSIDE AIR VENTILATION ASHRAE 90.1						
AHU NAME	AREA SQ.FT	NUMBER OF PEOPLE	AREA OUTDOOR AIR RATE CFM/1000 SF	PEOPLE OUTDOOR AIR RATE CFM/PERSON	REQUIRED VENTILATION CFM	DESIGN SUPPLY OUTSIDE AIR CFM
AHU-6, 7	10500	53	0.06	5	895	5000
AHU-4, 5	8975	45	0.06	5	746	4200

EXHAUST FAN										
UNIT NO.	LOCATION	CAPACITY CFM	PRESSURE DROP IN WG	HP	DRIVE	ELECTRICAL			BASIS OF DESIGN (APPROVED EQUAL BY COUNTY)	REMARKS
						VOLT	PH	Hz		
REF-1	BSMT MER	1000	0.4	1/4	DIRECT	120	1	60	GREENHECK SQ	(1)(2)
① MOTOR STARTER ② BACKDRAFT DAMPER										

AIR DISTRIBUTION DEVICE SCHEDULE								
MARK NO	SERVICE	TYPE	FACE SIZE IN	PRESSURE DROP IN WG	MAX. NC	CFM RANGE	BASIS OF DESIGN (APPROVED EQUAL BY COUNTY)	REMARKS
E-1	EXHAUST	GRILLE	12x8	0.2	35	0-510	TITUS MODEL 350RS	

REV	DATE	DESCRIPTION
02/16/23		REVISED PERMIT SET
01/16/19		AS-BUILT
04/23/18		REVISED PERMIT SET
10/05/17		REISSUED FOR PERMIT
05/24/17		REDUCED SCOPE
01/13/17		BID-SET
09/23/16		PERMIT SET
		DESCRIPTION

USE GRAPHIC SCALE FOR REDUCED PRINTS



CONTRACT NUMBER	CONSTRUCTION A/E DESIGN
	JVP Engineers, P.C. 5101 Wisconsin Avenue, N.W. Washington, DC 20004-2101 Tel: (202)362-3001 Fax: (202)362-5541
CONSULT	

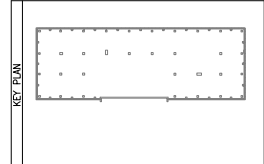


CLIENT	BUILDING	PROJECT
ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-ITB PROJ. MGR.:

DRAWN BY	CHECKED BY	DATE
		02/12/18
TITLE	MECHANICAL SCHEDULES	
NUMBER	M 6 02	
SHEET	OF	

02/16/23	REVISED PERMIT SET
04/23/18	REVISED PERMIT SET
05/24/17	REDUCED SCOPE
01/13/17	BID-SET
09/23/16	PERMIT SET
REV	DATE DESCRIPTION

USE GRAPHIC SCALE FOR REDUCED PRINTS



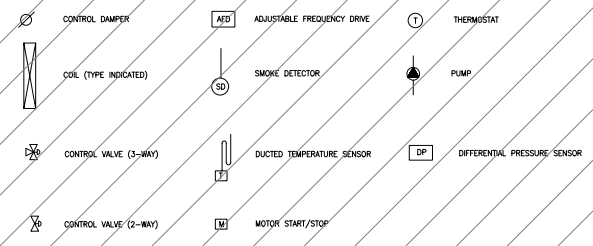
CONTRACTOR	CONSTRUCTION
CONTRACT NUMBER	A/E DESIGN
PRIME	JVP Engineers, P.C. 5101 Wisconsin Avenue, N.W. 1111 Washington, DC 20007-2101 Tel: (202)362-3001 Fax: (202)362-5541
A/E DESIGN	
CONSULT	



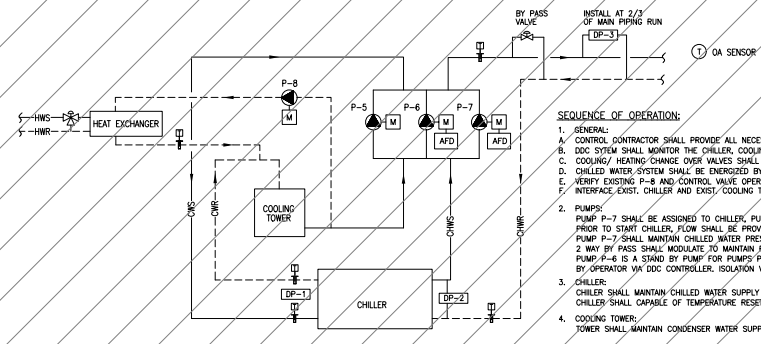
CLIENT	ARLINGTON COUNTY GOVERNMENT 1400 N. UHLE STREET, SUITE 403 ARLINGTON, VA 22201
BUILDING	NAME: ARLINGTON COUNTY ADDRESS: 1400 N. UHLE STREET ARLINGTON, VA 22201 NUMBER: FLOORS: OTHER BLDGS:
PROJECT	DESCRIPTION: 2020 14TH STREET HVAC REPLACEMENT NUMBER: BID # 17-136-1TB JVP# 10-19.10.0 PROJ. MGR.:

DRAWN BY	DATE	02/12/18
CHECKED BY	TITLE	MECHANICAL CONTROLS
NUMBER	SHEET	7 OF 01
DISCIPLINE	SHEET TYPE	SEQUENCE
		OF

CONTROL SYMBOLS



(ACCOMPLISHED UNDER PREVIOUS CONTRACT - NOT IN SCOPE)



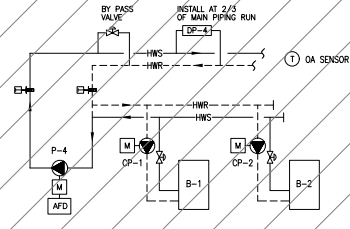
SEQUENCE OF OPERATION:

- GENERAL:
 - CONTROL CONTRACTOR SHALL PROVIDE ALL NECESSARY CONTROL EQUIPMENT TO COMPLETE THE SEQUENCE OF OPERATION.
 - DDC SYSTEM SHALL MONITOR THE CHILLER, COOLING TOWER AND PUMPS STATUS AND ALARM UPON A FAILURE TO OPERATE. FAILURE COMPONENT SHALL BE INDICATED.
 - COOLING/HEATING CHANGE OVER VALVES SHALL BE MANUALLY OPERATED BY OPERATOR.
 - CHILLED WATER SYSTEM SHALL BE ENERGIZED BY OPERATOR VIA DDC CONTROLLER.
 - VERIFY EXISTING P-8 AND CONTROL VALVE OPERABILITY BY FIELD.
 - INTERFACE EXIST. CHILLER AND EXIST. COOLING TOWER TO EXIST BAS. Δ
- PUMPS:
 - PUMP P-7 SHALL BE ASSIGNED TO CHILLER, PUMP P-5 SHALL BE ASSIGNED TO COOLING TOWER.
 - PRIOR TO START CHILLER, FLOW SHALL BE PROVEN VIA FLOW SWITCH OR PRESSURE DIFF SENSOR.
 - PUMP P-7 SHALL MAINTAIN CHILLED WATER PRESSURE DIFF DP-3. PUMP MINIMUM SPEED SHALL MAINTAIN MINIMUM FLOW REQUIRED BY CHILLER.
 - 2 WAY BY PASS SHALL MODULATE TO MAINTAIN PRESSURE DIFF DP-3 WHEN PUMP IS AT MINIMUM SPEED.
 - PUMP P-6 IS A STAND BY PUMP FOR PUMPS P-5 AND P-7, PUMP P-6 SHALL BE SELECTED TO OPERATE FOR COOLING TOWER OR CHILLER, BY OPERATOR VIA DDC CONTROLLER. ISOLATION VALVE SHALL BE MANUALLY OPERATED BY OPERATOR.
- CHILLER:
 - CHILLER SHALL MAINTAIN CHILLED WATER SUPPLY TEMPERATURE AT 45F (ADJ.)
 - CHILLER SHALL CAPABLE OF TEMPERATURE RESET BY OUTDOOR AIR SENSOR. TEMPERATURE RESET SHALL BE PER MANUFACTURER'S RECOMMENDATION AND CAN BE ADJUSTED.
- COOLING TOWER:
 - TOWER SHALL MAINTAIN CONDENSER WATER SUPPLY TEMPERATURE AT 85F (ADJ.)

CONTROL POINT SCHEDULES

SYSTEM, APPARATUS, OR AREA POINT DESCRIPTION	INPUT		OUTPUTS		SYSTEM FEATURES				GENERAL	SUPPLEMENTARY NOTES
	ANALOG		DIGITAL		ALARMS		PROGRAMS			
	MEASURED	CALCULATED	ANALOG	DIGITAL	ANALOG	DIGITAL	PROGRAMS	PROGRAMS		
CHILLER										
CHILLED WATER PRESSURE DIFF	X									
CONDENSER WATER PRESSURE DIFF	X									
CHWS	X				X					
CHTR	X				X					
OA TEMPERATURE	X				X					
COOLING TOWER										
TOWER FAN										
CWS	X				X					
CWT	X				X					
BASEIN TEMPERATURE	X				X					
PUMP P-5			X	X						
PUMP P-6			X	X						
PUMP P-7			X	X						
CHILLED WATER PRESSURE DIFF(DP-3)	X									
BY PASS VALVE			X	X						
PUMP P-8			X	X						
3 WAY VALVE			X	X						
CWS	X									

1 CHILLED WATER SYSTEM CONTROL

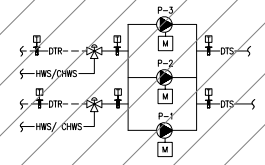


- SEQUENCE OF OPERATION:**
- GENERAL:
 - A. CONTROL CONTRACTOR SHALL PROVIDE ALL NECESSARY CONTROL EQUIPMENT TO COMPLETE THE SEQUENCE OF OPERATION.
 - B. DDC SYSTEM SHALL MONITOR THE BOILERS AND PUMPS STATUS AND ALARM UPON A FAILURE TO OPERATE. FAILURE COMPONENT SHALL BE INDICATED.
 - C. COOLING/ HEATING CHANGE OVER VALVES SHALL BE MANUALLY OPERATED BY OPERATOR.
 - D. HOT WATER SYSTEM SHALL BE ENERGIZED BY OPERATOR VIA DDC CONTROLLER.
 - PUMPS:
 - DISTRIBUTION PUMP P-4 SHALL START TO MAINTAIN CHILLED WATER PRESSURE DDT OP-4.
 - 2 WAY BY PASS SHALL MODULATE TO MAINTAIN PRESSURE DDT CP-4 WHEN PUMP IS AT MINIMUM SPEED.
 - BOILERS:
 - PUMP CP-1 SHALL BE ASSIGNED TO BOILER B-1, PUMP CP-2 SHALL BE ASSIGNED TO BOILER B-2.
 - BOILERS SHALL ALTERNATE LEAD AND LAG BASED ON RUN TIME 3000 HRS (ADJ.)
 - PRIOR TO START LEAD BOILER, 2 WAY ISOLATION VALVE SHALL BE OPENED, PUMP SHALL START, UPON PROVING OF FLOW BY FLOW SWITCH, BOILER SHALL MAINTAIN HOT WATER SUPPLY TEMPERATURE AT 180°F (ADJ.)
 - LAG BOILER SHALL START WHEN HOT WATER SUPPLY TEMPERATURE BELOW SETPOINT BY 5°F (ADJ.)
 - LAG BOILER SHALL STOP WHEN HOT WATER SUPPLY TEMPERATURE CAN BE MAINTAIN BY LEAD BOILER, ASSOCIATED PUMP SHALL STOP, 2 WAY ISOLATION VALVE SHALL BE CLOSED.
 - BOILERS SHALL CAPABLE OF TEMPERATURE RESET BASED ON OUTDOOR AIR TEMPERATURE, INITIAL SETTING PER MANUFACTURER AND CAN BE ADJUST BY OPERATOR.

SYSTEM, APPARATUS, OR AREA POINT DESCRIPTION	INPUT				OUTPUTS				SYSTEM FEATURES				GENERAL	SUPPLEMENTARY NOTES	
	ANALOG		DIGITAL		ANALOG		DIGITAL		ALARMS	PROGRAMS	GENERAL				
	MEASURED	CALCULATED	MEASURED	CALCULATED	MEASURED	CALCULATED	MEASURED	CALCULATED			ALARM	PROGRAM			GRAPHIC
BOILER 1															
BOILER 2															
BOILER 1 ISOLATION VALVE															
BOILER 2 ISOLATION VALVE															
HWS	X														
HWR	X														
OA SENSOR	X														
PUMP CP-1															
PUMP CP-2															
PUMP P-4															
HOT WATER PRESSURE (DWTOP-4)	X														
BY PASS VALVE															

1 HOT WATER SYSTEM CONTROL

(ACCOMPLISHED UNDER PREVIOUS CONTRACT - NOT IN SCOPE)



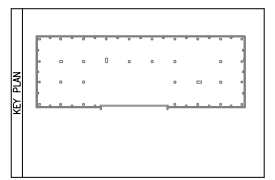
- SEQUENCE OF OPERATION:**
- GENERAL:
 - A. CONTROL CONTRACTOR SHALL PROVIDE ALL NECESSARY CONTROL EQUIPMENT TO COMPLETE THE SEQUENCE OF OPERATION.
 - B. DDC SYSTEM SHALL MONITOR PUMPS STATUS AND ALARM UPON A FAILURE TO OPERATE. FAILURE COMPONENT SHALL BE INDICATED.
 - C. COOLING/ HEATING CHANGE OVER VALVES SHALL BE MANUALLY OPERATED BY OPERATOR.
 - D. DUAL TEMPERATURE WATER SYSTEM SHALL BE ENERGIZED BY OPERATOR VIA DDC CONTROLLER.
 - PUMPS:
 - DISTRIBUTION PUMP P-1 AND P-3 ARE PRIMARY DISTRIBUTION PUMPS.
 - PUMP P-2 IS A STAND BY PUMP FOR PUMPS P-1 AND P-3. PUMP P-2 SHALL BE SELECTED TO OPERATE FOR P-1 OR P-3 OPERATION BY OPERATOR VIA DDC CONTROLLER. ISOLATION VALVE SHALL BE MANUALLY OPERATED BY OPERATOR.
 - TEMPERATURE:
 - 3 WAY CONTROL VALVES SHALL OPERATE TO MAINTAIN AN AVERAGE TEMPERATURE OF THERMOSTATS LOCATED ON M-204 AND M-205. AN AVERAGE TEMPERATURE SHALL BE 75°F (ADJ.) FOR SUMMER AND 70°F (ADJ.) FOR WINTER.
 - VERIFY IN FIELD, THERMOSTATS SHALL CONTROL 3 WAY VALVE CORRESPOND TO PUMP SERVICING EXISTING FAN COIL UNIT.

SYSTEM, APPARATUS, OR AREA POINT DESCRIPTION	INPUT				OUTPUTS				SYSTEM FEATURES				GENERAL	SUPPLEMENTARY NOTES	
	ANALOG		DIGITAL		ANALOG		DIGITAL		ALARMS	PROGRAMS	GENERAL				
	MEASURED	CALCULATED	MEASURED	CALCULATED	MEASURED	CALCULATED	MEASURED	CALCULATED			ALARM	PROGRAM			GRAPHIC
PUMP P-1															
PUMP P-2															
PUMP P-3															
THERMOSTATS (24 LOCATION)	X														
THREE WAY VALVE FOR PUMP P-1															
THREE WAY VALVE FOR PUMP P-3															
DUAL WATER TEMP (6 LOCATION)	X														

2 DUAL TEMPERATURE WATER SYSTEM CONTROL

REV	DATE	DESCRIPTION
02/16/23		REVISED PERMIT SET
04/23/18		REVISED PERMIT SET
05/24/17		REDUCED SCOPE
12/06/16		BID-SET
09/23/16		PERMIT SET

USE GRAPHIC SCALE FOR REDUCED PRINTS



CONTRACTOR

CONTRACT NUMBER: CONSTRUCTION

A/E DESIGN

PRIME: P
 P Engineers, P.C. 5101 Wisconsin Avenue, N.W. Suite 400
 Washington, DC 20098-2101
 Tel: (202)362-3001 Fax: (202)362-5541

A/E DESIGN

CONSULT

SEALS:

CLIENT: ARLINGTON COUNTY GOVERNMENT
 1400 N. UHLE STREET, SUITE 403
 ARLINGTON, VA 22201

BUILDING: NAME: ARLINGTON COUNTY
 ADDRESS: 1400 N. UHLE STREET
 ARLINGTON, VA 22201

NUMBER: _____
 FLOORS: _____

OTHER BLDGS: _____

PROJECT: DESCRIPTION: 2020 14TH STREET
 HVAC REPLACEMENT
 NUMBER: BID # 17-136-ITB JWP 10-19-10.0
 PROJ. MGR.:

DRAWN BY: _____ DATE: 02/12/18

CHECKED BY: _____

TITLE: MECHANICAL CONTROLS

NUMBER: M 7 02
 SCOPE: SHEET TYPE: QUANTITY: OF

