



CCD1: Construction Code Determination Form

Must be typewritten.

DEPT BLDGS Job No. 440337627
Scan Code ESHS6393239

Do not use this form for Zoning Resolution determination requests - use ZRD1 form

1 Location Information Required for all requests on filed applications.

House No(s) 324 Street Name Beach 59th Street
Borough Queens Block 15895 Lot 50 BIN 4436431 CB No. 414

2 Applicant Information Required for all requests on filed applications.

Last Name Varsalona First Name Peter Middle Initial E.
Business Name RAND Engineering & Architecture, DPC Business Telephone (212) 675-8844
Business Address 159 West 25th Street, 12th Floor Business Fax (212) 691-7972
City New York State NY Zip 10001 Mobile Telephone
E-Mail pevarsalona@randpc.com License Number 076940
License Type ☒ P.E. ☐ R.A. ☐ RLA ☐ Elevator (Co) Director DOB PENS ID # (if available)

3 Attendee Information Required if different from Applicant in Section 2 or no Applicant.

Relationship to the property: ☐ Attorney ☒ Filing Representative (Class 2) ☐ Other
Last Name Grissett First Name Paul Middle Initial
Business Name RAND Engineering & Architecture, DPC Business Telephone (212) 675-8844
Business Address 159 West 25th Street, 12th Floor Business Fax (212) 691-7972
City New York State NY Zip 10001 Mobile Telephone
E-Mail prgrissett@randpc.com License/Registration # (if P.E./R.A./R.L.A./Attorney/Lic.(Co)Director)

4 Nature of Request Required for all requests. Only one request may be submitted per form.

Determination request is for: ☒ Determination ☐ Predetermination
Determination request issued to: ☒ Borough Commissioner's Office (Initial) ☐ Technical Affairs (Appeal) ☐ Elevators
Job associated with this request? ☒ Yes (provide job # / doc # / obj # / examiner name below) ☐ No
Job #: 440337627 Document # Objection #: Examiner: Boiler Inspector Matrino
Has this request or a similar one been previously denied? ☐ Yes (attach all denied request form(s) and attachment(s)) ☒ No
Enter short description of Technical Topic (5 words or less): Boiler side-wall venting
Construction Code (if applicable): ☐ 2014 Code ☐ 2008 Code ☒ 1968 Code ☐ Prior to 1968 Code

Enter All Control #(s) for related CCD1/ZRD1 requests:

Request for 1-3 family dwelling? ☐ Yes ☒ No For HPD Affordable Housing? ☒ Yes ☐ No Fee Exempt per 28-112.1? ☒ Yes ☐ No
Zoning District(s): R5 MDL: HAEA
Zoning Overlay(s): N/A BBs:
Special District(s): N/A Other:

ZR Section: N/A Code Section: §28.3-804.1 [MC 804] Rule #: TPN, Memo:

Indicate all Buildings Department officials that you have previously reviewed this issue with (if any): ☐ Borough Commissioner ☐ Code & Zoning Specialist ☐ General Counsel's Office
☐ Deputy Borough Commissioner ☐ Chief Plan Examiner ☐ Elevators ☐ Other

ADMINISTRATIVE USE ONLY	
Control #:	REVIEWED BY Chintan Desai, RA
Appointment Scheduled With:	Appointment date:
Comments:	
Review Team Members:	
Reviewed By:	Date:

APPROVED
WITH CONDITIONS

Date: 05/31/2018

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CCD1: Construction Code Determination Form

PAGE 2

5	Description of Request (utilize page 3/Section 7 if additional space is needed to properly describe this request)
This is a request for: ☒ Interpretation or clarification ☐ Variation of Building Code or Rules per § 28-103.3 (please state in detail the practical difficulty that is specific to this project, and provide the analysis as to equally safe alternative, as per NYC Charter Section 645(b)(2)) ☐ Variation of Multiple Dwelling Law (MDL) § 277.16 for Article 7B Buildings (please state in detail the practical difficulty that is specific to this project and provide the analysis as to equally safe alternative, as per NYC Charter Section 645(b)(2)) <i>NOTE: Variations of any other MDL provisions must be filed with the Board of Standards and Appeals (BSA) per MDL § 310.</i>	

Please itemize all attachments, including plans/sketches, submitted with this form. (**attachment may not be larger than 11" x 17"**)
 If request is based on a plan examiner objection, type in the applicable objection text exactly as it appears on the Objection sheet and include a copy of the Objection sheet in the submitted Pdf.

Attachments List:

324 Beach 59th Street (Building 4)

(1) Approved Plans for Heating Plant Upgrade (Initial & PAA1)

(2) MEA #104-98-E Vol. II Report for New Boiler Equipment

(3) AI1: Additional Information Form, Accepted by Commissioner Derek Lee, RA, dated Jan. 26, 2016

(4) AERCO Benchmark BMK Series Product Technical Data Sheet

(5) Boiler Division Inspection Report, dated January 22, 2018

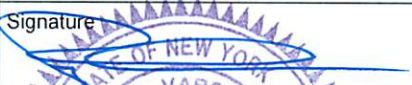
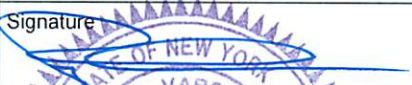
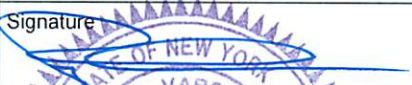
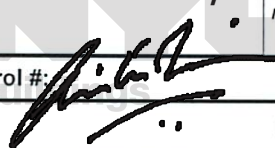
Property Description:

Nordeck Apartments, a 342-unit residential Cooperative built in 1960 and owned by the Arverne Limited-Profit Housing Corp., comprises six buildings known as 320 Beach 59th Street, 321 Beach 57th Street, 324 Beach 59th Street, 325 Beach 57th Street, 349 Beach 57th Street, and 353 Beach 57th Street. The Cooperative is subject to the regulatory jurisdiction of the NYS Homes and Community Renewal.

Project Description:

New boiler rooms have been constructed in each building (2 feet above freeboard) as part of Build-it-Back Application #APP-025811. Six (6) Alt Type II Appl.'s have been filed, one for each building. The original below-grade heating plant serving all buildings, partly submerged during Superstorm Sandy, is being abandoned in place.

NOTE: Department of Buildings Determination will be issued on the CCD1 Response Form

6	Statements and Signature Required for all requests (If Attorney, include 'Esquire' or 'Esq.' in signature)						
I hereby state that all of the above information is correct and complete to the best of my knowledge. Falsification of any statement is a misdemeanor and is punishable by a fine or imprisonment, or both. It is unlawful to give to a City employee, or for a City employee to accept, any benefit, monetary or otherwise, either as a gratuity for properly performing the job or in exchange for special consideration. Violation is punishable by imprisonment or fine, or both.							
<table border="1"> <tr> <td>Name (please print)</td> <td>Peter E. Varsalona, PE</td> </tr> <tr> <td>Signature</td> <td></td> </tr> <tr> <td>Date</td> <td>5/29/18</td> </tr> </table>		Name (please print)	Peter E. Varsalona, PE	Signature		Date	5/29/18
Name (please print)	Peter E. Varsalona, PE						
Signature							
Date	5/29/18						
							
REVIEWED BY Chintan Desai, RA 							
P.E. / R.A. Seal (apply seal, then sign and date over seal – not required for Attorneys on unfilled applications)							
ADMINISTRATIVE USE ONLY	Control #:						
Reviewed By:	Date:						

**APPROVED
WITH CONDITIONS**

Date: 05/31/2018

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CCD1: Construction Code Determination Form

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7 Description of Request (use this section if additional space is required for description)

New (Boiler) Appliance Description per MEA #104-98-E Vol II: Accepted January 25, 2005
AERCO Benchmark, gas-fired condensing type stainless steel, 300 Series, hot-water boiler assemblies, BMK 2 series, with a maximum water temperature and pressure of 210 degrees Fahrenheit and 160 psi respectively. The boilers are constructed, equipped, inspected, tested and marked in accordance with the ASME boiler construction code, Sec. IV.

Respectfully request confirmation of initial and post approval amendment Plan Examination approvals by the Borough Commissioner's Office allowing use of side-wall (horizontal) venting of new boiler equipment. Horizontal venting of the new Aerco Benchmark boilers is allowed under MEA #104-98-E Vol II (Refer to Note 2. Venting Specifications) when a sealed combustion connection is provided for the outside air supply.

DOB Boiler Division Inspector Matrino has cited in his Jan. 22, 2018 "Fail-Final" Inspection Report that horizontal side-wall venting is not permissible under the 2014 code for appliances greater than 350,000 BTU/h input, and exhaust must be extended to roof for each boiler room.

Pursuant to §28.3-804.1, para. 7 [MC 804], the maximum heat input of an appliance served by single horizontal vent termination shall be 350,000 Btu/h, unless otherwise approved by the commissioner.

We thus seek commissioner's office relief of the undue burden associated with extending the boiler/water heater sidewall vent terminations up to the roof of each of the six buildings. The 2014 code specifically allows the commissioner to approve sidewall vent terminations for equipment in excess of 350,000 BTU/h heat input. As the Department no longer recognizes MEA numbers and UL #'s are now recognized, I attest and certify that the new installed Aerco Benchmark boilers (BMK 2500 Thousand Series, UL # MH15883) are equivalent to the replaced "point series" BMK 2.0-3.0 Benchmark 2 series approved under the Report of Materials and Equipment Acceptance Division (MEA 104-98-E Vol II). Attached for your reference is the Aerco brochure, venting guidelines, certificate of product ratings and technical specifications.

RAND and HDC officials are available to meet the Department to further discuss this request. Your consideration of this request is greatly appreciated. If you have any questions regarding this request please feel free to contact me.

NOTE: Department of Buildings Determination will be issued on the CCD1 Response Form

8 Statements and Signature Required for all requests (If Attorney, include 'Esquire' or 'Esq.' in signature)

I hereby state that all of the above information is correct and complete to the best of my knowledge. Falsification of any statement is a misdemeanor and is punishable by a fine or imprisonment, or both. It is unlawful to give to a City employee, or for a City employee to accept, any benefit, monetary or otherwise, either as a gratuity for properly performing the job or in exchange for special consideration. Violation is punishable by imprisonment or fine, or both.

Name (please print)

Peter E. Varsalona, PE

Signature

Date

5/29/18

P.E. / R.A. Seal (apply seal, then sign and date over seal - not required for Attorneys on unfilled applications)

ADMINISTRATIVE USE ONLY

Control #:

Reviewed By:

Date

**APPROVED
WITH CONDITIONS**

Date: 05/31/2018

Control #54434

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01/18

ZRD1/CCD1 Response Form

Location Information (To be completed by a Buildings Department official if applicable)

House No(s) 324

Street Name Beach 59 Street

Borough Queens

Block 15895

Lot 50

BIN 4436431

Job No. 440337627

DETERMINATION (To be completed by a Buildings Department official)

Request has been: ☐ Approved ☐ Denied ☒ Approved with conditions

Follow-up appointment required? ☐ Yes ☒ No

Primary Zoning Resolution or Code Section(s): MC 804.1 (7)

Other secondary Zoning Resolution or Code Section(s):

Comments:

REF # 54434

The request to determine that the side wall (horizontal venting) of the new Aerco Benchmark Boilers for the Build It Back Multifamily projects under HPD is hereby APPROVED WITH CONDITIONS.

Pursuant to MC 804.1 (7) - Horizontal Venting by single vent termination shall be 350,000 btu/h unless otherwise approved. The applicant certifies to the fact that Aerco Benchmark Boilers (BMK 2500 Series UL#MH15883) are equivalent to the replaced "point series" BMK 2.0-3.0.

The older series is approved under the Report of Materials and Equipment Acceptance Division (MEA 104-98-E Vol II) which allows for units to be vented horizontally when a sealed combustion connection for air supply from outside is provided.

Based on the documentation provided the new series of boiler mentioned above is Approved With Conditions:

- 1) All the manufacturers specifications and guidelines for installation are followed.
- 2) The installation complies with all other applicable provisions of 2014 MC 804

Name of Authorized Reviewer (please print): Chintan Desai R.A.

Title (please print): Deputy Director - Build It Back

Authorized Signature:

REVIEWED BY
Chintan Desai, RA

Date:

Time:

Issuers: write signature, date, and time on each page of the request forms and attach this form.

Note: Determination will expire if construction document approval is not obtained within 12 months of issuance.

APPROVED
WITH CONDITIONS

Date: 05/31/2018

Control #54434

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NYC Department of Buildings
280 Broadway, New York, NY 10007
Patricia Lancaster, FAIA, Commissioner
(212) 566-5000, TTY: (212) 566-4769

Report of Materials and Equipment Acceptance Division

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use subject to the terms and conditions contained herein.

MEA 104-98-E Vol. II

Manufacturer:

AERCO international, 159 Paris Ave, Northvale , NJ 07647.

Trade Name(s):

Benchmark.

Product:

Gas fired hot water boiler assemblies.

Pertinent Code Section(s):

27-800, 27-824, 27-886, RS 14-2 (ANSI Z223.1).

Prescribed Test(s):

RS 14-6 (UL795)

Laboratory:

Underwriters Laboratories.

Test Report(s):

UL Report No. MH15883 dated June 8, 1998, updated
November 22, 2005.

Description: Gas fired condensing type stainless steel, 300 Series, hot-water boiler assemblies BMK 2 series intended for commercial or industrial use with a maximum water temperature and pressure of 210°F and 160 psi respectively. The listed gas-fired boilers are intended for use with natural gas with AERCO burners employing direct spark ignition. The boilers are constructed, equipped, inspected, tested and marked in accordance with the ASME boiler construction code, Sec. IV. Units with model and input heating ratings are listed below.



Model Number	Input Heating Rating Range BTUH	Burner Style
BMK2.0	80,000 – 2,000,000	STD Nozzle mix
BMK2.02	80,000 – 2,020,000	STD Nozzle Mix
BMK1.5LN	93,500 – 1,500,000	Low Nox PreMix
BMK1.95LN	93,500 – 1,950,000	Low Nox PreMix
BMK2.0LN	93,500 – 2,000,000	Low Nox PreMix
BMK2.15LN	93,500 – 2,150,000	Low Nox PreMix

Notes:

- Units may be installed on a noncombustible 4 to 6" housekeeping pad for proper condensate drainage. Minimum installed clearances from combustible construction shall be as follows: top – 18", back – 36", sides – 24", front – 24", flue – 18 inches.
- Venting Specifications:**
Units may be vented horizontally when a sealed combustion connection for air supply from outdoor is provided.

Terms and Conditions: The above described gas fired hot water boilers, constructed in accordance with the ASME Boiler Code, and installed as per clearances to combustible construction specified above, be accepted for use with natural gas, when connected to combustible approved gas vent in accordance with Article 15 and Section 27-886 of the Building Code. This acceptance in no way includes the external piping, connections, and appurtenances thereto, which are required to fully conform with applicable provisions of law, but have not been tested in conjunction with this application. Approval of all electrical equipment, apparatus, materials and devices shall be obtained from the Department before installation. All shipments and deliveries of such materials shall be provided with a label or tag certifying that the materials use, as provided in Section 27-131 of the Building Code.

Final Acceptance January 25, 2005
Examined By Steven Derkholm





AI1: Additional Information

Must be typewritten: (1) DEPT. OF BUILDINGS
PLAN EXAMINATION
RECEIVED

☒ Orient and affix BIS
job number label here ☒

Page number 1 of 71

BIS Document No. 100-00000000000000000000

1 Location and Job Information Required for all applications.

House No(s) 320

Street Name Beach 59th Street

(SEE ADDRESS LISTED BELOW)

Borough Queens

Block 15895

Lot 50

BIN 4436432

CB No. 414

2 Revisions to Plans/Drawings Required whenever updating plans. All revisions for each page must be clearly described in section 3.

Submission is part of a Post Approval Amendment (PAA)? ☐ Yes PW1 required ☒ No

Indicate all actions for this submission:

Action	Original/New/ Omit Page ID	Superseding Page ID	Action	Original/New/ Omit Page ID	Superseding Page ID	Action	Original/New/ Omit Page ID	Superseding Page ID	Action	Original/New/ Omit Page ID	Superseding Page ID

For "Action" use "N" for new page, "S" for superseding page, "O" for omitting page.

Is this section continued on additional AI1 forms? ☐ Yes ☒ No

3 Additional Information Required for all applications.

Respectfully request DOB acceptance to allow submission of individual Alteration Type II applications (in lieu of Alteration Type I applications) for abandonment of the below-grade boiler plant serving Nordeck Apartments, partly submerged during Superstorm Sandy, and subsequent installation of individual, high efficiency boiler rooms two feet above freeboard in each building within the complex, as part of a Storm Damage Disaster Recovery & Resiliency Program financed by the NYC Housing Development Corp. and in part by the Federal Community Development Block Grant through NYC's "Sandy's Build it Back" Program.

Nordeck Apartments, a 342-unit residential Cooperative built in 1960 and owned by the Arverne Limited-Profit Housing Corp., comprises six buildings known as 320 Beach 59th Street, 321 Beach 57th Street, 324 Beach 59th Street, 325 Beach 57th Street, 349 Beach 57th Street, and 353 Beach 57th Street. The Cooperative is subject to the regulatory jurisdiction of the NYS Homes and Community Renewal.

Since each building has a Certificate of Occupancy (CO), copies enclosed, a substantial time and cost prohibitive effort would be required to file six Alteration Type I applications to amend each existing CO. In support of this request, we note that: (1) the boiler rooms are common accessory uses in existing J-2 (R-2) occupancies; (2) all of the accessory spaces for each building are already indicated at the first floor; (3) the boiler equipment would be placed within 2-hour fire-rated storage rooms at the first floor; (4) each building shares the same tax block/lot; and (5) separate Alteration Type II applications would be filed with the Department of Buildings for the boilers, fuel burning, plumbing (gas) and mechanical (ventilation), and general construction work in each building, subject to Plumbing & Boiler Division inspection.

Your consideration of this request is greatly appreciated.

FOR ACCESSORY USES, LESS THAN 10% OF THE
FLOOR PLATE, NO OBJECTION TO USE THE
EXISTING STORAGE ROOM AS BOILER ROOM,
UNDER SIX (6) ALTERATION TYPE II APPLICATIONS

Penalty for any statement is a misdemeanor and is punishable by a fine or imprisonment, or both. It is unlawful to give to a city employee, or for a city employee to accept, any benefit, monetary or otherwise, either as a gratuity for properly performing the job or in exchange for special consideration. Violation is punishable by imprisonment or fine or both. I understand that if I am found after hearing to have knowingly or negligently made a false statement or to have knowingly or negligently falsified or allowed to be falsified any certificate, form, signed statement, application, report or certification of the correction of a violation required under the provisions of this code or of a rule of any agency, I may be barred from filing further applications or documents with the Department.

Name (please print)

Peter E. Varsalona

Signature

Date

P.E. R.A. Seal (apply seal, then sign and date over seal) :

Derek Lee, RA
BOROUGH COMMISSIONER

APPROVED JAN 26 2016
WITH CONDITIONS

Date: 05/31/2018

Control #54434

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3/09



Buildings

ATTENDANCE SHEET

DATE: Tuesday, January 22, 2016

SUBJECT: 320 Beach 59th Street

NAME	PHONE #	E-MAIL	INITIAL
Last Name, First Name PIMENTEL JACQUELINE	(212) 227-7093	jpimentel@gmail.com	JP
Last Name, First Name VARSAONA PETER	(212) 675-8844	pevarsaona@randpc.com	PEV
Last Name, First Name GLANTERNIK, DIANA	(212) 227-2764	dglanternik@nychdc.com	DMG
Last Name, First Name Beckus Frank	516-225-3725	Frank.Beckus@fsprojectmanagement.com	FB
Last Name, First Name BELIC DENIS	(212) 227-9225	dbelic@nychdc.com	DB
Last Name, First Name Bielak Andrew	(212) 863-8287	bielaka@hpd.nyc.gov	AB
Last Name, First Name LEE, DEREK	718 286 7670	DEREK.LEE@BUILDINGS.NYC.GOV	
Last Name, First Name			
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REVIEWED BY
Chintan Desai, RA

APPROVED
WITH CONDITIONS

Date: 05/31/2018

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A Watts Water Technologies Company

BMK SERIES

TECHNICAL DATA SHEET

Benchmark 750 - 6000

Condensing Hydronic Boilers

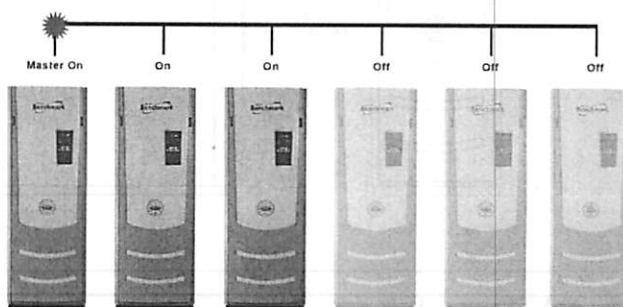


The AERCO Benchmark (BMK) Water Boiler is designed for condensing application in any closed loop hydronic system. It delivers unmatched burner modulation to match energy input directly to fluctuating system loads to yield the highest possible seasonal efficiencies. And no other product packs as much capacity into such a small footprint.

To minimize emissions, the BMK Series is fitted with a low NOx burner whose emissions will meet the most stringent NOx and CO requirements. The fully modulating burner also maintains AERCO standards for energy efficiency, longevity, reliability and construction quality.

The BMK Series comes standard with AERCO's Patent Pending, Oxygen Level (O₂) monitoring system. This monitoring system, designed to display the O₂ level directly on the unit in real time, can also be remotely monitored via Modbus giving the customer the ability to measure the emissions level and fuel economy of the boiler without traditional combustion calibration devices.

The BMK boilers can be used as an individual unit or in modular arrangements and offers selectable modes of operation. In addition to controlling the boiler according to a constant set point, indoor/outdoor reset schedule or 4-20mA signal, one or more units can be integrated via Modbus communications protocol. For boiler plants ranging from 2-8 boilers, AERCO'S built-in Boiler Sequencing Technology (BST)* can be utilized. For heating plants greater than 8 boilers, AERCO's ACS (AERCO Control System) provides the right solution. Likewise, Benchmark systems can be easily integrated with a facility-wide Energy Management or Building Automation System.



*See BST System Technical Data Sheet for additional system details and capabilities

FEATURES:

- Natural Gas, Propane, or Dual Fuel (model dependant)
- 20:1 Turndown Ratio (5%) depending on capacity
- Oxygen Level (O₂) Monitoring Standard
- Stainless Steel Fire Tube heat exchanger
- Capable of variable primary flow Installations
- NOx Emissions capable of 9PPM or less @ all firing rates *depending on capacity
- Compact Footprint
- Precise Temperature Control
- On-board Boiler Sequencing Technology (BST)
- Ducted Combustion Air Capable
- Easy Open Access for Service
- Acceptable vent materials AL29-4C, Polypropylene, PVC, cPVC (model dependant)
- Reliable Quiet Operation
- Controls Options
 - Constant Setpoint
 - Indoor/ Outdoor Reset
 - Remote Setpoint
 - 4-20mA signal or ModBus

APPROVED WITH CONDITIONS

Date: 05/31/2018
Control #54434

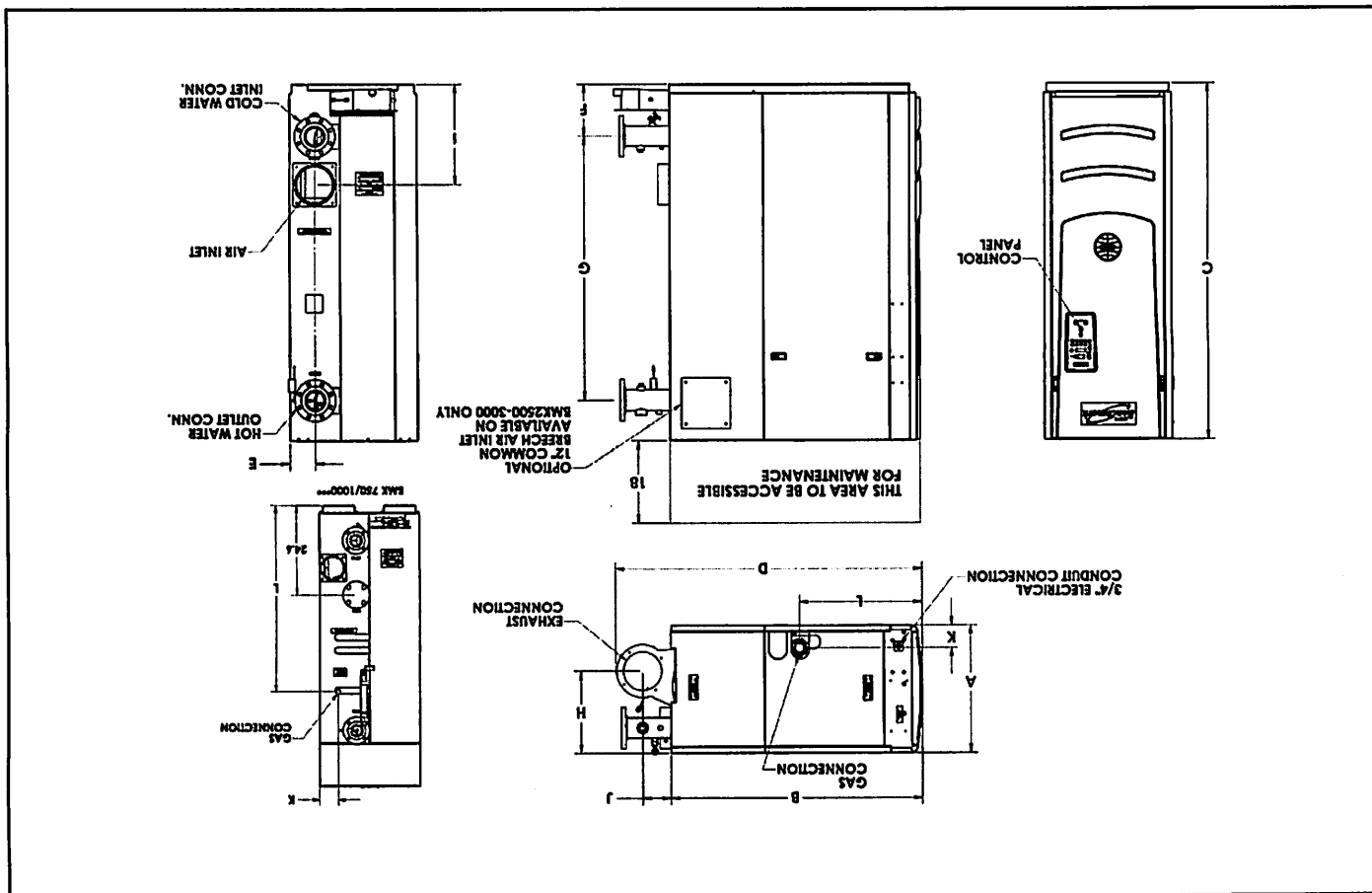
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RATINGS:

Model Number	Min Input MBH	Max Input MBH	Max Output MBH	Efficiency Range	AHRI Efficiency 80° to 180°F
BMK 750	50	750	663-1725	87%-98%	95.50%
BMK 1000	50	1000	870-960	87%-98%	96.80%
BMK 1500	75	1500	865-1425	87%-98%	94.60%
BMK 2000	100	2000	1740-1900	87%-98%	94.60%
BMK 2500	167	2500	2175-2360	87%-98%	93.50%
BMK 3000	200	3000	2610-2880	87%-98%	93.50%
BMK 6000**	400	6000	5220-5670	87%-98%	94.50%

**Max output dependent upon application - See efficiency curves
 **See separate BMK6000 Technical Data Sheet for additional BMK6000 details

DIMENSIONS (INCHES):



**See separate BMK6000 Technical Data Sheet for additional BMK6000 dimension details
 ***BMK750/1000 Feature Dual Inlet Connections

Model	(Width) A	(Depth) B	(Height) C	D	E	F	G	H	I	J	K	L
BMK 750	28"	25"	78"	34"	10"	10"	53"	21"	17"	4"	5"	51.8"
BMK 1000	28"	25"	78"	34"	10"	10"	53"	21"	17"	4"	5"	51.8"
BMK 1500	28"	43.6"	78"	58.4"	7"	11.5"	57.8"	18"	22"	8.9"	4.7"	19.5"
BMK 2000	28"	43.6"	78"	58.4"	7"	11.5"	57.8"	18"	22"	8.9"	4.7"	19.5"
BMK 2500	28"	56"	78"	68.4"	5.4"	11.5"	57.8"	18"	22"	6.4"	3.6"	26"
BMK 3000	28"	56"	78"	68.4"	5.4"	11.5"	57.8"	18"	22"	6.4"	3.6"	26"
BMK 6000**	34"	89.3"	79.4"	108.3"	6.2"	42.1"	N/A	15.6"	N/A	10"	28.7"	23.7"

APPROVED
 WITH CONDITIONS

Date: 05/31/2018

Control #54434

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SPECIFICATIONS:

Boiler Category	Gas Connections (NPT)	Max. Gas Pressure	Min. Gas Pressure ¹	Max. Allowed Working Pressure	Electrical Req. 120V/1PH/60Hz ²	Electrical Req. 208V/3PH/60Hz ²	Electrical Req. 460V/3PH/60Hz ²	Electrical Req. 575V/3PH/60Hz ²	Water Connections (Flanged)	Min. Water Flow (GPM)	Max. Water Flow (GPM)	Water Volume Gallons	Water Pressure Drop	Water Pressure Drop @ 4.0 PSIG 500 GPM	Turndown	Vent/Air Intake Connections	Vent Materials	Type of Gas	NOx Emissions <9ppm Capability ³	Temperature Control Range	Ambient Temperature Range	Standard Listings & Approvals	Gas Train Operations	Weight (dry) lbs.	Weight (wet) lbs.	Shipping Weight lbs.
BMK750	1"	14"	4"	160 PSIG	13 FLA	N/A	N/A	N/A	3"	12	175	16.25	3.0 PSIG @ 100 GPM	15:1 (7%)	6 inch	6 inch	AL29-4C Polypro, CPVC, PVC	Natural Gas, Propane	✓	50°F to 190°F	0°F to 130°F	UL, CUL, CSD-1, ASME, AHRI	FM Compliant or Factory Installed DBB (IRI)	669	802	862
BMK1000	1"	14"	4"	160 PSIG	13 FLA	N/A	N/A	N/A	3"	12	175	14.25	3.0 PSIG @ 100 GPM	20:1 (5%)	6 inch	6 inch	AL29-4C Polypro, CPVC, PVC	Natural Gas, Propane	✓	50°F to 190°F	0°F to 130°F	UL, CUL, CSD-1, ASME, AHRI	FM Compliant or Factory Installed DBB (IRI)	700	817	900
BMK1500	2"	14"	4"	160 PSIG	16 FLA	N/A	N/A	N/A	4"	25	250	44	3.0 PSIG @ 170 GPM	20:1 (5%)	6 inch	6 inch	AL29-4C Polypro	Natural Gas, Propane, Dual Fuel	✓	50°F to 190°F	0°F to 130°F	UL, CUL, CSD-1, ASME, AHRI	FM Compliant or Factory Installed DBB (IRI)	1406	1654	1606
BMK2000	2"	14"	4"	160 PSIG	16 FLA	N/A	N/A	N/A	4"	25	350	40	3.0 PSIG @ 170 GPM	20:1 (5%)	8 inch	8 inch	AL29-4C Polypro	Natural Gas, Propane, Dual Fuel	✓	50°F to 190°F	0°F to 130°F	UL, CUL, CSD-1, ASME, AHRI	FM Compliant or Factory Installed DBB (IRI)	1500	1760	1700
BMK2500	2"	14"	4"	160 PSIG	N/A	10 FLA	5 FLA	N/A	4"	25	350	58	3.0 PSIG @ 218 GPM	15:1 (7%)	8 inch	8 inch	AL29-4 Polypro	Natural Gas, Propane, Dual Fuel	N/A (<20 ppm)	50°F to 190°F	0°F to 130°F	UL, CUL, CSD-1, ASME, AHRI	FM Compliant or Factory Installed DBB (IRI)	2,000	2,332	2,200
BMK3000	2"	14"	4"	160 PSIG	N/A	10 FLA	5 FLA	N/A	4"	25	350	55	3.0 PSIG @ 261 GPM	15:1 (7%)	8 inch	8 inch	AL29-4C Polypro	Natural Gas, Propane, Dual Fuel	N/A (<20 ppm)	50°F to 190°F	0°F to 130°F	UL, CUL, CSD-1, ASME, AHRI	FM Compliant or Factory Installed DBB (IRI)	2,170	2,580	2,370
BMK 6000**	2"	2psi	14"	80 PSIG/150 PSIG Optional	N/A	19 FLA	12 FLA	8 FLA	6"	75	600	110	4.0 PSIG @ 500 GPM	15:1 (7%)	14 inch Optional/ 12 inch Flue Venting	AL29-4C Polypro	Natural Gas, Dual Fuel	✓	50°F to 190°F	0°F to 130°F	UL, CUL, CSD-1, ASME, AHRI	FM Compliant or Factory Installed DBB (IRI)	3,000	3,920	3,800	

APPROVED
WITH CONDITIONS

Date: 05/31/2018

Control #54434

11/40

**See separate BMK6000 Technical Data Sheet for additional BMK6000 details
¹Design Guide GF-2030 for Propane, DBB & Dual Fuel gas train minimum gas pressure requirements. See Benchmark Gas Components & Supply
²See Benchmark Electrical Power Guide GF-2060 for Service Disconnect Switch amperage requirements.

NOTES:

Represented by:

Specifications subject to change without prior notice.
Consult website or contact AERCO.
BMK SERIES 10/2015 NY



AERCO International, Inc.
100 Oritani Drive
Blauvelt, NY 10913
P 845.580.8000
F 845.580.8090
aerco.com

From: DO NOT REPLY

Date: 1/22/2018 10:24:27 AM

To: STUISER@AOL.COM; pevarsalona@randpc.com; STUISER@AOL.COM

Subject: Inspection Result for ,STUART ISER- 008 for job number 44033762701EWBL



The Final Status / Disposition of your Low Pressure Boiler Low BTU Under 4.2M (1 Boiler) inspection for , **STUART ISER at 324 BEACH 59TH STREET, Queens, NY 11692** for Job Number **44033762701EWBL** is **Fail-Final**, due to the Objection(s) listed in DOB NOW: Inspections.

To request a new inspection, you must resolve the Objection(s) and log into DOB NOW: Inspections.

This is an automated message; please do not reply. If you have questions or concerns, please contact the Department of Buildings at bibIR@buildings.nyc.gov.

Sincerely,

NYC Department of Buildings



Virus-free. www.avq.com





Boiler

INSPECTION REPORT

1. TYPE OF INSPECTION: Low Pressure Boiler Low BTU Under 4.2M (1 Boiler)

2. RECORD INFORMATION

Record (Job/Permit/Application) #: 44033762701EWBL

Requestor Name: STUART ISER

Requestor Phone Number: 9176894625

3. INSPECTION INFORMATION

Inspection Result: Fail-Final

Inspection Date: 01/22/18

Inspection Time: 09:57 AM

Inspector Badge#: 2408

4. OBJECTIONS

Failed Guidesheet Item	Result	Certifiable?	Floor No.	Comments
4B Gas Fired Units Only - Gas Vent	Fail		N/A	CANNOT SIDE WALL VENT OVER 350,000 BTUS
Chimney	Fail		N/A	TO BE TO ROOF
Administrative	Fail		N/A	AMMEND SCHEDULE C TO SHOW CORRECT PSI OF BOILER RELIEF VALVE, SECTION 8 TO STATE CORRECT MATERIAL USED FOR FLUE, PLANS OR DOCUMENT TO STATE MATERIAL USED SIZE, LENGTH & TERMINATION
Boiler Room	Fail		N/A	DOOR NOT EGRESS OR HAVE DOCUMENT TO STATE WHY
Flue	Fail		N/A	CANNOT SIDE WALL VENT OVER 350,000 BTUS, STATE CORRECT FLUE MATERIAL USED, VENTING TO BE TO MANUFACTURES SPEC & LOCAL CODE
Combustion Air	Fail		N/A	PLANS OR DOCUMENT TO STATE THAT THE BOILER & WATER HEATER ARE INTERLOCKED WITH FRESH AIR FAN

REVIEWED BY
Chintan Desai, RA

APPROVED
WITH CONDITIONS

Date: 05/31/2018

Control #54434

14/40

5. APPROVAL

Inspection Final Result: Fail-Final

Inspection Final Approval Date: 01/22/18

Inspection Final Approval Time: 10:24 AM

Supervisor Badge #: 2620



NORDECK APARTMENTS, ARVERNE, NY

NEW HEATING PLANT

GENERAL PROJECT NOTES

1.

ALL WORK AND MATERIALS FURNISHED SHALL COMPLY WITH THE NYC CONSTRUCTION CODES, THE NATIONAL BOARD OF FIRE UNDERWRITERS, AND ALL FEDERAL, STATE & MUNICIPAL AUTHORITIES HAVING JURISDICTION OVER THE WORK.
2.

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS (OTHER THAN PERMITS THAT RAND IS REQUIRED TO OBTAIN) PERTAINING TO THIS ALTERATION, AND ALL OTHER PERMITS AND APPROVALS AS REQUIRED BY LAW FOR THE CONSTRUCTION. ALL PERMITS SHALL BE CONSPICUOUSLY DISPLAYED AT THE SITE IN A LOCATION OPEN TO PUBLIC INSPECTION THROUGHOUT THE DURATION OF THE WORK.
3.

ALL DEMOLITION OPERATIONS, REPAIR OPERATIONS, AND ALTERATION OPERATIONS SHALL BE DONE IN ACCORDANCE WITH THE NYC BUILDING CODE.
4.

ALL PLAN DIMENSIONS ARE SUBJECT TO FIELD VERIFICATION AND COORDINATION BETWEEN TRADES SHALL BE REQUIRED. CONTRACTOR SHALL CHECK AND VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ANY DISCREPANCIES TO RAND PRIOR TO START OF WORK.
5.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND FURNISHING THE OWNER OR RAND ALL NECESSARY AFFIDAVITS, APPROVALS, CERTIFICATIONS, ETC. OF MATERIALS AS REQUIRED BY THE DEPARTMENT OF BUILDINGS AND HEREINAFTER MORE SPECIFICALLY REFERRED TO.

TENANT SAFETY NOTES - TENANT PROTECTION

1.

GENERAL:

A.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2014 N.Y.C. CONSTRUCTION CODES AND ALL OTHER REGULATIONS OF ALL OTHER AGENCIES HAVING JURISDICTION.

B.

THE BUILDING IS CLASSIFIED AS R-2, RESIDENTIAL MULTIPLE DWELLING, AND CONTAINS DWELLING UNITS THAT WILL BE OCCUPIED DURING CONSTRUCTION. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS REGARDING TENANT SAFETY, AS DELINEATED BELOW, AS WELL AS REGULATIONS SET FORTH IN THE NYS MULTIPLE DWELLING LAW AND NYC HOUSING MAINTENANCE CODE, TO INCLUDE BUT NOT BE LIMITED TO, TEMPORARY FIRE-RATED ASSEMBLIES, OPENING PROTECTIVES, AND DUST CONTAINMENT PROCEDURES.
9.

STRUCTURAL:

A.

CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY BRACING AND SHORING WHENEVER STRUCTURAL WORK IS INVOLVED.

B.

DEMOLITION OPERATIONS SHALL NOT COMMENCE UNTIL THE APPLICABLE PEDESTRIAN AND ADJOINING PROPERTY PROTECTION IS IN PLACE AS REQUIRED BY SECTIONS BC 3306 - BC 3309.

C.

NO STRUCTURAL WORK SHALL BE DONE THAT MAY ENDANGER BUILDING OCCUPANTS.
3.

MEANS OF EGRESS: ALL MEANS OF EGRESS FROM THE BUILDING TO BE MAINTAINED CLEAR AND FREE OF ALL OBSTRUCTIONS, SUCH AS BUILDING MATERIALS, TOOLS, ETC.
4.

FIRE SAFETY:

A.

ALL BUILDING MATERIALS STORED AT THE CONSTRUCTION AREA, AND/OR ANY AREA OF THE BUILDING SHALL COMPLY WITH SECTIONS BC 3302.4.5.1 AND BC 3302.4.5.2, AND ARE TO BE SECURED IN A LOCKED AREA. ACCESS TO SUCH AREAS TO BE CONTROLLED BY MANAGEMENT AND/OR GENERAL CONTRACTOR.

B.

ALL MATERIALS SHALL BE STORED IN AN ORDERLY FASHION.

C.

ALL FLAMMABLE MATERIALS SHALL BE KEPT TIGHTLY SEALED IN THEIR RESPECTIVE

D.

MANUFACTURER'S CONTAINERS. SUCH MATERIALS SHALL BE KEPT AWAY FROM HEAT, AND STORED IN AN ADEQUATELY VENTILATED SPACE, IN COMPLIANCE WITH NYC FIRE CODE.

E.

CONTRACTOR SHALL SUBMIT A SCHEDULE OF ANY REQUIRED CUT-OFF FOR WATER, GAS, OR ELECTRICAL SERVICES TO RESIDENTS.
18.

CONTRACTOR SHALL GIVE AT LEAST THREE (3) DAYS WRITTEN NOTICE PRIOR TO ANY DISRUPTION IN GAS, WATER, OR ELECTRICAL SERVICE. IN ALL INSTANCES, DISRUPTIONS TO GAS, WATER OR ELECTRICAL SERVICES SHALL BE KEPT TO A MINIMUM.
19.

DUST CONTROL:

A.

DEBRIS, DIRT AND DUST SHALL BE KEPT TO A MINIMUM, AND TO BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.

B.

THE CONTRACTOR TO ISOLATE CONSTRUCTION AREA FROM OCCUPIED BUILDINGAREAS BY MEANS OF TEMPORARY PARTITIONS OR HEAVYWEIGHT DROP CLOTHS.

C.

DEBRIS, DUST AND DIRT TO BE CLEANED UP AND CLEARED FROM THE BUILDING DAILY TO AVOID ANY EXCESSIVE ACCUMULATION, IN ACCORDANCE WITH SECTION BC 3303.4.4.
20.

NOISE AFTER HOURS:

A.

WORK SHALL BE DONE DURING REGULAR HOURS ONLY, 8 A.M. TO 5 P.M., EXCLUDING WEEKENDS AND LEGAL HOLIDAYS.

B.

ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE PROVISIONS OF THE NEW YORK CITY NOISE CODE AS SET FORTH IN CHAPTER 2 OF TITLE 24 OF THE ADMINISTRATIVE CODE.
21.

GUARANTEE:

A.

THE CONTRACTOR SHALL GUARANTEE THAT THE INSTALLATION WILL BE COMPLETE IN EVERY RESPECT AND OPERATING FREE FROM DEFECTS. THE CONTRACTOR SHALL ALSO GUARANTEE THAT ALL WORK IS IN FULL COMPLIANCE WITH THE TECHNICAL SPECIFICATIONS, ACCEPTED STANDARD PRACTICES, AND CODE REQUIREMENTS OF ALL AGENCIES HAVING JURISDICTION.
22.

COMPLIANCE WITH HOUSING STANDARDS:

A.

THE REQUIREMENTS OF THE NEW YORK CITY HOUSING MAINTENANCE CODE, AND, WHERE APPLICABLE, THE NEW YORK STATE MULTIPLE DWELLING LAW SHALL BE STRICTLY OBSERVED.
23.

LEAD AND ASBESTOS STATEMENT:

A.

THE CONTRACTOR SHALL INSURE THAT NO PRODUCT UTILIZED AT THE JOB-SITE CONTAINS ASBESTOS. IF ANY SPECIFIED PRODUCT IS FOUND TO CONTAIN ASBESTOS, BEFORE PURCHASING THE PRODUCT THE CONTRACTOR SHALL NOTIFY THE OWNER AND RAND AND PROPOSE AN ACCEPTABLE SUBSTITUTE AS PART OF THE BASE BID WORK, AT NO ADDITIONAL COST TO THE OWNER.

B.

IF AUTHORIZED TO PERFORM ASBESTOS ABATEMENT WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RETAINING THE SERVICES OF A QUALIFIED INDEPENDENT ENVIRONMENTAL CONSULTANT TO ACT AS PROJECT MONITOR, AT NO ADDITIONAL COST TO THE OWNER. THE PROJECT MONITOR SHALL ENSURE THAT ALL ASBESTOS ABATEMENT WORK IS BEING PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND CITY REGULATIONS, AND SHALL TAKE ALL REQUIRED AIR SAMPLES. AT THE CONCLUSION OF THE PROJECT, THE PROJECT MONITOR SHALL PROVIDE A COMPLETE LOG OF ALL ASBESTOS ABATEMENT RELATED ACTIVITIES.

C.

AT MINIMUM ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH LEAD-SAFE WORK PRACTICES, OSHA LEAD IN CONSTRUCTION STANDARDS, EPA LEAD-BASED PAINT RENOVATION, REPAIR AND PAINTING PROGRAM REQUIREMENTS, ALL ASSOCIATED NYC DEPARTMENT OF HEALTH (DOH) REQUIREMENTS, AND ALL APPLICABLE FEDERAL, STATE AND LOCAL RULES/REGULATIONS. THE CONTRACTOR SHALL PROVIDE A CURRENT COPY OF THEIR "CERTIFICATION TO CONDUCT LEAD-BASED PAINT ACTIVITIES AND RENOVATIONS" AS ISSUED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA). AT LEAST ONE (1) "CERTIFIED RENOVATOR" SHALL BE ASSIGNED TO THE PROJECT; IN ADDITION, ALL WORKERS INVOLVED IN WORK THAT MAY BE RELATED TO LEAD-BASED PAINT MUST BE TRAINED AND CERTIFIED IN LEAD-SAFE WORK PRACTICES.

LOW PRESSURE BOILER NOTES:

1.

LOW PRESSURE BOILERS SHALL CONFORM TO THE REQUIREMENTS OF 12 NYCRR PART 4 AND HIGH PRESSURE BOILERS SHALL CONFORM TO THE REQUIREMENTS OF 12 NYCRR PART 14 (INDUSTRIAL CODE PART 14).
2.

INSTALLATION OF BOILERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, THE 2014 NEW YORK CITY FUEL GAS CODE AND THE 2014 NEW YORK CITY MECHANICAL CODE.
3.

CLEARANCES AROUND BOILERS TO BE IN CONFORMANCE WITH NYC MECHANICAL CODE ARTICLE 1004.3 AND THE NYC FUEL GAS CODE ARTICLE 308.4.
4.

NO GAS METERS OR STORAGE IS PERMITTED IN BOILER ROOM
5.

BOILER OPERATING PRESSURE : 5 PSIG
6.

RELIEF VALVE PRESSURE : 15 PSIG
7.

BOILER ROOMS AND ENCLOSURES AND ACCESS THERETO SHALL COMPLY WITH THE 2014 NEW YORK CITY BUILDING CODE AND CHAPTER 3 OF THE 2014 NYC MECHANICAL CODE.
8.

BOILER ROOMS SHALL BE EQUIPPED WITH A FLOOR DRAIN OR OTHER APPROVED MEANS FOR DISPOSING OF LIQUID WASTE.
9.

POTABLE WATER CONNECTIONS TO BOILER FEED WATER SYSTEM AND HEATING OR COOLING SYSTEMS SHALL BE MADE THROUGH A FIXED AIR GAP AS PER THE 2014 NYC PLUMBING CODE ARTICLE 608.16.2
10.

GAS FUELS: THE AIR SUPPLY FOR EQUIPMENT BURNING GAS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI Z223.1 -NFPA 54 AND THE 2014 NYC FUEL GAS CODE.
11.

MECHANICAL VENTILATION: IF THE VENTILATION FOR THE PURPOSE OF COMBUSTION IS SUPPLIED MECHANICALLY, THE VENTILATING SYSTEM SHALL BE ELECTRICALLY INTERLOCKED WITH THE BURNER SO THAT WHEN THE BURNER IS IN OPERATION THE VENTILATING SYSTEM SHALL MAINTAIN THE ROOM IN WHICH THE EQUIPMENT IS AT A PRESSURE NOT LESS THAN THE OUTDOOR ATMOSPHERIC PRESSURE.
12.

THE APPLICANT IS AWARE OF DISCREPANCIES BETWEEN RULES OF THE DEPARTMENT OF AIR RESOURCES AND THE DEPARTMENT OF BUILDINGS CODE AND REFERENCE STANDARDS.
13.

INSTALLATION APPROVED BY THE DEPARTMENT OF AIR RESOURCES, OR EQUIPMENT APPROVED BY THE BOARD OF STANDARDS AND APPEALS, OR ACCEPTED BY THE MEA DIVISION MAY OR MAY NOT BE IN CONFORMANCE WITH SAID RULES AND REGULATIONS.
14.

APPROVAL BY THE DEPARTMENT OF BUILDINGS SHALL NOT BE PRESUMED TO BE AN INDICATION OF COMPLIANCE WITH THE ABOVE-MENTIONED RULES AND REGULATIONS.
15.

THE OWNER HAS BEEN AWARE OF THESE DIFFERING REQUIREMENTS AND OF THE NEED TO OBTAIN NECESSARY APPROVALS FROM THE DEPARTMENT OF AIR RESOURCES.

NYC BUILDINGS DEPARTMENT NOTES:

1.

SMOKE TEST SHALL BE PERFORMED AS DESCRIBED IN NYC MC SECTION 810.
2.

FINAL APPROVAL SHALL BE BASED ON THE ACCEPTANCE OF DEPARTMENT OF AIR RESOURCES. CONTRACTOR SHALL PERFORM REQUIRED TEST AND SHALL SCHEDULE INSPECTION WITH SUCH DEPARTMENT. THE FOLLOWING SHALL BE PROVIDED FOR THE TEST:

NOISE CONTROL NOTES:

1.

BOILER ROOMS AND MECHANICAL EQUIPMENT SPACES SHALL BE PROVIDED WITH NOISE INSULATION AND/OR SOUND ATTENUATING DEVICES TO LIMIT AIRBORNE NOISE TRANSMISSION TO ADJACENT DWELLING UNITS IN ACCORDANCE WITH THE 2014 NYC BUILDING CODE SECTION 1207
2.

BOILERS, BURNERS, BREECHINGS, PIPING AND OTHER BOILER ROOM EQUIPMENT SHALL BE PROVIDED WITH ISOLATORS AND OTHER SOUND ATTENUATING DEVICES TO LIMIT STRUCTURE-BORNE NOISE AND VIBRATION IN ACCORDANCE WITH THE 2014 NYC BUILDING CODE SECTION 1207

NYC DEPARTMENT OF ENVIRONMENTAL PROTECTION DEPARTMENT OF AIR RESOURCES NOTES:

1.

CONTINUOUS, UNINTERRUPTED OPERATION OF THE BOILER AT THE BURNER OIL DELIVERY RATE FOR A MINIMUM PERIOD OF TWENTY MINUTES IS TO BE INSURED. UNDER NO CIRCUMSTANCE SHALL THE BOILER PRESSURE RELIEF VALVE(S) BE TAMPERED WITH TO ACCOMPLISH THIS.
2.

THREE 5/16 INCH DIAMETER HOLES ARE TO BE PROVIDED IN THE BREECHING, APPROXIMATELY 4 INCH APART AND PLACED SO THAT THE ONE CLOSEST TO THE BOILER IS APPROXIMATELY ONE BREECHING DIAMETER DOWNSTREAM FROM THE BOILER OUTLET. SINCE THESE HOLES SHALL BE USED FOR THE MEASUREMENT OF BOILER OUTLET GAS TEMPERATURE, PER CENT CO² AND SMOKE READING, IT IS IMPORTANT THAT THEY BE PLACED IN THE SYSTEM SUCH THAT AIR INFILTRATION FROM A BAROMETRIC DAMPER, SMOKE ALARM PORT, ETC., DOES NOT AFFECT THE COMPOSITION OF THE COMBUSTION GASES.

LIST OF DRAWINGS

- BL-001 -

TITLE SHEET
- BL-002 -

2007 & 2013 FEMA MAPS (FOR DOB ONLY)
- BL-003 -

ENERGY CHART
- BL-004 -

EXISTING HIGH PRESSURE GAS SERVICE
- BL-005 -

PARTIAL REMOVAL 1ST FLOOR PLAN FOR BLDG. #4 AND PROPOSED PARTIAL 1ST FLOOR PLAN - TYP. NEW BOILER ROOM BLDG. #4
- BL-006 -

MECHANICAL DETAILS (1 OF 2)
- BL-007 -

MECHANICAL DETAILS (2 OF 2) & SECTION AA
- BL-008 -

DIAGRAM OF EXISTING/PROPOSED PIPES ALONG CRAWLSPACE

SPECIAL INSPECTIONS ITEMS

MECHANICAL SYSTEMS - BC 1704.16
HEATING SYSTEMS - BC 1704.25
CHIMNEYS - BC 1704.26
FIRE RESISTANT PENETRATIONS AND JOINTS - BC 1704.27
FLOOD ZONE COMPLIANCE (ATTACH) FEMA ELEVATION/DRY
FLOOD PROOFING CERTIFICATE WHERE APPLICABLE - BC 1704.29-BCG105
POST-INSTALLED ANCHORS - BC 1704.32

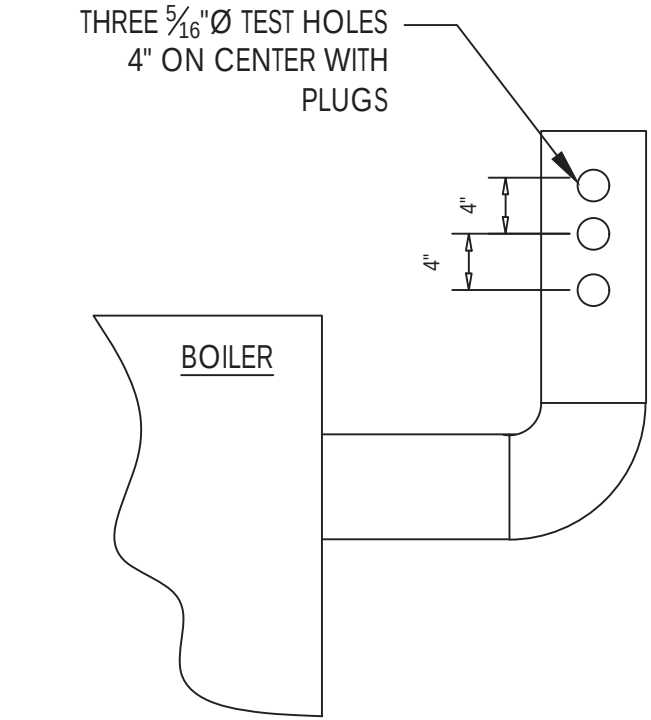
PROGRESS INSPECTION ITEMS

FINAL - BC 110.5, DIRECTIVE 14 OF 1975 AND RCNY 101-10

ENERGY PROGRESS INSPECTIONS

IIB3 - HVAC & SERVICE WATER HEATING EQUIPMENT
IIB5 - HVAC INSULATION & SEALING
IIC3 - INTERIOR LIGHTING & POWER
IID1 - MAINTENANCE INFORMATION

LEGEND	
	EXISTING WALL TO REMAIN
	WALL TO BE REMOVED
	NEW WALL
	NEW DOOR
	PIPE TO BE REMOVED
	CONNECT TO EXISTING
	POINT OF DISCONNECTION
	HOT WATER PIPING
	HOT WATER RETURN
	GAS PIPING
	FIRE DAMPER
	DISCONNECT SWITCH
	INDICATES 2 HOT, 1 NEUTRAL, AND 1 GROUND CONNECTION
	SWITCH
	DENOTES PROPOSED PATH OF ELECTRICAL WIRING IN CONDUIT (EMT)
	SMOKE/CO DETECTOR



SEAL & SIGNATURE



PROJECT DESCRIPTION:
NORDECK APARTMENTS
CAPITAL IMPROVEMENT PROGRAM
(NEW HEATING PLANT)

PROJECT LOCATION:

NORDECK APARTMENTS
324 BEACH 59TH STREET
ARVERNE, NY 11692

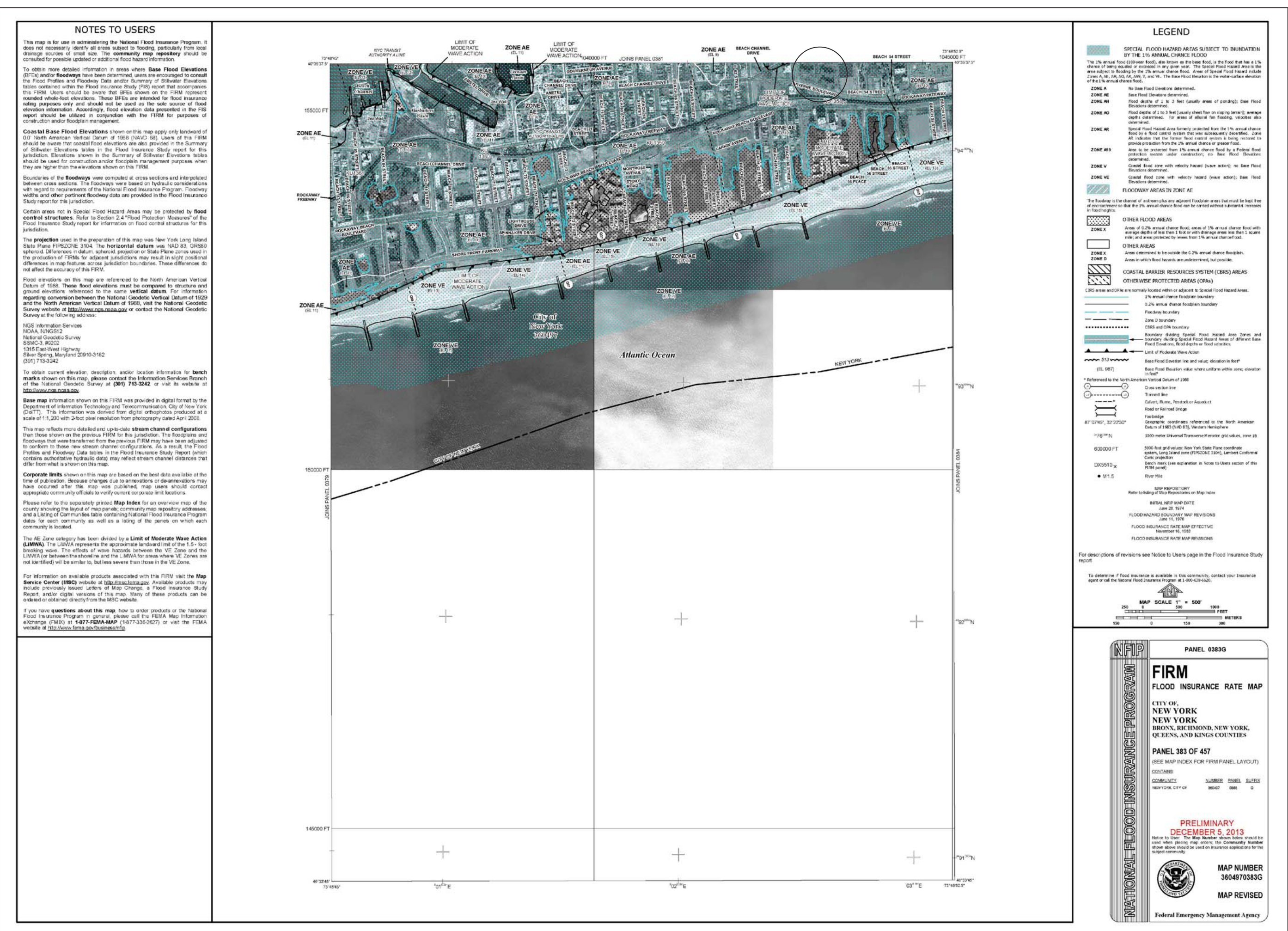
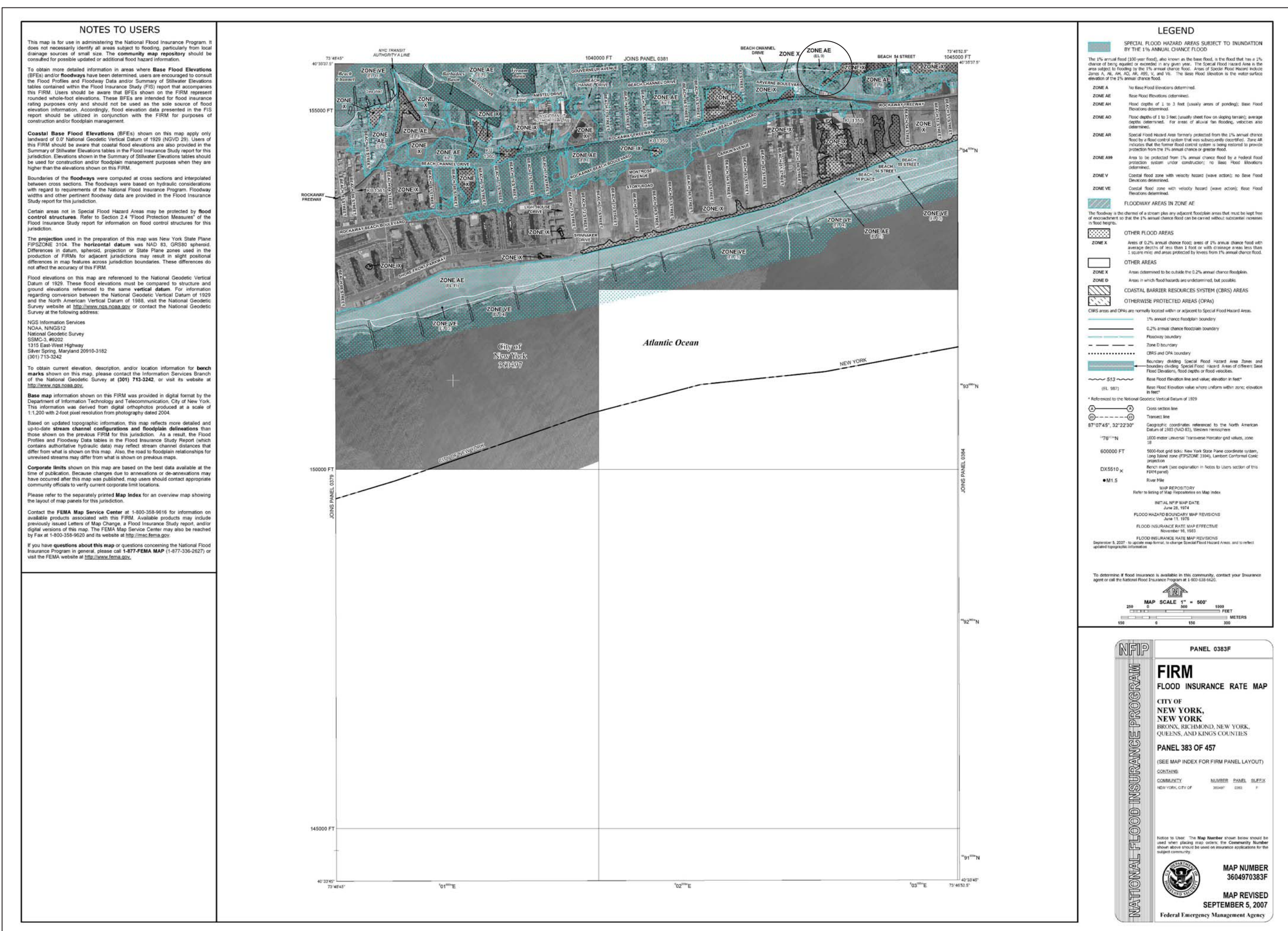
SHEET TITLE:
MECHANICAL NOTES

JOB #	M150901
SCALE:	AS NOTED
DATE:	4/29/16
DRAWN BY:	SMM
REVIEWED BY:	DG/PM/PEV
NUMBER OF SHEETS:	1 OF 8
ISSUE:	BID SET
SHEET NO.	

BL-001.00

DOB APPROVAL STAMP:





PROPERTY IS IN SPECIAL FLOOD HAZARD AREA, ZONE AE PER EFFECTIVE 2007 FIRM.

B.F.E. = EL 9

PROPERTY IS IN SPECIAL FLOOD HAZARD AREA, ZONE AE PER EFFECTIVE 2013 FIRM.

B.F.E. = EL 10

DETERMINATION OF MARKET VALUE AND SUBSTANTIAL IMPROVEMENT

APPLICANT STATEMENT:

"WORK PROPOSED IN THIS APPLICATION IS **NOT** A SUBSTANTIAL IMPROVEMENT DEFINED BY SECTION BC G201.2 AND 1 RCNY 3606-01"

(A) CALCULATION OF MARKET VALUE:

$$\text{MARKET VALUE OF STRUCTURE} = \text{ESTIMATED MARKET VALUE} \times \frac{\text{ACTUAL AV (TOTAL)} - \text{ACTUAL AV (LAND)}}{\text{ACTUAL AV (TOTAL)}}$$

$$\text{MARKET VALUE OF STRUCTURE} = \$16,491,000 \times \frac{\$7,420,950 - \$1,371,600}{\$7,420,950}$$

$$\$16,491,000 \times 81.52\% = \$13,443,000 \div 6 = \$2,240,500 \text{ PER BUILDING}$$

(A) CALCULATION OF COST:

HEATING PLANT UPGRADE (ALL 6 BUILDINGS): \$346,992

OTHER REPAIRS FILED IN CONJUNCTION WITH THIS APPLICATION:
INTERIOR REPAIR PROGRAM (BUILDING 4): \$579,000 - DOB APPLICATION #440337672

(B) DETERMINATION OF SUBSTANTIAL IMPROVEMENT:

WORK SHALL BE DEEMED A SUBSTANTIAL IMPROVEMENT IF THE COST EQUALS OR EXCEEDS 50% OF THE MARKET VALUE OF STRUCTURE.

TOTAL CONSTRUCTION COST: \$826,992

MARKET VALUE OF STRUCTURE: \$2,240,500

$$\frac{\$925,992}{\$2,240,500} = 41.33\% < 50\%$$

THEREFORE: WORK IS NOT A SUBSTANTIAL IMPROVEMENT

NOTE: ALL EXTERIOR REPAIR APPLICATIONS ARE FILED TO ADDRESS HPD VIOLATIONS AND ARE THEREFORE EXEMPT FROM SUBSTANTIAL IMPROVEMENT

CALCULATIONS PER B.C. G201.2

REVIEWED BY
Chintan Desai, RA

[Signature]

**APPROVED
WITH CONDITIONS**

Date: 05/31/2018

Control #54434 17/40

DOB APPROVAL STAMP

David Jhee



APPROVED

Under Directive 14 of 1975

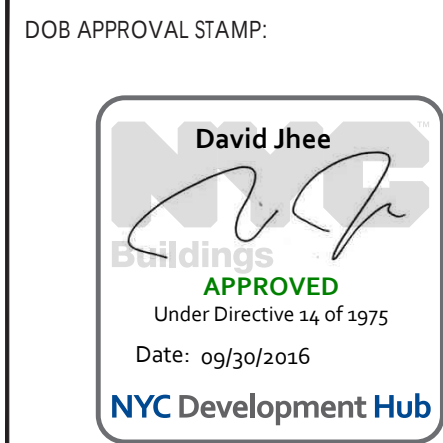
Date: 09/30/2016

NYC Development Hub

BL-002.00

Energy Analysis				
Nordeck Apartments				
Capital Improvement Program				
Commercial Climate Zone 4				
2014 Energy Conservation Construction Code of New York State				
Item Description	Proposed Designed Value	Code-Prescribed Value & Citation	Energy Code Progress Inspections (TR8)	Supporting Documentation
17A - Install a new high-capacity sump pump with the existing boiler room. Work shall include all associated surface preparation and all associated debris removal/disposal.	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	N/A
18A - Remove and discard a total of 12 utility/storage room door assemblies at all buildings.	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawings M-004 & M-005
18B - Completely demolish and discard a total of 1,700 square feet of existing CMU partition walls at the utility and storage rooms at all buildings.	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawings M-004 & M-005
19A - Construct a total of 250 square feet of 2-hour fire-rated CMU walls between the existing corridor and the new boiler room at all buildings. Work shall include all associated surface preparation and installation of new grout and vertical reinforcement.	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawing M-005
19B - Construct fire-rated sound attenuated partition walls along the existing walls between the new boiler room and adjacent apartments at all buildings. Work shall include all associated surface preparation and installation of new metal studs/track, gypsum wallboard, fasteners, and insulation. (The estimated total surface area of 2-hour fire-rated sound attenuation partition wall construction required pursuant to Base Bid Item 19B is approximately 2,300 square feet.)	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawing M-005
19C - Clean, prime, and paint all wall and floor surfaces in the new boiler room at all buildings. Work shall include all associated surface preparation. (The estimated total surface area of cleaning/priming/painting required pursuant to Base Bid Item 19C is approximately 9,000 square feet.)	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawing M-005
19D - Install a total of 6 new code-compliant, 1-1/2 hour fire-rated, self-closing door assemblies at the new boiler rooms at all buildings (1 door per building). Work shall include all associated surface preparation and installation of new fasteners, hardware, trim, saddles, and caulking.	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawing M-005
19E - Install a new code-compliant resilient acoustical ceiling system within the new boiler rooms at all buildings. Work shall include all associated surface preparation, hanger brackets, hanger wires, main tracks, cross tees, wall molding, acoustical panels, and fasteners. (The estimated total surface area of resilient acoustical ceiling system installation required pursuant to Base Bid Item 19E is approximately 3,100 square feet.)	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawing M-005
20A - Install a total of 12 new 8-inch thick reinforced concrete housekeeping pads under the new condensing boilers, hot water heaters, and hot water storage tanks in the new boiler rooms at all buildings. Work shall include all associated surface preparation and installation of new welded wire reinforcement.	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Detail Drawing M-006
20B - Furnish and install a total of 6 new commercial high-efficiency condensing boilers and 6 new commercial hot water heaters (including hot water storage tanks) at all buildings. Work shall include installation of minimum 4-inch high steel equipment stands.	2014 Mechanical Code	Per table C403.2.3.3(5) Boilers, Steam; Gas-Fire, Sise Category (Input) < 300,000 BTU/H shall have a minimum efficiency of 80% AFUE and test procedure 10 CFR Part 430.	IIB2 Shutoff dampers IIB3 HVAC and service water heating equipment IIB4 HVAC and service water heating system controls	See Mechanical Drawing M-005 & Details Drawing M-007
20C - Install a total of 12 new duplex inline pumpsets (wall mounted in the new boiler rooms above design flood elevation-DFE) for all boilers and water heaters (2 pumpsets per building). Work shall include provision/installation of new individual pump starters and all associated electrical connections.	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawing M-005
20D - Install new interior and exterior boiler room piping at all buildings for heat distribution, gas, hot and cold water, as well as all other controls, safety devices, valves, strainers, pressure gauges, and thermometers required for safe and correct operation of the new heating and hot water systems. Outdoor scope of work includes installation of new buried gas line from main point of entry to each building crawlspace; buried gas piping shall follow path of existing hot water piping. Indoor scope of work includes heating hot water piping connection from boiler to piping in existing crawlspace. Separate domestic hot water piping shall connect from water heater to existing distribution piping in crawlspace. Scope includes expansion tank for water heater. Provide insulation on new piping (i.e. hot water supply and return lines; domestic hot and cold water lines) to tie into existing system.	2014 Mechanical Code	"C404.5 Pipe Insulation. For Automatic-Circulating Water and Heat-traced Systems, Piping shall be insulated with not less than 1-inch (25MM) of insulation having conductivity not exceeding 0.27 Btu per inch/h × ft2× °F (1.53 W per 25 mm/m2× K). The first 8 feet (2438 MM) of piping in non-hot-water-supply temperature maintenance systems served by equipment without Integral Heat Traps shall be insulated with 0.5 inch (12.7 MM) of material having conductivity not exceeding 0.27 Btu per inch/h × ft2× °F (1.53 W per 25 mm/m2× K). C403.2.8 Piping installation on all piping serving as part of a heating or cooling system shall be thermally insulated in accordance with Table C403.2.8."	IIB5 HVAC Insulation and Sealing	See Mechanical Drawing M-005 & Details Drawing M-006
20E - Identify and repair any pipe leaks in crawlspaces at all buildings where new hot water piping is being connected to existing hot water piping. Work shall include all associated surface preparation, welding, and removal/replacement of damaged piping sections and insulation.	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawing M-008
20F - Install a total of 6 new three-phase, 100 ampere nominally rated 24-pole circuit breaker load center in the new boiler room at all buildings (1 load center per building). Work shall include all associated surface preparation; careful removal/relocation and eventual reinstallation of existing panels to be disturbed by wall demolition; and installation of new wiring and conduits to insure proper connection to all new condensing boilers, hot water heaters, hot water pumps, lighting, switches and controls.	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawing M-005
20G - Install a total of 6 new properly sized emergency disconnect switches (knife type) in the corridor outside the entry into the boiler room at all buildings (1 switch per building), to disengage the new condensing boilers.	2014 Mechanical Code	Not required as per Section C405.5.1 Exemptions 11. Lighting approved because of safety or emergency considerations, inclusive of exit lights.	IIC3 Interior Lighting Power	See Mechanical Drawing M-005
20H - Install a total of 24 new 4-foot long fluorescent lighting fixtures in the boiler room at all buildings (4 fixtures per building).	2014 Mechanical Code	Not required as per Section C405.5.1 Exemptions 11. Lighting approved because of safety or emergency considerations, inclusive of exit lights.	IIC3 Interior Lighting Power	See Mechanical Drawing M-005
20I - Identify all piping and equipment at all buildings with appropriate markers, plates, labels, and tags. Install a total of 12 ten-pound fire extinguishers and 6 carbon monoxide/smoke detector in the boiler room at all building (2 fire extinguishers and 1 detector per building).	2014 Mechanical Code	Not required as per section 101.24 Other Laws.	Not Applicable	See Mechanical Drawing M-005

INSPECTION/TEST		PERIODIC (MINIMUM)	REFERENCE STANDARD (SEE ECC CHAPTER 6) OR OTHER CRITERIA	ECC OR OTHER CITATION
IIB2	Shutoff dampers: Dampers for stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be visually inspected to verify that such dampers, except where permitted to be gravity dampers, comply with approved construction drawings. Manufacturer's literature shall be reviewed to verify that the product has been tested and found to meet the standard.	As required during installation.	Approved construction documents; AMCA 500D	C403.2.4.4; ASHRAE 90.1 – 6.4.3.4
IIB3	HVAC and Service water heating equipment: Equipment sizing, Efficiencies and other performance factors of all major equipment units, as determined by the applicant of record, and no less than 15% of minor equipment units, shall be verified by visual inspection and, where necessary, review of manufacturer's data. Pool heaters and covers shall be verified by visual inspection.	Prior to final plumbing and construction inspection.	Approved Construction Documents	C403.2, C404.2, C404.7, C406.2; ASHRAE 90.1-6.3, 6.4.1, 6.4.2, 6.8; 7.4, 7.8
IIB4	HVAC and service water heating system controls: System controls shall be inspected to verify that each dwelling is provided with at least one individual programmable thermostat with capabilities as described in ECC 403.1.1, and that such controls are set and operate as specified in ECC 403.1.1. Controls for turning off circulating hot water pumps when not in use shall be inspected for an automatic or manual switch.	After installation and prior to final electrical and construction inspection. For controls with seasonally dependent functionality, such testing shall be performed before issuance of a Final Certificate of Occupancy.	Approved construction documents, including control system narratives; ASHRAE Guideline 1: The HVAC Commissioning Process where applicable.	C403.2.4, C403.2.5.1, C403.2.11, C403.3, C403.4, C404.3, C404.6, C404.7; ASHRAE 90.1 – 6.3, 6.4, 6.5, 7.4.4, 7.4.5
IIB5	HVAC Insulation and sealing: Installed duct and piping insulation shall be visually inspected to verify proper insulation placement and values. Joints, longitudinal and transverse seams and connections in ductwork shall be visually inspected for proper sealing.	After installation and prior to closing shafts, ceilings and walls.	Approved Construction Documents; SMACNA Duct Construction Standards, Metal and Flexible	C403.2.7, C403.2.8, C404.5, MC 603.9; ASHRAE 90.1-6.3, 6.4.4, 6.8.2, 6.8.3; 7.4.3
IIC3	Interior lighting and Power: Installed Lighting shall be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and transformers.	Prior to final plumbing and construction inspection.	Approved Construction Documents	C405.5, C406.3; ASHRAE 90.1-9.1, 9.2, 9.5, 9.6; 1RCNY §101-07(c)(3)(v)(C)4
IID1	Maintenance information: Maintenance manuals for mechanical, service hot water and electrical equipment and systems requiring preventive maintenance shall be reviewed for applicability to installed equipment and systems before such manuals are provided to the Owner. Labels required for such equipment or systems shall be inspected for accuracy and completeness.	Prior to final plumbing and construction inspection.	Approved Construction Documents, including electrical drawings where applicable; ASHRAE Guideline 4; Preparation of Operating and Maintenance Documentation for Building Systems.	C303.3, C408.2.5.2; ASHRAE 90.1-4.2.2.3, 6.7.2.2, 8.7.2, 9.7.2.2



Arverne Limited Profit Housing Corp.
FirstService Residential
353 Beach 57th Street
Arverne, NY 11692
(718) 945-2666

DOB SCAN

8/5/16	ADDENDUM #2	SMM
6/30/16	ISSUED FOR BID	SMM
6/24/16	RE-ISSUED FOR CLIENT REVIEW	SMM
5/6/16	RE-ISSUED FOR CLIENT REVIEW	SMM

REV. DATE	DESCRIPTION	DRAWN BY
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PROJECT DESCRIPTION:
NORDECK APARTMENTS
CAPITAL IMPROVEMENT PROGRAM
(NEW HEATING PLANT)

PROJECT LOCATION:

NORDECK APARTMENTS
324 BEACH 59TH STREET
ARVERNE, NY 11692

SHEET TITLE:
ENERGY CHART

JOB #	M150901
SCALE:	AS NOTED
DATE:	4/29/16
DRAWN BY:	SMM
REVIEWED BY:	DG/PM/PEV
NUMBER OF SHEETS:	3 OF 8
ISSUE:	BID SET
SHEET NO.	

BL-003.00

RAND

ENGINEERING & ARCHITECTURE, DPC
159 WEST 25TH STREET
NEW YORK, NY 10001
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FirstService Residential
353 Beach 57th Street
Arverne, NY 11692
(718) 945-2666

DOB SCAN

8/5/16	ADDENDUM #2	SMM
6/30/16	ISSUED FOR BID	SMM
6/24/16	RE-ISSUED FOR CLIENT REVIEW	SMM
5/6/16	RE-ISSUED FOR CLIENT REVIEW	SMM
	ISSUED FOR CLIENT REVIEW	

REV. DATE	DESCRIPTION	DRAWN BY
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SEAL & SIGNATURE



PROJECT DESCRIPTION:
NORDECK APARTMENTS
CAPITAL IMPROVEMENT PROGRAM
(NEW HEATING PLANT)

PROJECT LOCATION:

NORDECK APARTMENTS
324 BEACH 59TH STREET
ARVERNE, NY 11692

SHEET TITLE:
EXISTING HIGH PRESSURE
GAS SERVICE

JOB #	M150901
SCALE:	AS NOTED
DATE:	4/29/16
DRAWN BY:	RA/DG/SMM
REVIEWED BY:	DG/PM/PEV
NUMBER OF SHEETS:	4 OF 8
ISSUE:	BID SET

SHEET NO.

BL-004.00



NOTE: PROPERTY IS LOCATED IN FLOOD ZONE "AE"; 2007 FIRM MAP (PANEL 0383) INDICATES BASE FLOOD ELEVATION (BFE) AT 7.9'. PRELIMINARY FIRM MAP INDICATES AE 10 (NAVD 88). NYC DESIGN FLOOD ELEVATION (DFE) IS 12.0'. FEMA CERTIFICATE FOR THIS PROPERTY INDICATES FIRST FLOOR ELEVATION OF 11.4', OR 0.6' BELOW DFE.

SITE PLAN WITH EXISTING HIGH PRESSURE GAS SERVICE
SCALE: 1/32" = 1'-0"



DOB SCAN

REV. DATE	DESCRIPTION	DRAWN BY
8/5/16	ADDENDUM #2	SMM
6/30/16	ISSUED FOR BID	SMM
6/24/16	RE-ISSUED FOR CLIENT REVIEW	SMM
5/6/16	RE-ISSUED FOR CLIENT REVIEW	SMM
	ISSUED FOR CLIENT REVIEW	



PROJECT DESCRIPTION:
NORDECK APARTMENTS
CAPITAL IMPROVEMENT PROGRAM
(NEW HEATING PLANT)

PROJECT LOCATION:

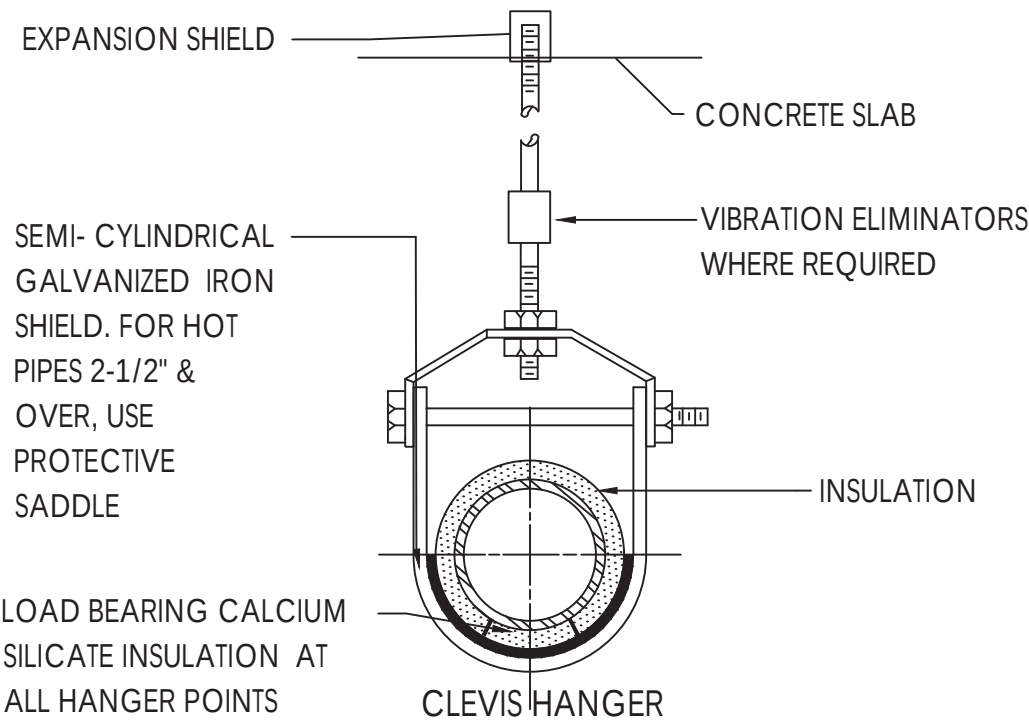
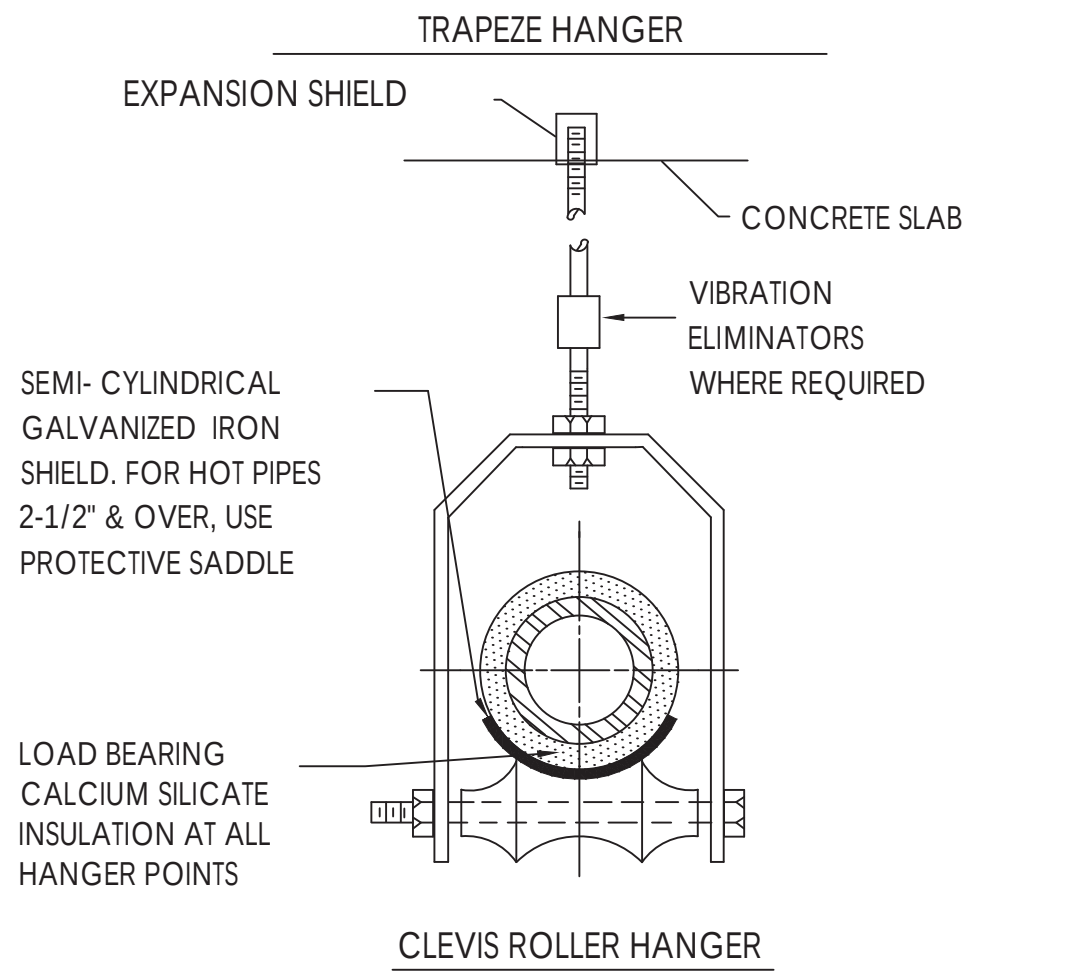
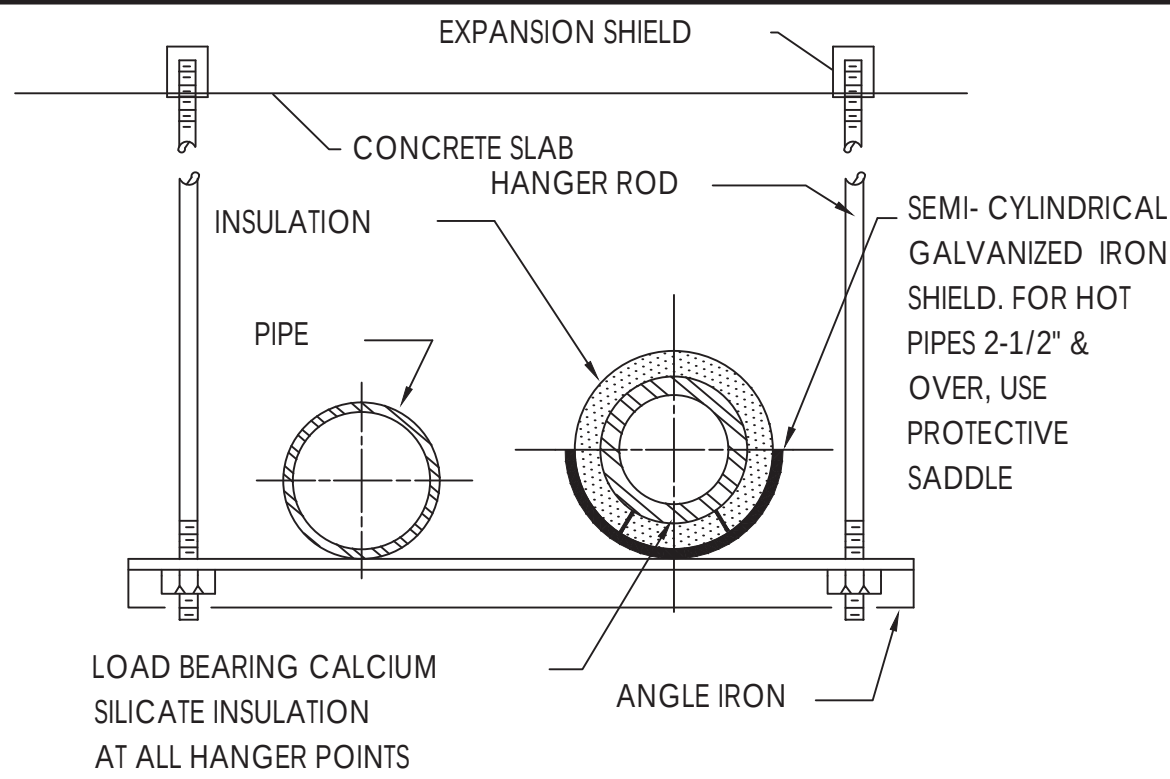
NORDECK APARTMENTS
324 BEACH 59TH STREET
ARVERNE, NY 11692

SHEET TITLE:
MECHANICAL DETAILS (1 OF 2)

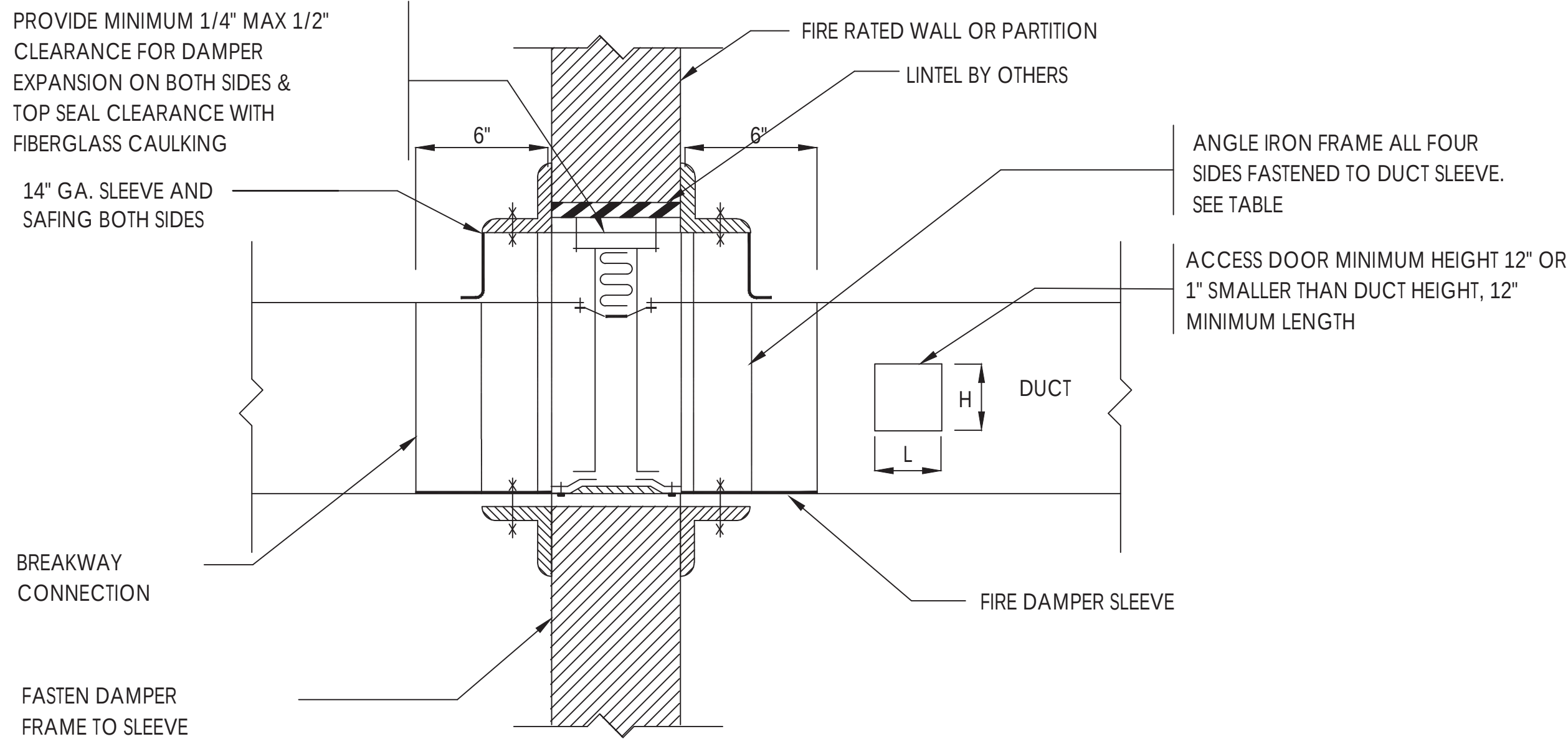
JOB #	M150901
SCALE:	AS NOTED
DATE:	4/29/16
DRAWN BY:	RA/SMM
REVIEWED BY:	DG/PM/PEV
NUMBER OF SHEETS:	6 OF 8
ISSUE:	BID SET

SHEET NO.

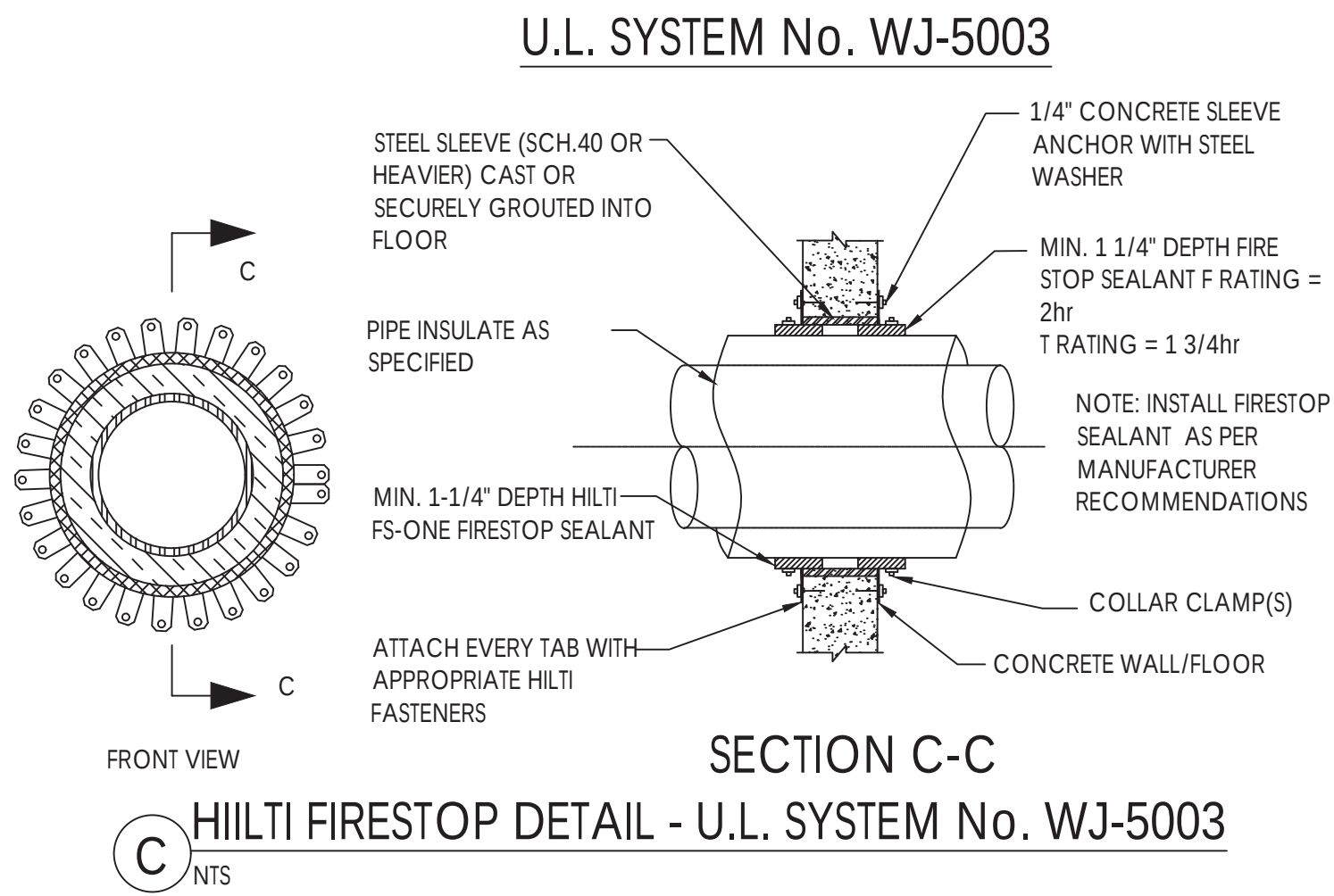
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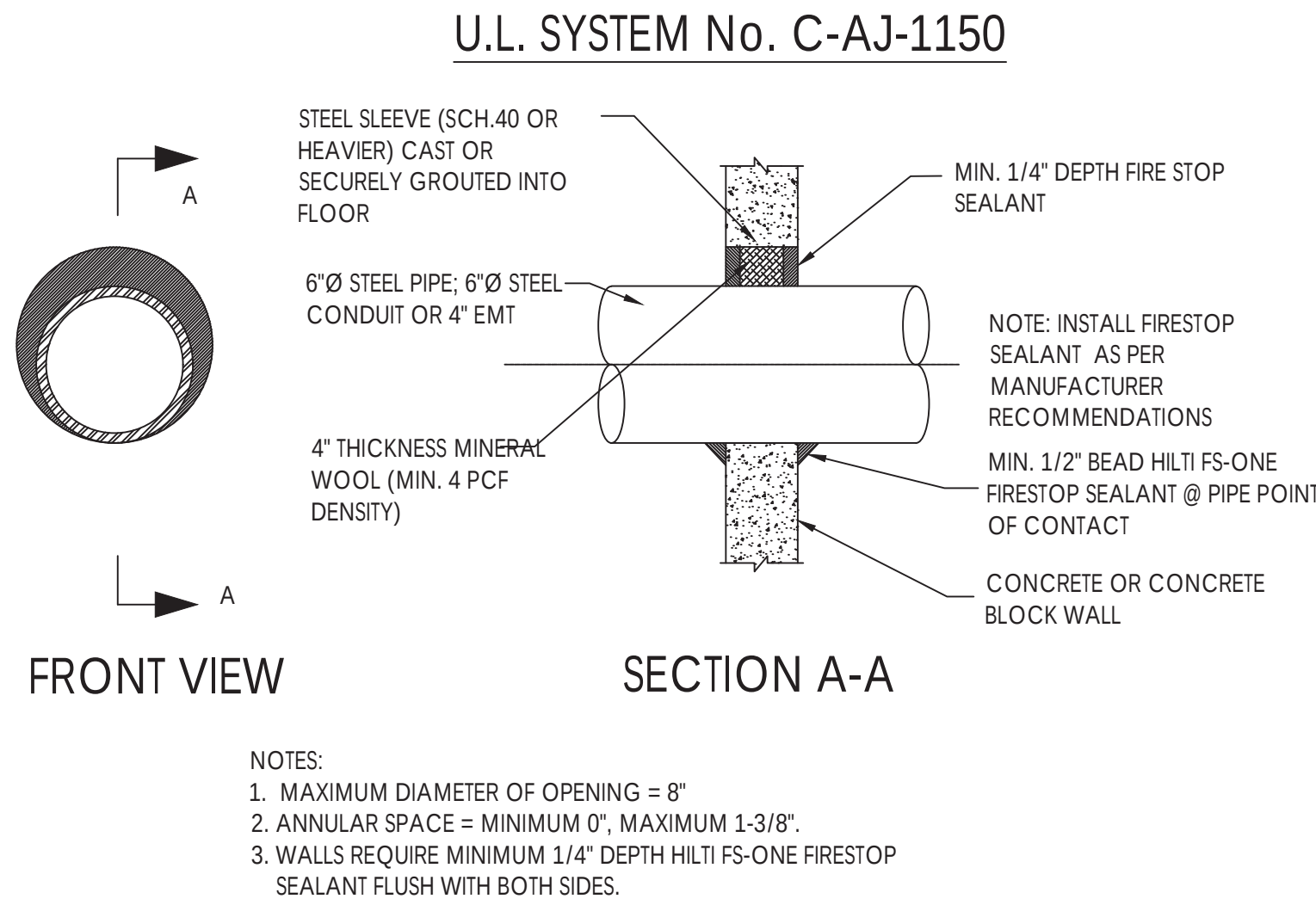
A TYPICAL PIPE HANGER DETAIL
N.T.S.



B RUSKIN 1-1/2 HOUR CURTAIN FIRE DAMPER B.S.A. NUMBER 292-71-SA

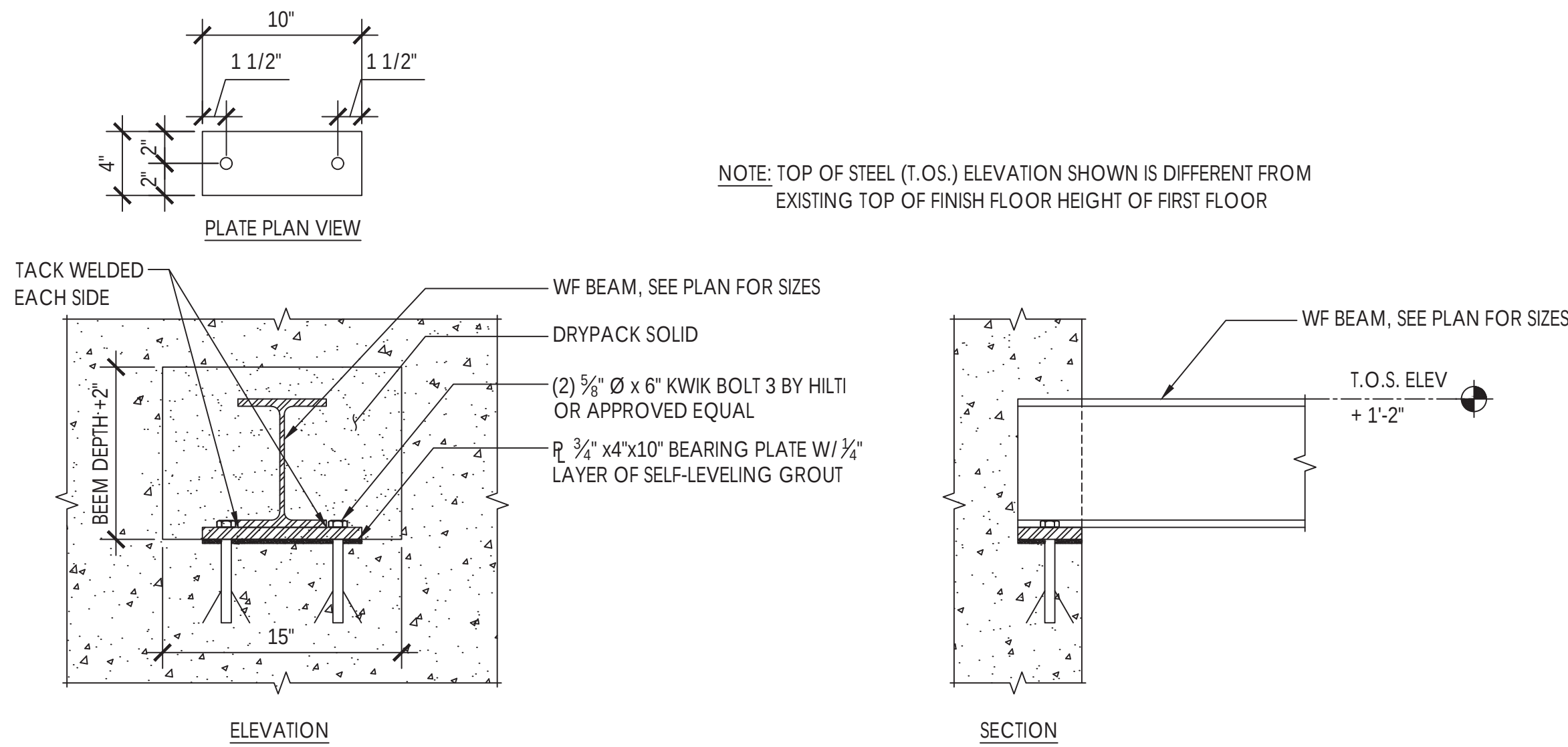


C HIILTI FIRESTOP DETAIL - U.L. SYSTEM No. WJ-5003
N.T.S.

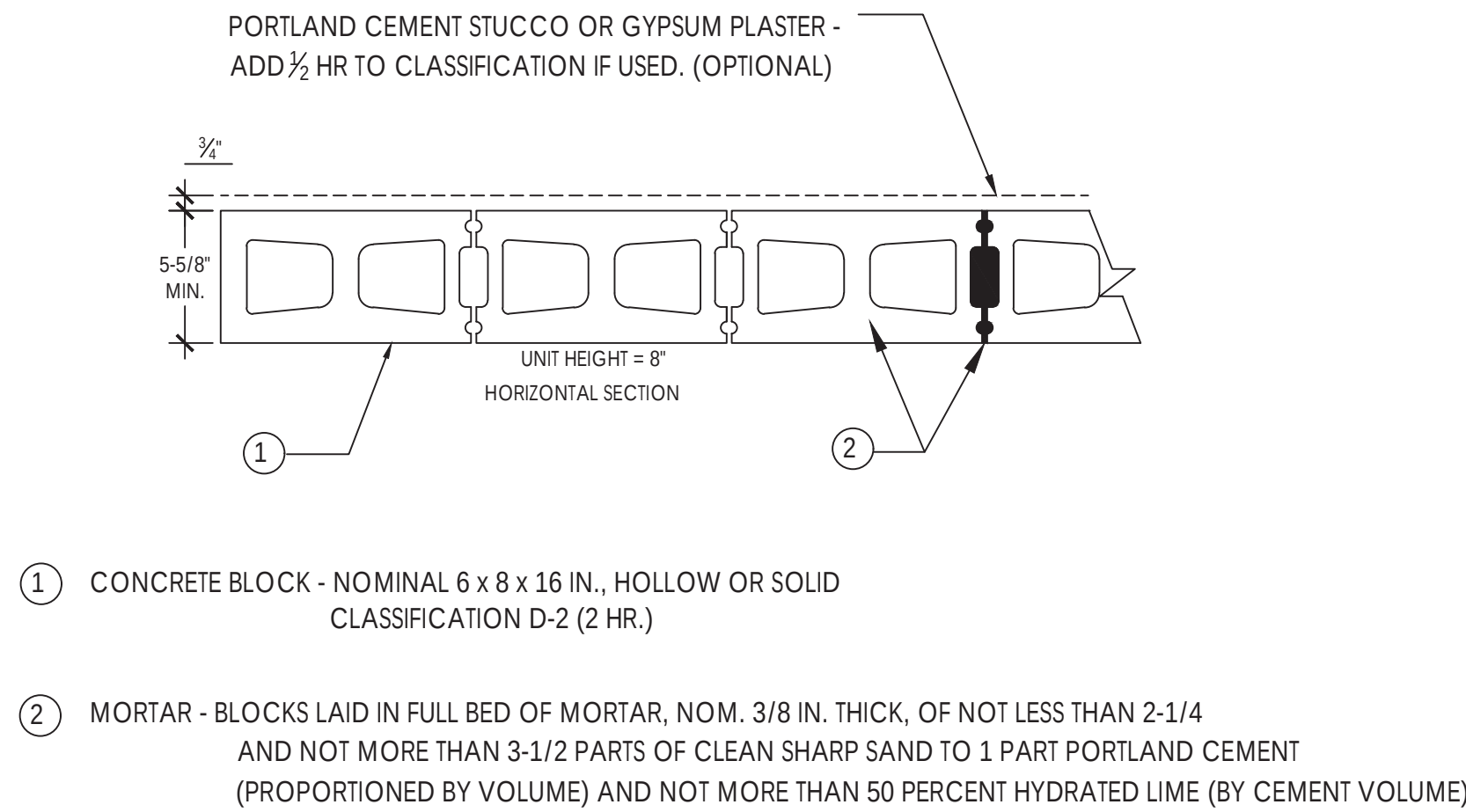


D HIILTI FIRESTOP DETAIL - U.L. SYSTEM NO. C-AJ-1150
N.T.S.

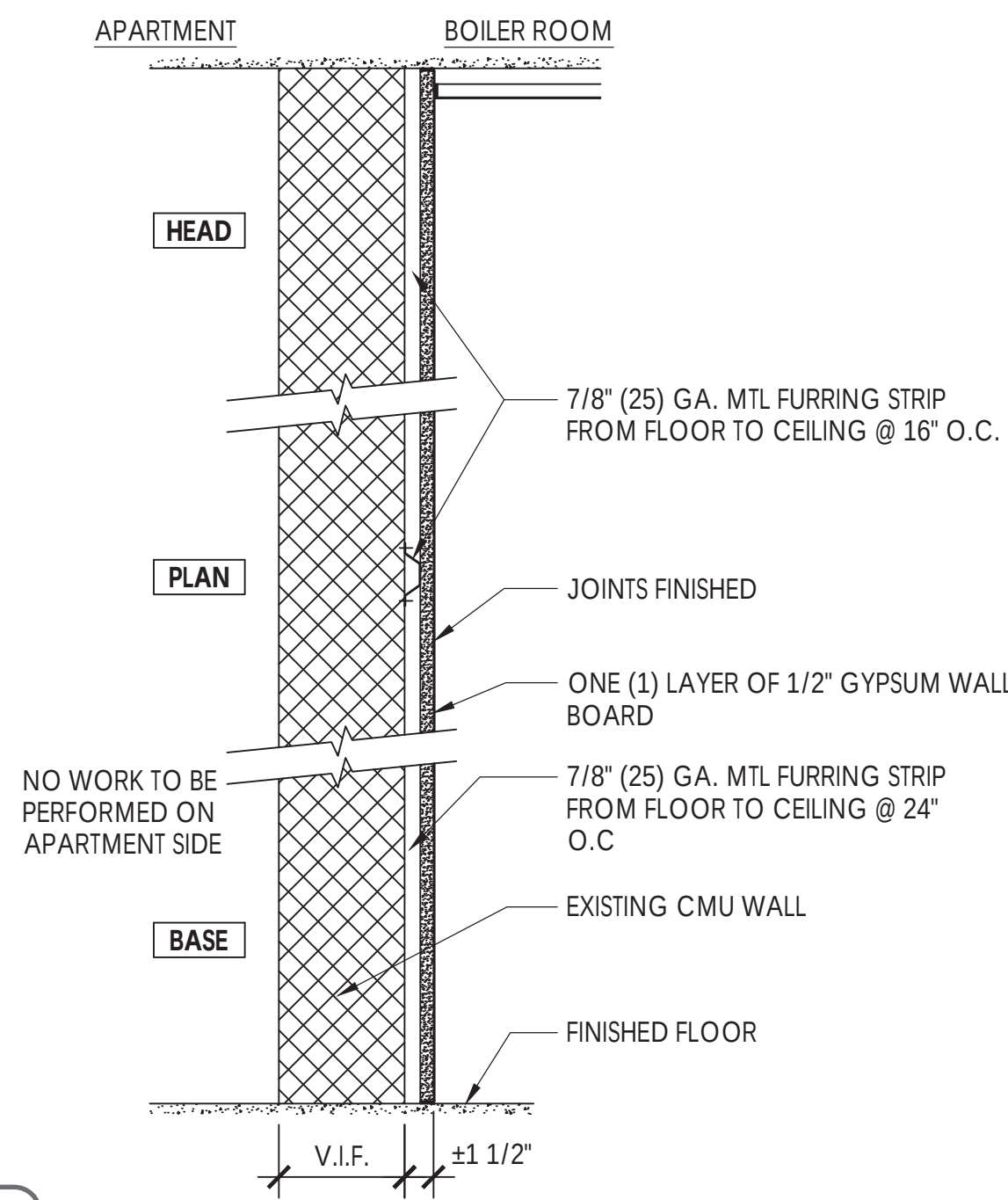
- NOTES:
1. MAXIMUM DIAMETER OF OPENING = 8"
 2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 1-3/8"
 3. WALLS REQUIRE MINIMUM 1/4" DEPTH HILTI FS-ONE FIRESTOP SEALANT FLUSH WITH BOTH SIDES.



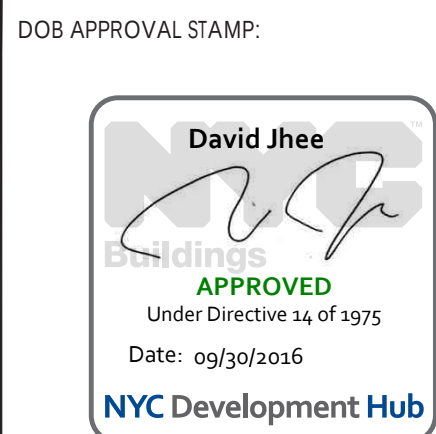
E TYPICAL BEAM POCKET DETAIL
SCALE: 1-1/2" = 1'-0"



F 2 HR. FIRE-RATED NONBEARING WALL - UL DESIGN U906
N.T.S.



G FURRING WALL ASSEMBLY
SCALE: 1-1/2" = 1'-0"



8/5/16	ADDENDUM #2	SMM
6/30/16	ISSUED FOR BID	SMM
6/24/16	RE-ISSUED FOR CLIENT REVIEW	SMM
5/6/16	RE-ISSUED FOR CLIENT REVIEW	SMM
	ISSUED FOR CLIENT REVIEW	
REV. DATE	DESCRIPTION	DRAWN BY



PROJECT DESCRIPTION:

NORDECK APARTMENTS
CAPITAL IMPROVEMENT PROGRAM
(NEW HEATING PLANT)

PROJECT LOCATION:

NORDECK APARTMENTS
324 BEACH 59TH STREET
ARVERNE, NY

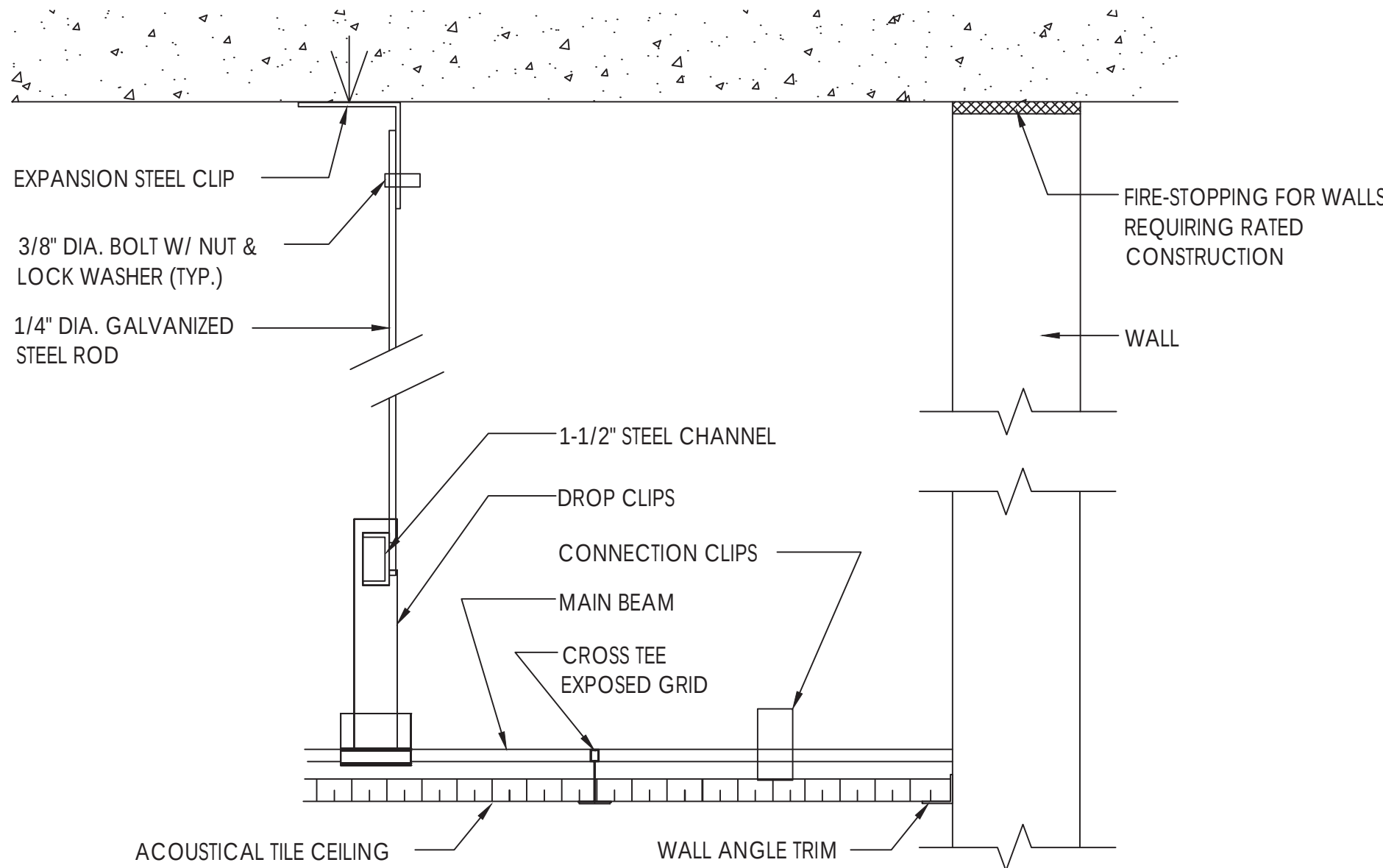
SHEET TITLE:

MECHANICAL DETAILS (2 OF 2) &
SECTION AA

JOB #	M150901
SCALE:	AS NOTED
DATE:	4/29/16
DRAWN BY:	RA/SMM
REVIEWED BY:	DG/PM/PEV
NUMBER OF SHEETS:	7 OF 8
ISSUE:	BID SET

SHEET NO.

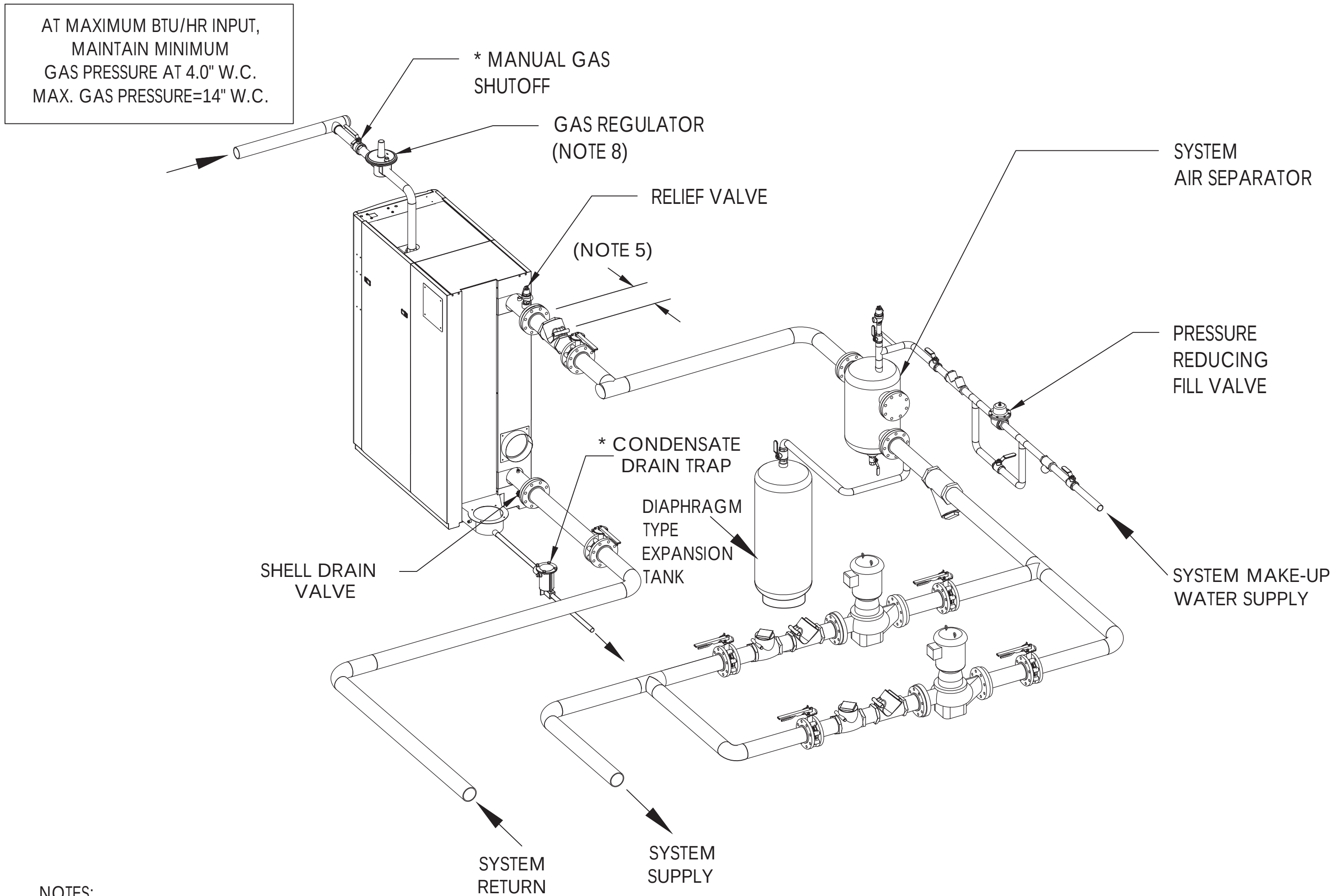
BL-007.00



I

ACOUSTICAL LAY-IN TILE SUSPENDED CEILING

NOT TO SCALE



- NOTES:
1.

FOR ACTUAL SIZES AND LOCATIONS OF PIPING AND OTHER CONNECTIONS TO THE HEATER, SEE DIMENSIONAL DRAWING.
2.

SHELL DRAIN VALVE AND CONDENSATE HOSE SHOULD BE ARRANGED TO PERMIT THE FLUIDS TO DRAIN FREELY, BY GRAVITY, TO A FLOOR DRAIN. RELIEF VALVE DISCHARGE SHOULD BE PIPED TO THE NEAREST FLOOR DRAIN. WHEN NO FLOOR DRAIN IS AVAILABLE, THE RELIEF VALVE DISCHARGE SHOULD BE PIPED VERTICALLY TO A HEIGHT 18" ABOVE THE FLOOR.
3.

ALL (*) ITEMS ARE INCLUDED SEPARATELY IN SHIPMENT.
4.

THIS IS A TYPICAL INSTALLATION DRAWING. LOCAL CODES AND AUTHORITIES SHOULD BE CONSULTED.
5.

LOCATE WATER INLET AND OUTLET FITTINGS (i.e.UNIONS, ELBOWS, ETC.) A MINIMUM OF 6" FROM HEATER FITTINGS, TO PREVENT INTERFERENCE WITH REMOVAL OF BOILER PANELS AND COVERS. ALL PIPING AND ELECTRIC CONNECTIONS (SERVICE SWITCHES, CONDUIT BOXES) SHOULD LIKEWISE BE 6" AWAY FROM SIDE PANELS.
6.

WHEN AVAILABLE GAS PRESSURE IS GREATER THAN 14" W.C., A LOCK-UP STYLE REGULATOR MUST BE INSTALLED DOWNSTREAM OF THE MANUAL SHUTOFF VALVE TO BRING THE GAS PRESSURE DOWN TO 14" W.C. OR LESS.
7.

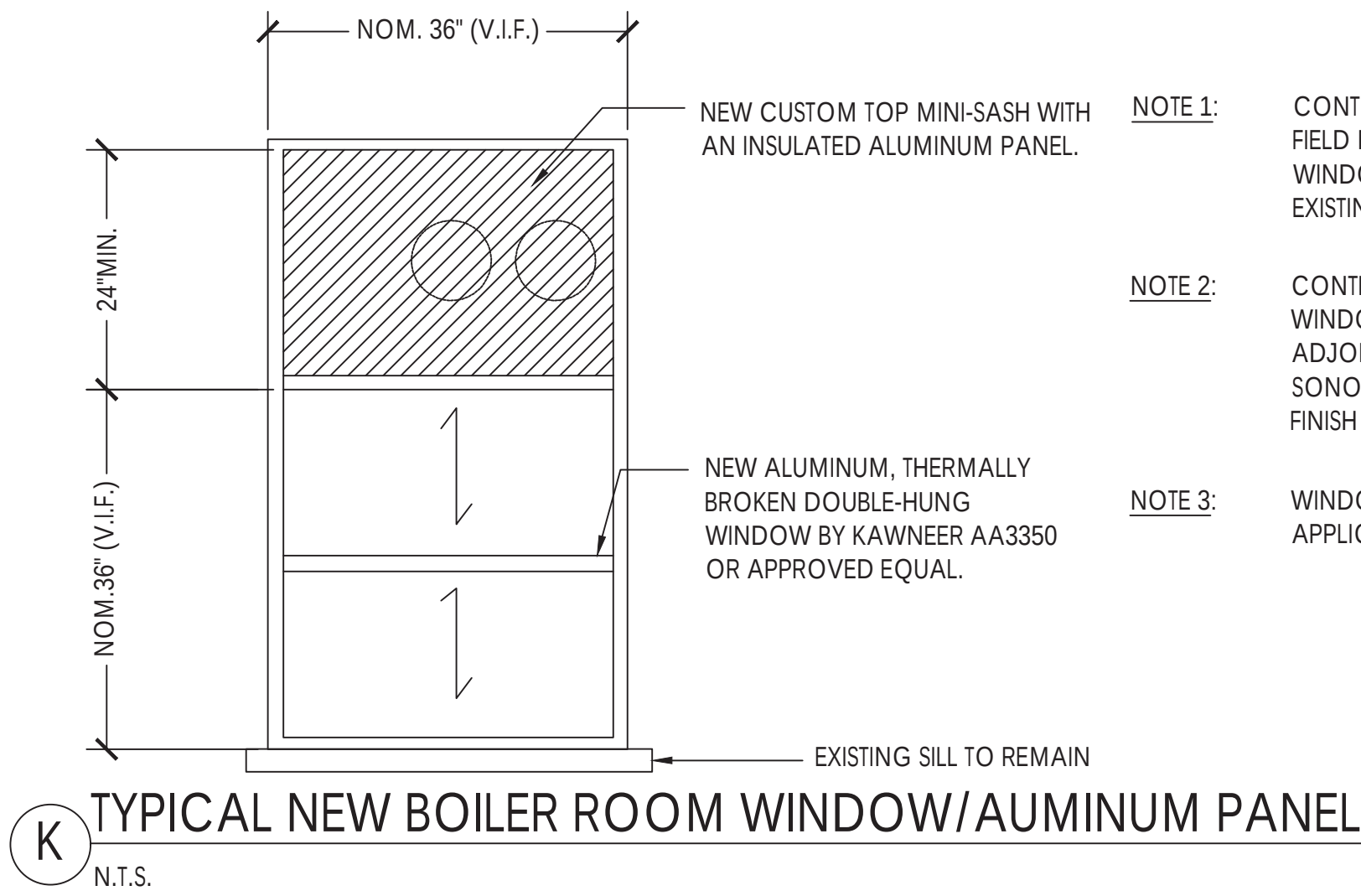
WHEN USING THE AERCO CONDENSATE NEUTRALIZER TANK, FOR PROPER CONDENSATE DRAINAGE, THE BOILER AND THE AERCO CONDENSATE TRAP MUST BE ELEVATED HIGHER THAN 4" ABOVE THE FLOOR. SEE CONDENSATE TANK INSTRUCTIONS TID-0074 FOR DETAILS.
8.

AT 14" W.C. OR BELOW, A GAS REGULATOR IS OPTIONAL UNLESS REQUIRED BY LOCAL CODE.

J

PROPOSED HOT WATER SYSTEM PIPING SCHEMATIC

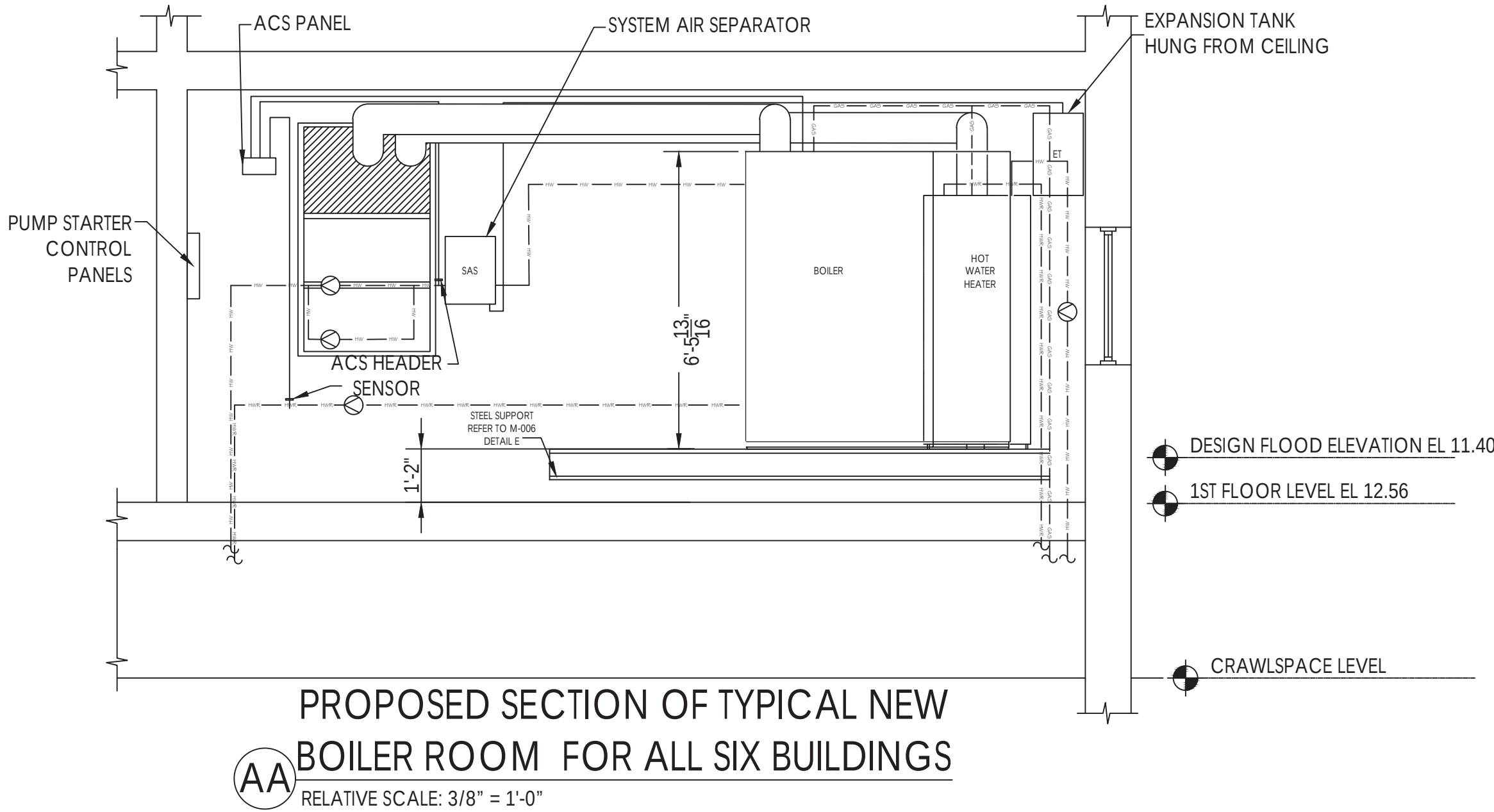
DIAGRAMMATIC ONLY - N.T.S.



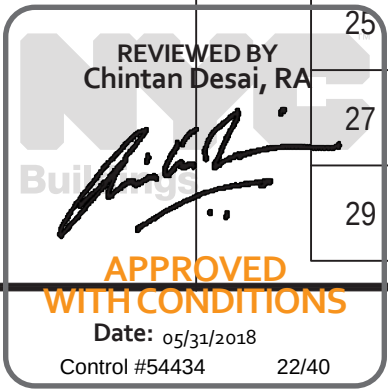
K

TYPICAL NEW BOILER ROOM WINDOW/AUMINUM PANEL

N.T.S.



BOILER ROOM LIGHTING & POWER PANELBOARD									
POWER PANEL A LOCATED IN BOILER ROOM					120V/208V - THREE PHASE				
DESIGNATION: NO. PP-A					BUS SIZE: 200 AMPS 30 POLE MIN.				
MCB/MLO:					MOUNTING:				
CKT. NO	LOAD	WIRE SIZE***	C.B		C.B		WIRE SIZE***	LOAD	CKT. NO
			AMPS	POLES	AMPS	POLES			
1	LIGHTING	2-#12 IN. 1/2" EMT	20	1	20	1	2-#12 IN. 1/2" EMT	WATER HEATER	2
3	SPARE	2-#12 IN. 1/2" EMT	20	1	20	1	2-#12 IN. 1/2" EMT	BOILER	4
5	SPARE	2-#12 IN. 1/2" EMT	20	1	20	1	2-#12 IN. 1/2" EMT	CONTROL PANEL	6
7	HW PUMP 1	2-#12 IN. 1/2" EMT	20	3	20	1	2-#12 IN. 1/2" EMT	DHW PUMP 1	8
9	HW PUMP1	2-#12 IN. 1/2" EMT	20	3	20	1	2-#12 IN. 1/2" EMT	DHW PUMP 2	10
11	HW PUMP1	2-#12 IN. 1/2" EMT	20	3	20	1	2-#12 IN. 1/2" EMT	SPARE	12
13	HW PUMP 2	2-#12 IN. 1/2" EMT	20	3	20	1	2-#12 IN. 1/2" EMT	SPARE	14
15	HW PUMP 2	2-#12 IN. 1/2" EMT	20	3	20	1	2-#12 IN. 1/2" EMT	SPARE	16
17	HW PUMP 2	2-#12 IN. 1/2" EMT	20	3	20	1	2-#12 IN. 1/2" EMT	SPARE	18
19	SPARE	2-#12 IN. 1/2" EMT	20	1	20	1	2-#12 IN. 1/2" EMT	SPARE	20
21	SPARE	2-#12 IN. 1/2" EMT	20	1	20	1	2-#12 IN. 1/2" EMT	SPARE	22
23	SPARE	2-#12 IN. 1/2" EMT	20	1	20	1	2-#12 IN. 1/2" EMT	SPARE	24
25	SPARE	2-#12 IN. 1/2" EMT	20	1	20	1	2-#12 IN. 1/2" EMT	SPARE	26
27	SPARE	2-#12 IN. 1/2" EMT	20	1	20	1	2-#12 IN. 1/2" EMT	SPARE	28
29	SPARE	2-#12 IN. 1/2" EMT	20	1	20	1	2-#12 IN. 1/2" EMT	SPARE	30



RAND

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Arverne Limited Profit Housing Corp.
FirstService Residential
353 Beach 57th Street
Arverne, NY 11692
(718) 945-2666

DOB SCAN

8/5/16	ADDENDUM #2	SMM
6/30/16	ISSUED FOR BID	SMM
6/24/16	RE-ISSUED FOR CLIENT REVIEW	SMM
5/6/16	RE-ISSUED FOR CLIENT REVIEW	SMM
	ISSUED FOR CLIENT REVIEW	
REV. DATE	DESCRIPTION	DRAWN BY



PROJECT DESCRIPTION:
NORDECK APARTMENTS
CAPITAL IMPROVEMENT PROGRAM
(NEW HEATING PLANT)

PROJECT LOCATION:

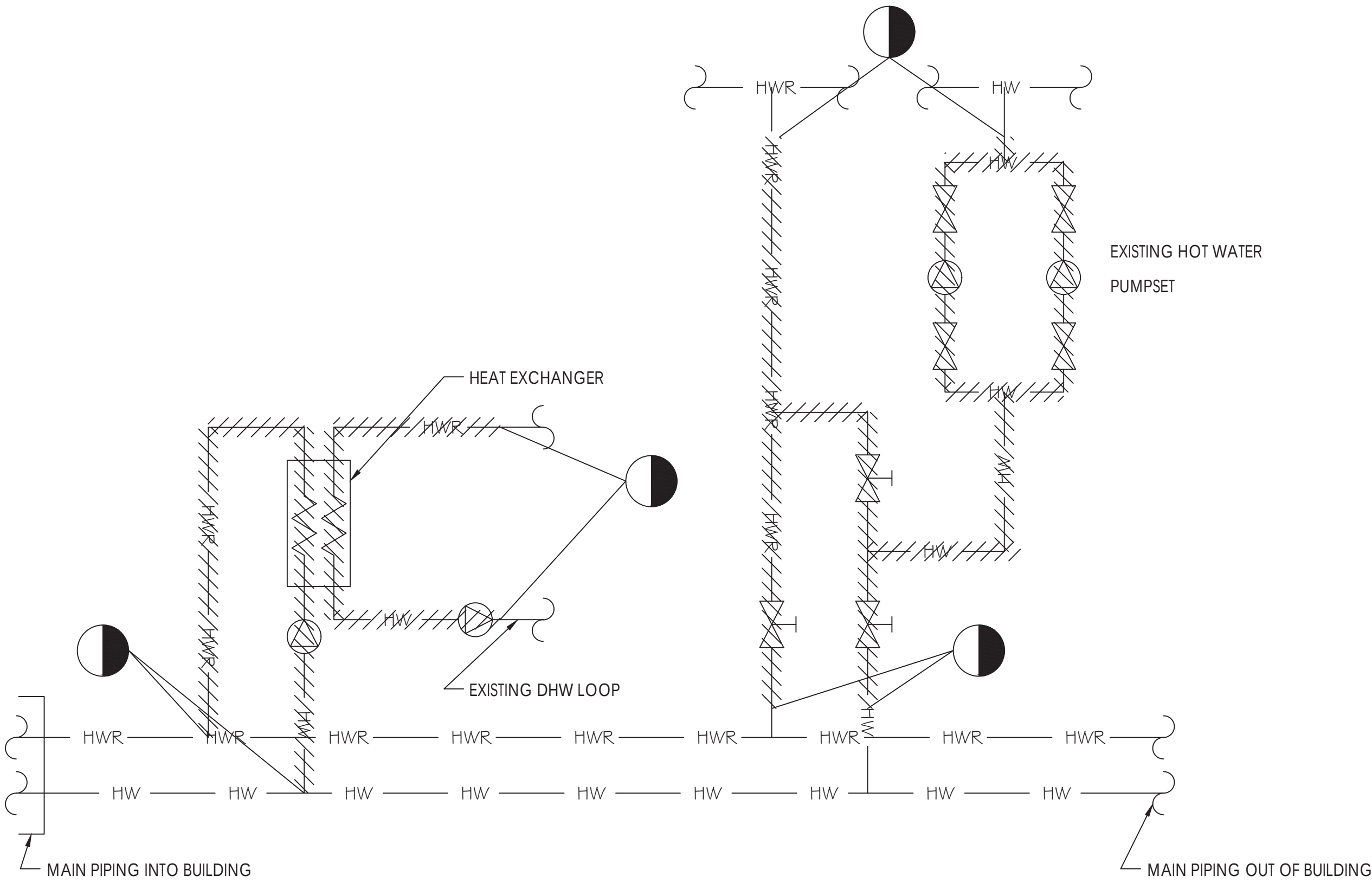
NORDECK APARTMENTS
324 BEACH 59TH STREET
ARVERNE, NY 11692

SHEET TITLE:
DIAGRAM OF
EXISTING/PROPOSED PIPES
ALONG CRAWLSPACE

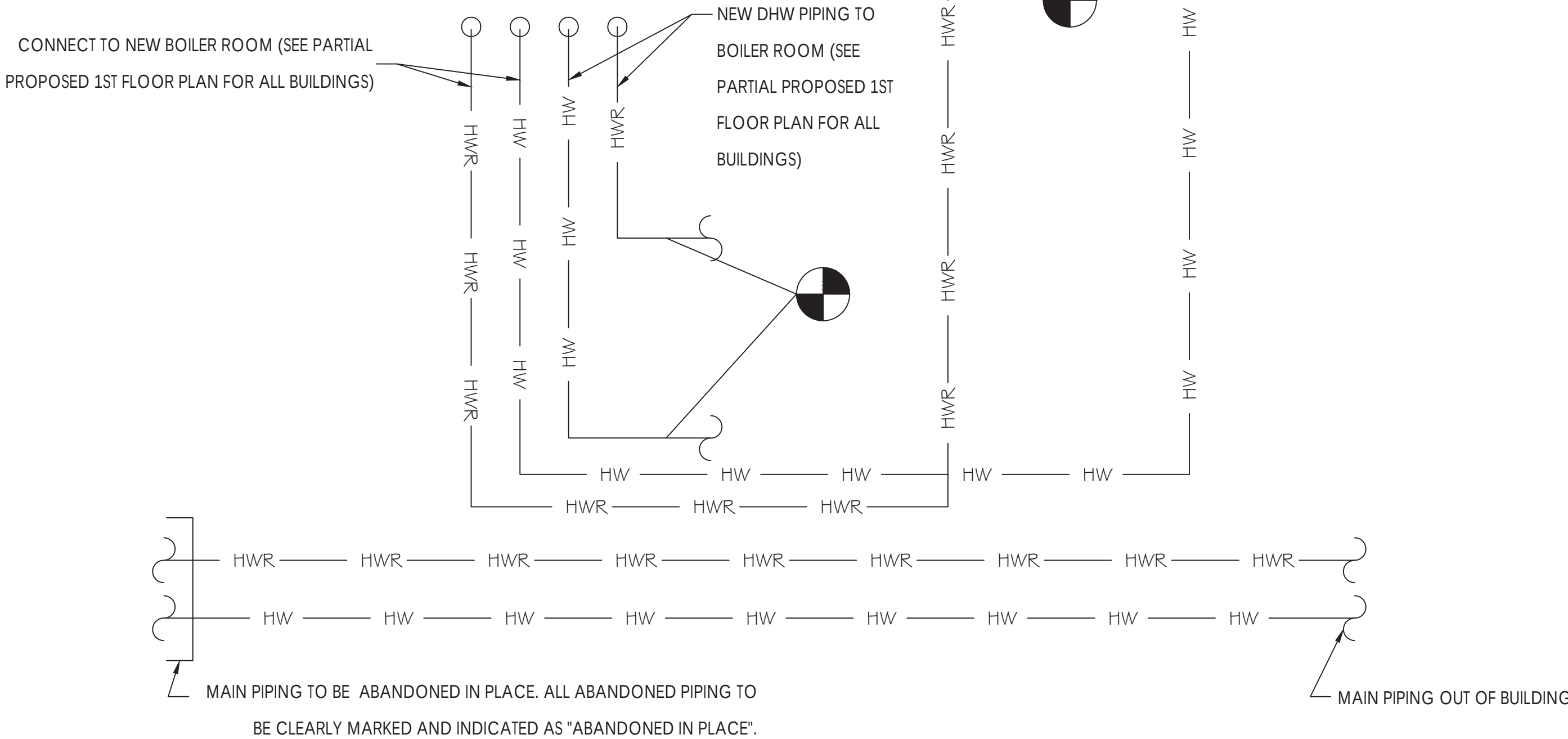
JOB #	M150901
SCALE:	AS NOTED
DATE:	4/29/16
DRAWN BY:	SMM
REVIEWED BY:	DG/PM/PEV
NUMBER OF SHEETS:	8 OF 8
ISSUE:	BID SET

SHEET NO.

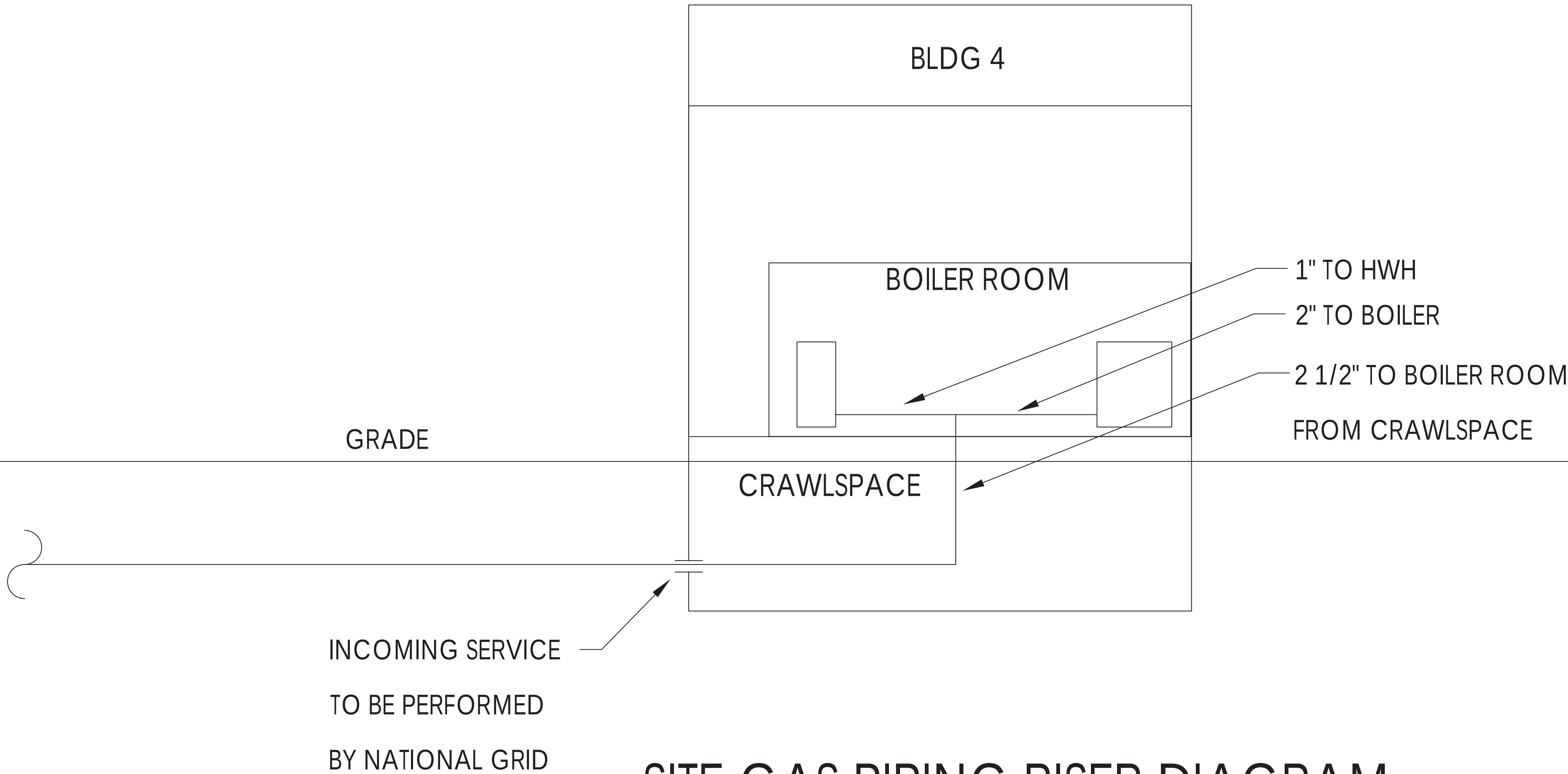
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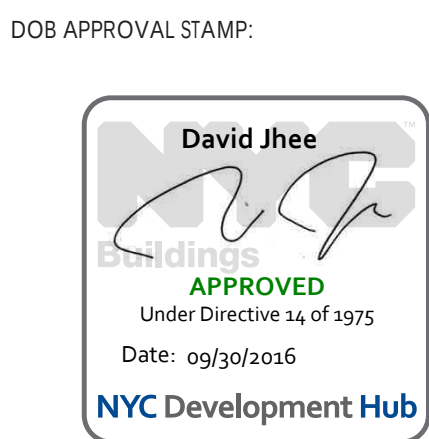
EXISTING PIPES BELOW THE STORAGE/UTILITY ROOM CRAWLSPACE
NTS



PROPOSED PIPES BELOW THE NEW BOILER ROOM CRAWLSPACE
NTS



SITE GAS PIPING RISER DIAGRAM
NTS



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NEW YORK, NY 10001
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Arverne Limited Profit Housing Corp.
FirstService Residential
353 Beach 57th Street
Arverne, NY 11692
(718) 945-2666

DOB SCAN

11/15/17	PAA FILING	DG
8/5/16	ADDENDUM #2	SMM
6/30/16	ISSUED FOR BID	SMM
6/24/16	RE-ISSUED FOR CLIENT REVIEW	SMM
5/6/16	RE-ISSUED FOR CLIENT REVIEW	SMM
	ISSUED FOR CLIENT REVIEW	
REV. DATE	DESCRIPTION	DRAWN BY



PROJECT DESCRIPTION:
NORDECK APARTMENTS
CAPITAL IMPROVEMENT PROGRAM
(NEW HEATING PLANT)

PROJECT LOCATION:

NORDECK APARTMENTS
324 BEACH 59TH STREET
ARVERNE, NY 11692

SHEET TITLE:
HIGH PRESSURE GAS
SERVICE

JOB #	M150901
SCALE:	AS NOTED
DATE:	11/15/17
DRAWN BY:	RA/DG/SMM
REVIEWED BY:	PEV/PM/DG
NUMBER OF SHEETS:	1 OF 4
ISSUE:	PAA doc.2

SHEET NO.

BL-004.01

NOTE: PROPERTY IS LOCATED IN FLOOD ZONE "AE"; 2007 FIRM MAP (PANEL 0383) INDICATES BASE FLOOD ELEVATION (BFE) AT 7.9'. PRELIMINARY FIRM MAP INDICATES AE 10 (NAVD 88). NYC DESIGN FLOOD ELEVATION (DFE) IS 12.0'. FEMA CERTIFICATE FOR THIS PROPERTY INDICATES FIRST FLOOR ELEVATION OF 11.4', OR 0.6' BELOW DFE.

SITE PLAN WITH EXISTING HIGH PRESSURE GAS SERVICE
SCALE: 1/32" = 1'-0"



REVIEWED BY
Chintan Desai, RA

APPROVED
WITH CONDITIONS

Date: 05/31/2018
Control #54434 24/40

DOB APPROVAL STAMP:

David Jhee

APPROVED
Under Directive 14 of 1975
AMENDED APPLICATION
Date: 12/12/2017
NYC Development Hub



ENGINEERING & ARCHITECTURE, DPC
159 WEST 25TH STREET
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TEL. (212) 675-8844/ FAX (212) 691-7972

Arverne Limited Profit Housing Corp.
FirstService Residential
353 Beach 57th Street
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(718) 945-2666

DOB SCAN

11/15/17	PAA FILING	DG
8/5/16	ADDENDUM #2	SMM
6/30/16	ISSUED FOR BID	SMM
6/24/16	RE-ISSUED FOR CLIENT REVIEW	SMM
5/6/16	RE-ISSUED FOR CLIENT REVIEW	SMM

REV. DATE	DESCRIPTION	DRAWN BY

SEAL & SIGNATURE

PROJECT DESCRIPTION:
NORDECK APARTMENTS
CAPITAL IMPROVEMENT PROGRAM
(NEW HEATING PLANT)

PROJECT LOCATION:

NORDECK APARTMENTS
324 BEACH 59TH STREET
ARVERNE, NY 11692

SHEET TITLE:
PARTIAL REMOVAL 1ST FL PLAN
FOR BLDG. #4 & PROPOSED
PARTIAL 1ST FL PLAN - TYP. NEW
BOILER ROOM BLDG. #4

JOB # M150901

SCALE: AS NOTED

DATE: 11/15/17

DRAWN BY: DG/RA/SMM

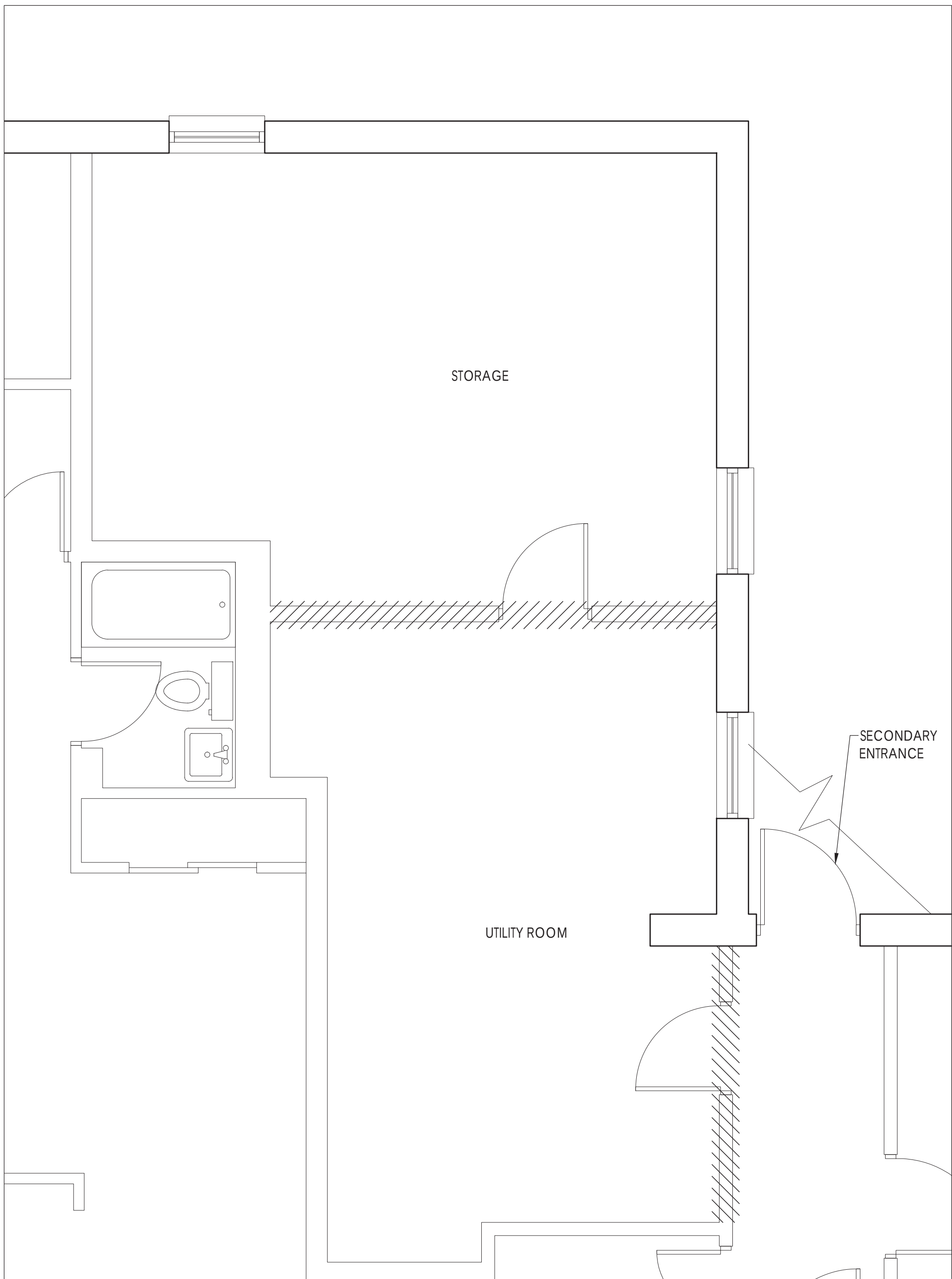
REVIEWED BY: PEV/PM/DG

NUMBER OF SHEETS: 2 OF 4

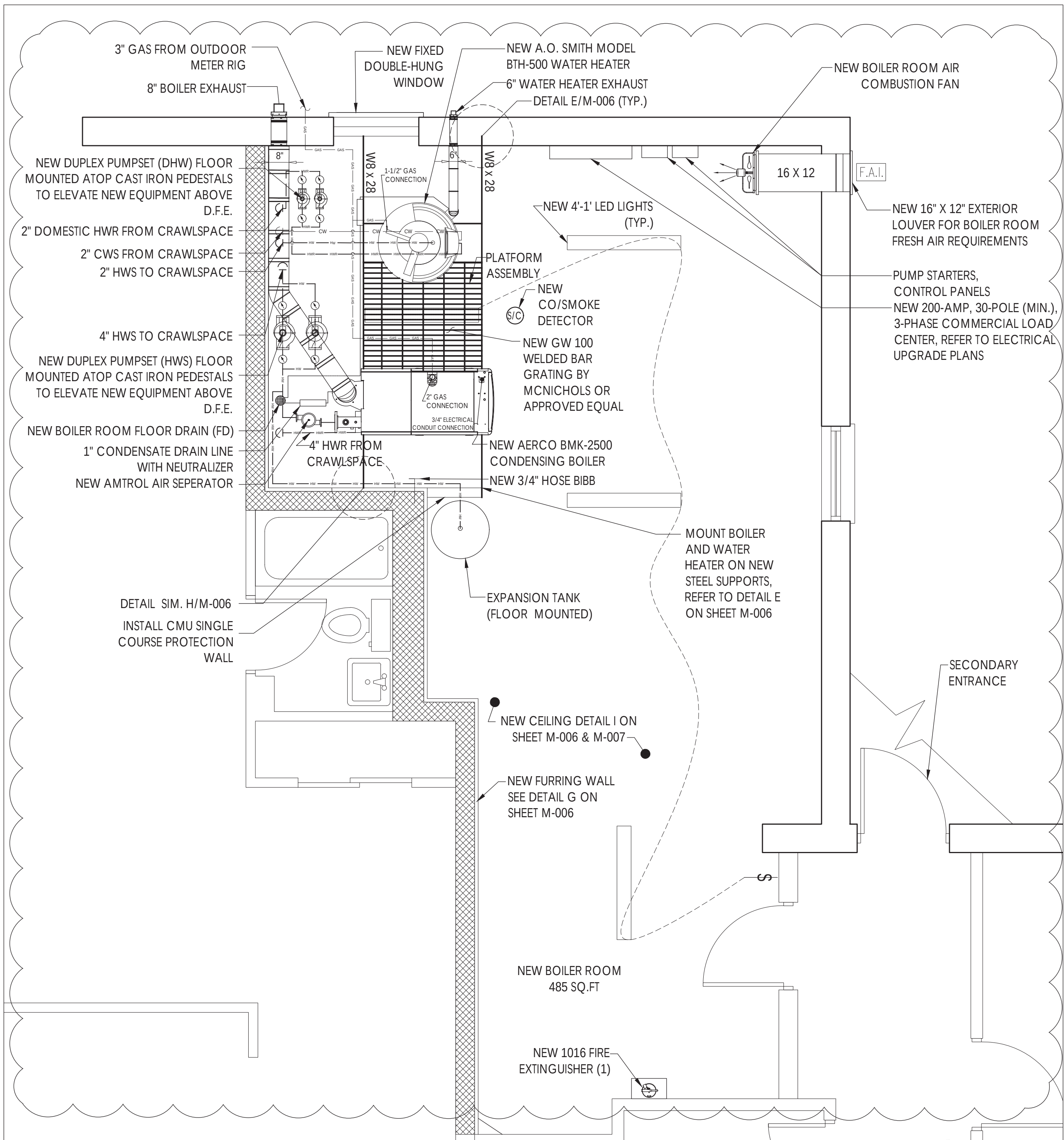
ISSUE: PAA doc.2

SHEET NO.

BL-005.01



1 PARTIAL REMOVAL 1ST FLOOR PLAN FOR BUILDING #4
RELATIVE SCALE: 3/8" = 1'-0"



4 PROPOSED PARTIAL 1ST FLOOR PLAN -TYPICAL
NEW BOILER ROOM FOR BUILDING #4
RELATIVE SCALE: 3/8" = 1'-0"

PUMP SCHEDULE - BASED ON VARIOUS

UNIT NO.	LOCATION	SERVICE	PUMP TYPE	FLUID	GPM	HEAD (FT)	ELECTRICAL				MANUFACTURER MODEL NO.	DIMENSIONS (LxWxH)	WEIGHT (LBS)	REMARKS
							HP	VOLTAGE	PHASE	RPM				
P-1/2	BOILER ROOM	BOILERS	CENTRIFUGAL	WATER	225	60	7.5	208	3	1750	B&G E-80 3X3x11B	24X14X30	360	NOTES 1-4
P-3/4	BOILER ROOM	WATER HEATER	CENTRIFUGAL	WATER	50	60	2	208	3	1750	B&G E-80 1.5X1.5x9B	24X14X30	175	NOTES 1-4

NOTES:

- UNIT SHALL BE UL LISTED
- PROVIDE WITH 1 YR FACTORY WARRANTY
- PROVIDE PUMP ALTERNATING SWITCH
- PROVIDE MATCHING COMPANION FLANGES

BOILER SCHEDULE - BASED ON AERCO

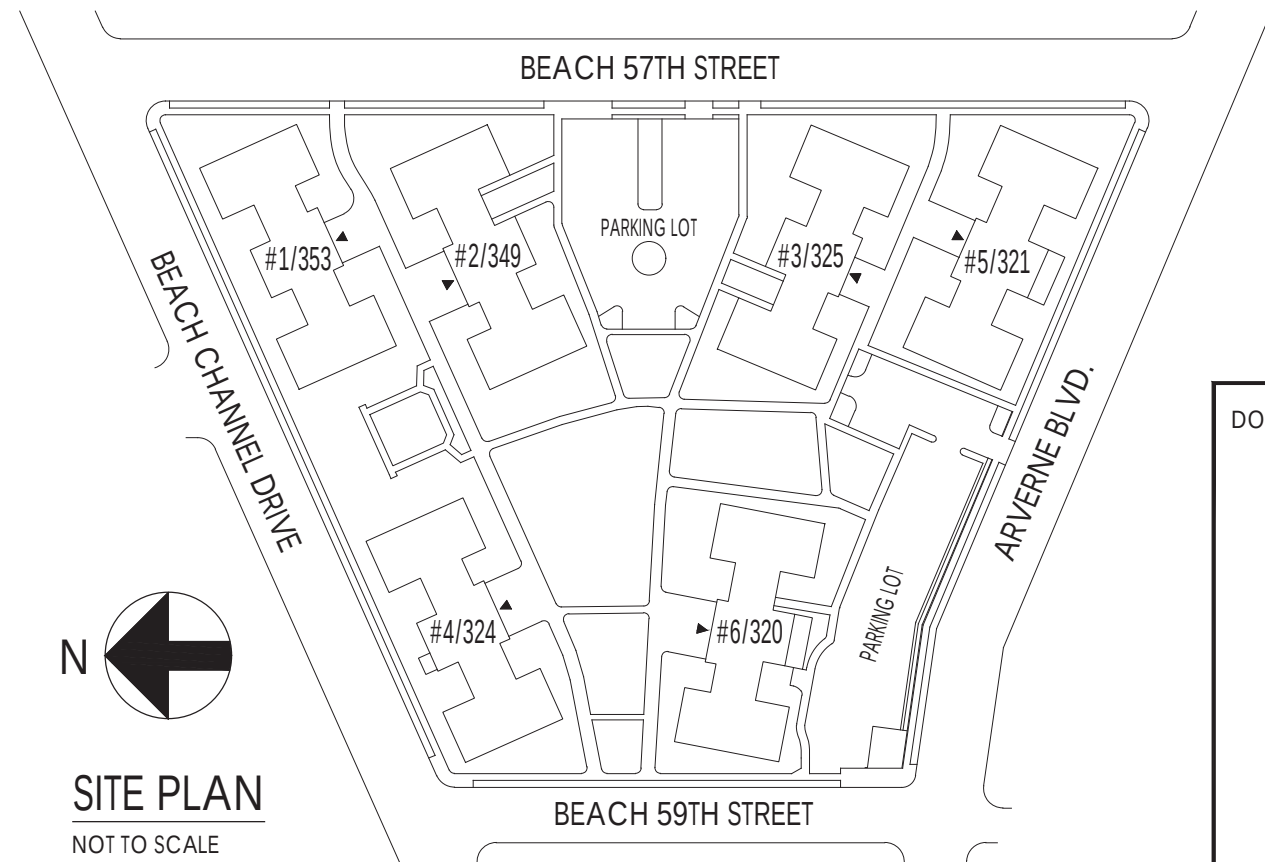
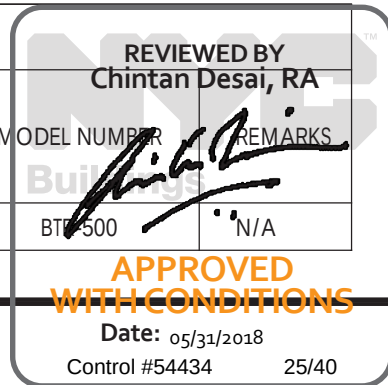
UNIT TAG	LOCATION	SERVICE	TYPE	FUEL TYPE	INPUT LOAD (MBH)	OUTPUT LOAD (MBH)	MAX GPM	ELECTRICAL DATA			WATER CONNECT DIAM (IN)	STACK DIAM (IN)	COMBUSTION EFFICIENCY (% TH)	DIMENSIONAL DATA				MANUFACTURER	MODEL NUMBER	REMARKS	
								BOILER V/PH/HZ	CONTROLS V/PH/HZ	FLA				LENGTH [FT-IN]	WIDTH [FT-IN]	HEIGHT [FT-IN]	DRY WEIGHT [LBS]				OPERATING WEIGHT [LBS]
B-1	BOILER ROOM	HEATING	CONDENSING	NAT GAS	2500	2175	350	208/3/60	120/1/60	10	4	8	87%	4'-8"	2'-4"	6'-6"	2170	2580	AERCO	BMK2500	N/A

NOTES:

PROVIDE CONDENSATE DRAIN NEUTRALIZER KIT.

WATER HEATER SCHEDULE - BASED ON AO SMITH

UNIT TAG	LOCATION	SERVICE	TYPE	FUEL TYPE	INPUT LOAD (MBH)	OUTPUT LOAD (MBH)	RECOVERY GPH @100°F	STORAGE VOLUME GALLONS	WATER CONNECT DIAM (IN)	STACK DIAM (IN)	COMBUSTION EFFICIENCY (% TH)	DIMENSIONAL DATA					MANUFACTURER	MODEL NUMBER	REMARKS
												LENGTH (FT-IN)	WIDTH (FT-IN)	HEIGHT (FT-IN)	DRY WEIGHT (LBS)	OPERATING WEIGHT (LBS)			
HWH-1	BOILER ROOM	DOMESTIC WATER	STORAGE	NAT GAS	500	400	485	85	1 1/2	8	87%	2'-4"	2'-4"	6'-10"	812	2000	AO SMITH	BT500	N/A



DOB APPROVAL STAMP:





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(NEW HEATING PLANT)

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324 BEACH 59TH STREET
ARVERNE, NY 11692

SHEET TITLE:
MECHANICAL DETAILS (2 OF 2) &
SECTION AA

JOB # M150901

SCALE: AS NOTED

DATE: 11/15/17

DRAWN BY: RA/SMM

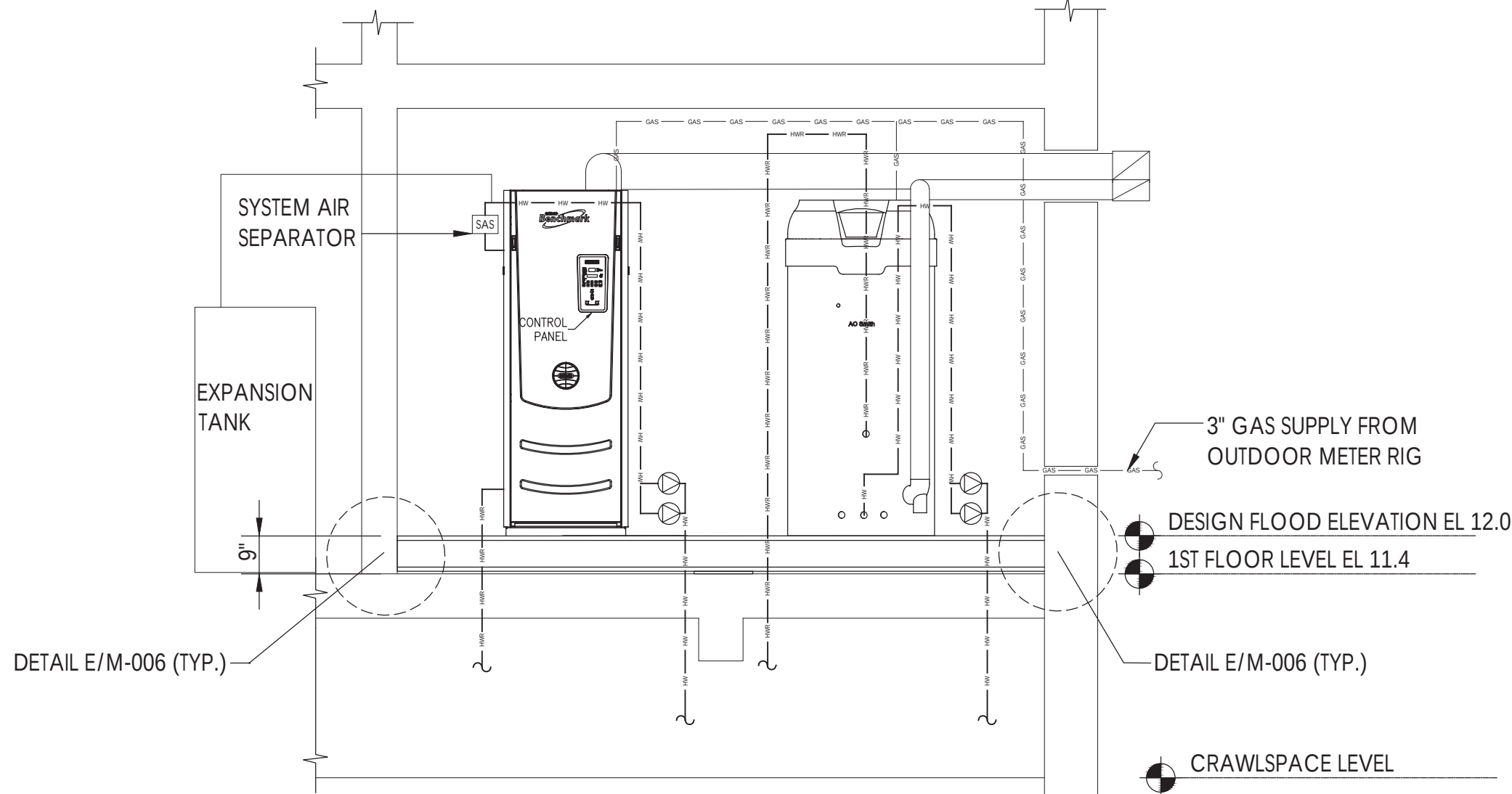
REVIEWED BY: PEV/PM/DG

NUMBER OF SHEETS: 3 OF 4

ISSUE: PAA doc.2

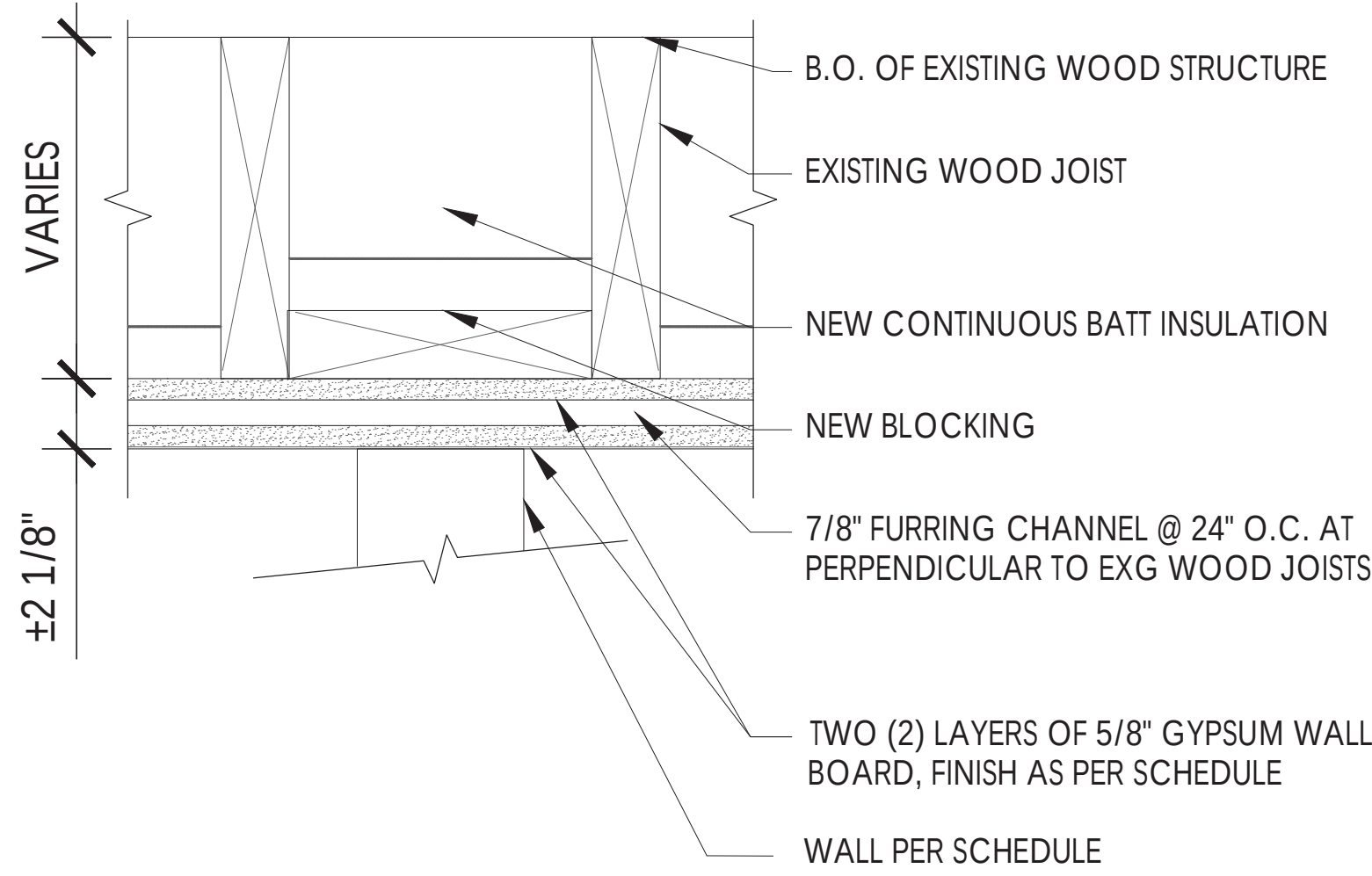
SHEET NO.

BL-007.01



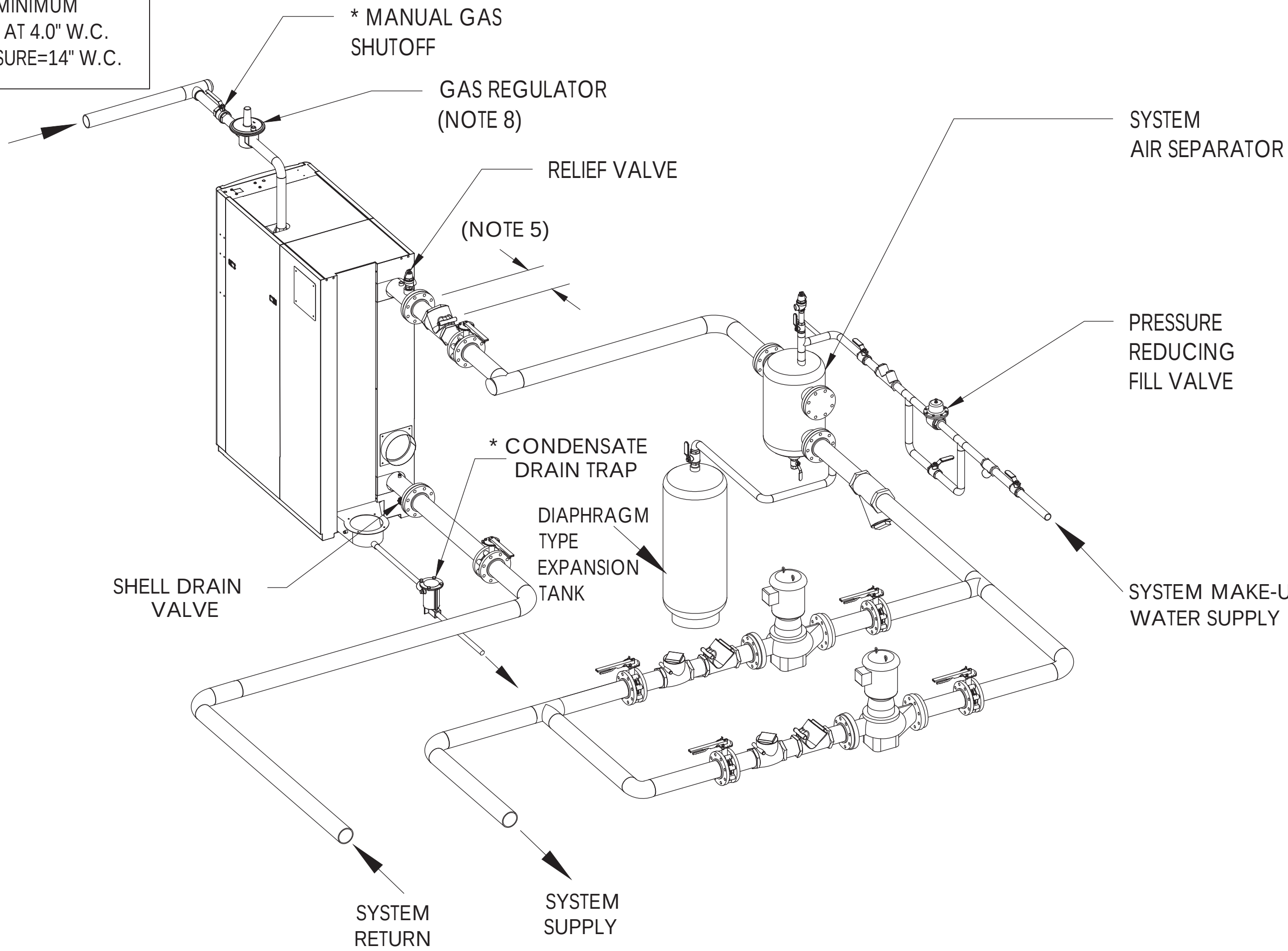
PROPOSED SECTION OF TYPICAL NEW
BOILER ROOM FOR ALL SIX BUILDINGS

AA
RELATIVE SCALE: 3/8" = 1'-0"



I
UL DES L511 2-HR FIRE RATED CEILING ASSEMBLY
RELATIVE SCALE: N.T.S.

AT MAXIMUM BTU/HR INPUT,
MAINTAIN MINIMUM
GAS PRESSURE AT 4.0" W.C.
MAX. GAS PRESSURE=14" W.C.



NOTES:

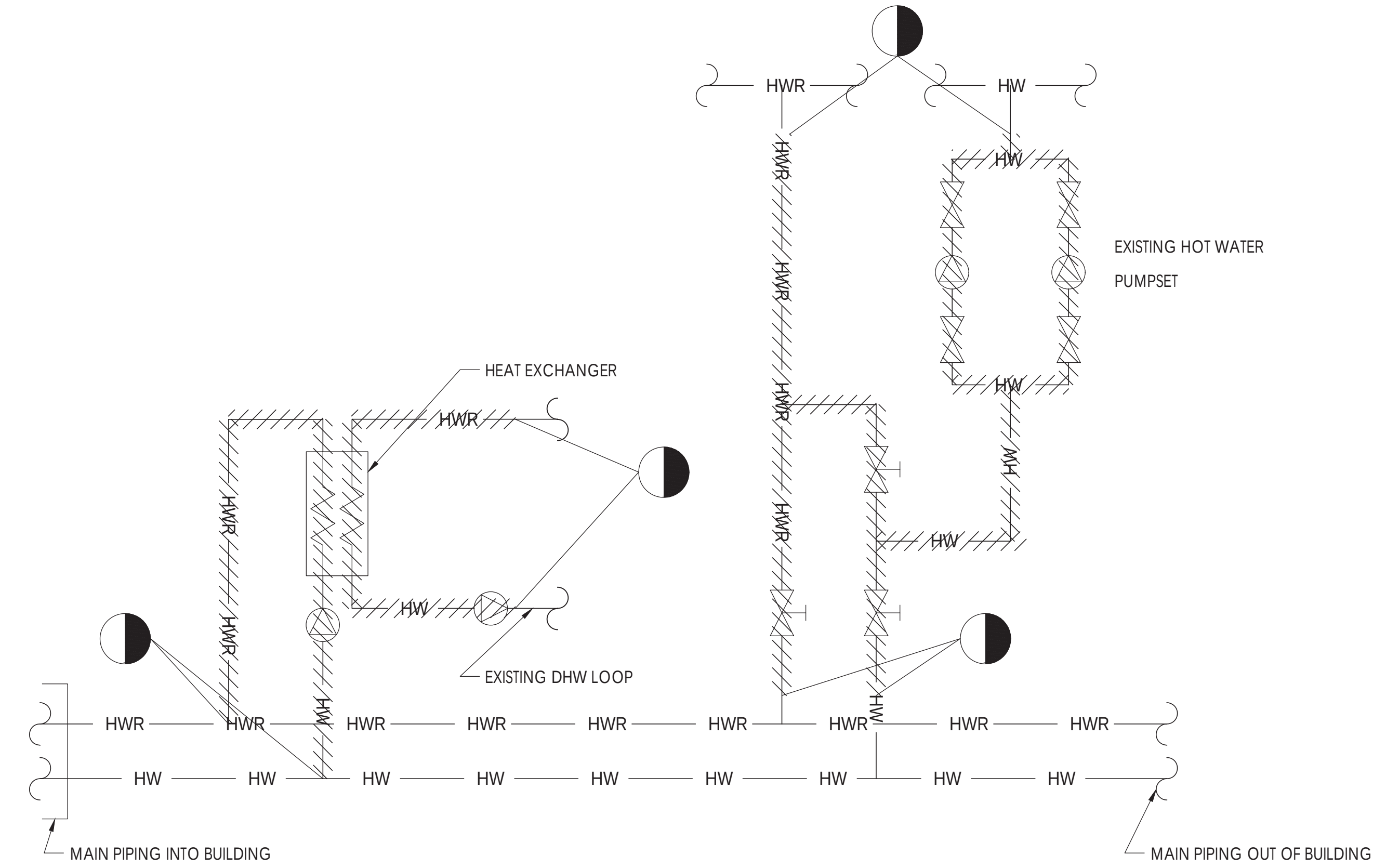
- FOR ACTUAL SIZES AND LOCATIONS OF PIPING AND OTHER CONNECTIONS TO THE HEATER, SEE DIMENSIONAL DRAWING.
- SHELL DRAIN VALVE AND CONDENSATE HOSE SHOULD BE ARRANGED TO PERMIT THE FLUIDS TO DRAIN FREELY, BY GRAVITY, TO A FLOOR DRAIN. RELIEF VALVE DISCHARGE SHOULD BE PIPED TO THE NEAREST FLOOR DRAIN. WHEN NO FLOOR DRAIN IS AVAILABLE, THE RELIEF VALVE DISCHARGE SHOULD BE PIPED VERTICALLY TO A HEIGHT 18" ABOVE THE FLOOR.
- ALL (*) ITEMS ARE INCLUDED SEPARATELY IN SHIPMENT.
- THIS IS A TYPICAL INSTALLATION DRAWING. LOCAL CODES AND AUTHORITIES SHOULD BE CONSULTED.
- LOCATE WATER INLET AND OUTLET FITTINGS (i.e.UNIONS, ELBOWS, ETC.) A MINIMUM OF 6" FROM HEATER FITTINGS, TO PREVENT INTERFERENCE WITH REMOVAL OF BOILER PANELS AND COVERS. ALL PIPING AND ELECTRIC CONNECTIONS (SERVICE SWITCHES, CONDUIT BOXES) SHOULD LIKEWISE BE 6" AWAY FROM SIDE PANELS.
- WHEN AVAILABLE GAS PRESSURE IS GREATER THAN 14" W.C., A LOCK-UP STYLE REGULATOR MUST BE INSTALLED DOWNSTREAM OF THE MANUAL SHUTOFF VALVE TO BRING THE GAS PRESSURE DOWN TO 14" W.C. OR LESS.
- WHEN USING THE AERCO CONDENSATE NEUTRALIZER TANK, FOR PROPER CONDENSATE DRAINAGE, THE BOILER AND THE AERCO CONDENSATE TRAP MUST BE ELEVATED HIGHER THAN 4" ABOVE THE FLOOR. SEE CONDENSATE TANK INSTRUCTIONS TID-0074 FOR DETAILS.
- AT 14" W.C. OR BELOW, A GAS REGULATOR IS OPTIONAL UNLESS REQUIRED BY LOCAL CODE.

J
PROPOSED HOT WATER SYSTEM PIPING SCHEMATIC
DIAGRAMMATIC ONLY - N.T.S.

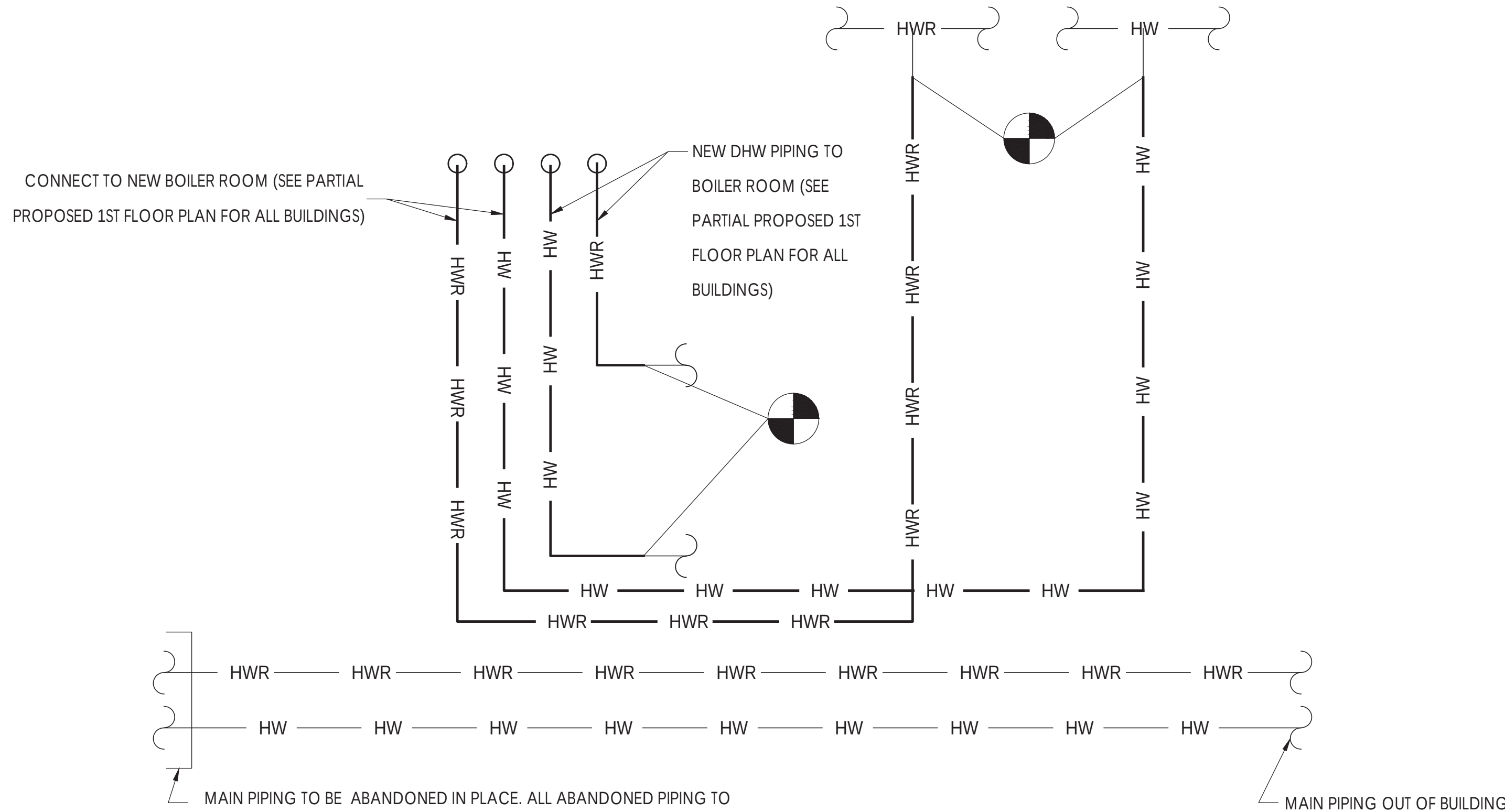


DOB APPROVAL STAMP:

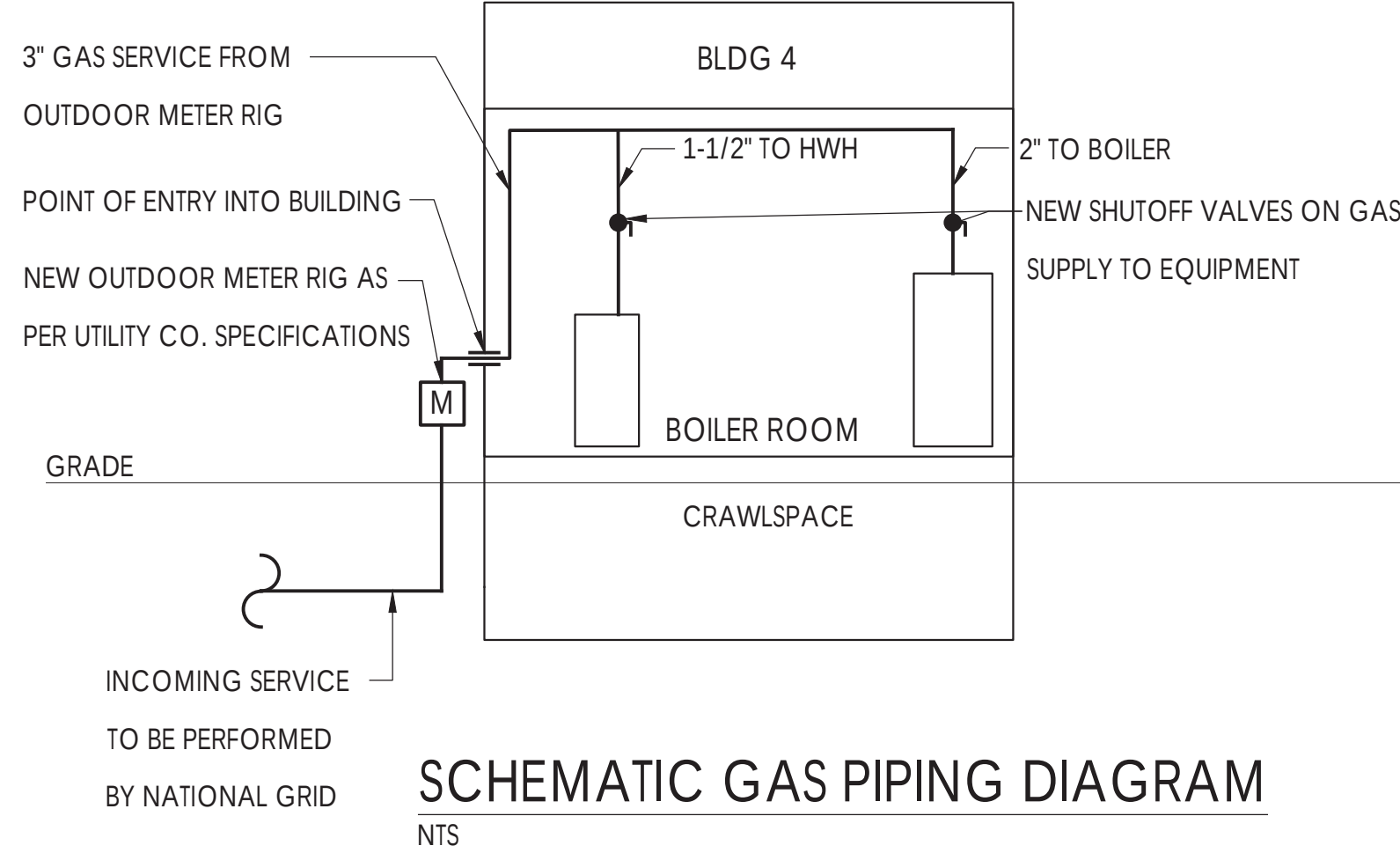




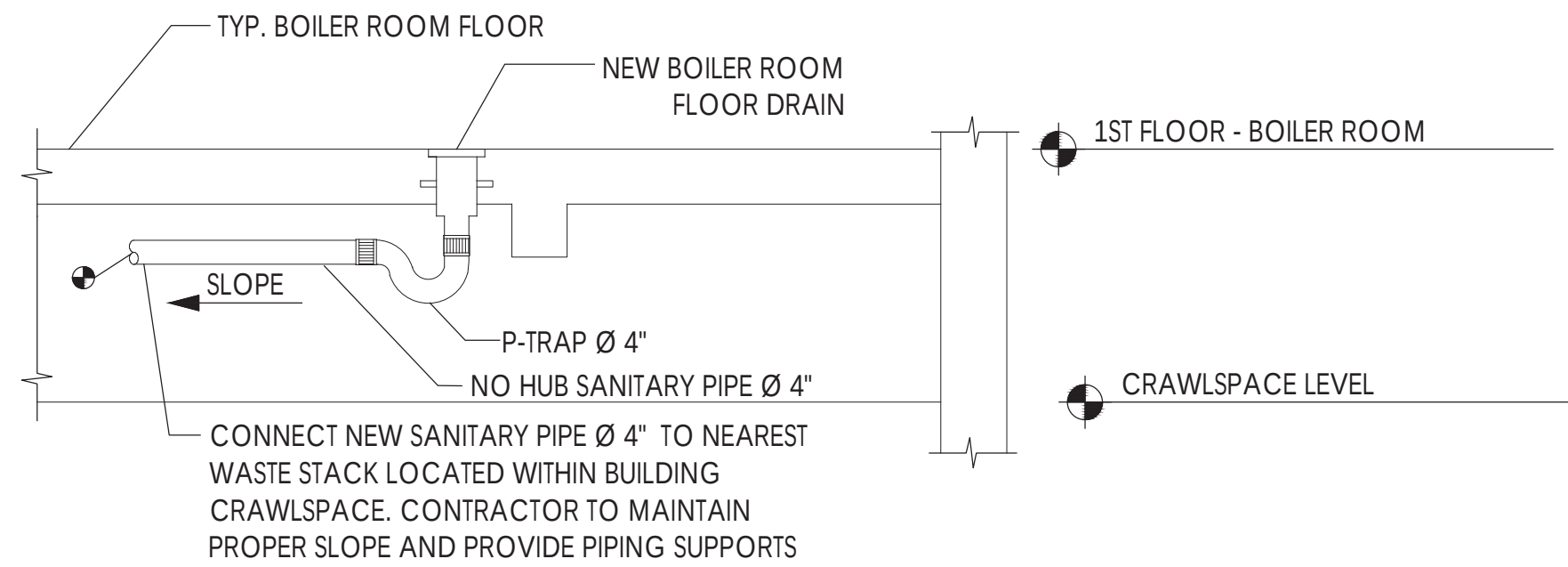
EXISTING PIPES BELOW THE STORAGE/UTILITY ROOM CRAWLSPACE
NTS



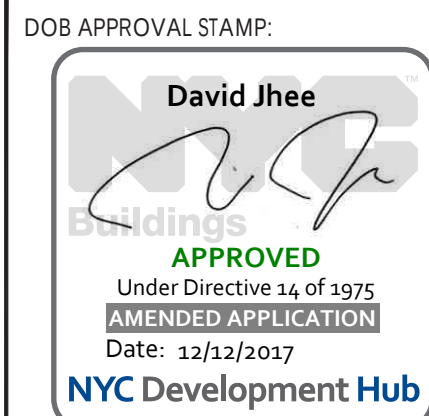
PROPOSED PIPES BELOW THE NEW BOILER ROOM CRAWLSPACE
NTS



SCHEMATIC GAS PIPING DIAGRAM
NTS



SCHEMATIC BOILER ROOM FLOOR DRAIN & PIPING DIAGRAM
NTS



RAND

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324 BEACH 59TH STREET
ARVERNE, NY 11692

SHEET TITLE:
DIAGRAM OF
EXISTING/PROPOSED PIPES
ALONG CRAWLSPACE

JOB #	M150901
SCALE:	AS NOTED
DATE:	11/15/17
DRAWN BY:	SMM
REVIEWED BY:	PEV/PM/DG
NUMBER OF SHEETS:	4 OF 4
ISSUE:	PAA doc.2

SHEET NO.

BL-008.01

Benchmark

High-Efficiency Boilers



AERCO.com



 **AERCO**[®]
A WATTS Brand

The Benchmark: Unmatched Reliability and ROI

More than 25 years ago, AERCO introduced the first condensing and fully modulating boiler for the commercial market. Building on that leadership and experience, AERCO launched the Benchmark family of boilers in 1997. Ever since, Benchmark boilers have been considered the gold standard in hydronic heating and have set the bar for high efficiency. More importantly, they continue to deliver significant ROI to thousands of customers including increased energy savings, reliable heat, and lower installation and operational costs — all in a space-saving, compact footprint.

Saves Space, Easy to Install

The Benchmark is a powerful boiler packed into a small footprint. Each stainless steel unit fits through standard 36" doorways and can travel via elevators – no need to tear down walls, use cranes or other expensive tools. In fact, our Benchmark 6000 is the smallest of its kind – up to a third the size of the competition.

Simple to Service

Removable enclosure panels provide easy access to all piping making the Benchmark extremely easy to service which simplifies lifetime maintenance. It's also compatible with popular EMS software, and can be remotely controlled providing detailed LCD diagnostics that can help prevent any issues from developing.

Superior Construction for Greater Uptime Reliability

AERCO's 439 stainless steel heat exchanger delivers a longer life through a simplified design that has only two moving parts. The condensing heat exchanger design is built to withstand thermal shock and eliminates the need for traditional boiler pumping equipment. The forced draft, modulating burners operate with unmatched turndown to minimize cycling and maximize seasonal efficiency while simplifying the venting system. AERCO's patented air/fuel delivery system and fully modulating burner reduces cycling losses, as well as wear and tear.

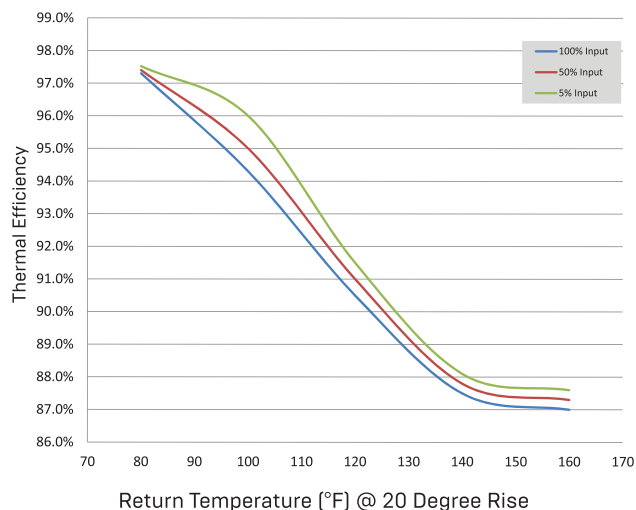
10-year Warranty

AERCO stands behind its products. The heat exchanger in the Benchmark boilers have a 10-year full (non-prorated) warranty.

High Efficiency, Increased Energy Savings

Benchmark Models as approved and listed on the AHRI Directory (with exception of the BMK 5000)	Thermal Efficiency, 100% Input (High Fire) 100°F Temperature Differential (80-180°F)
BMK 750	95.6%
BMK 1000	96.8%
BMK 1500	94.6%
BMK 2000	94.6%
BMK 2500	93.5%
BMK 3000	93.5%
BMK 5000	93.9%
BMK 6000	94.5%

Thermal Efficiency Curves



*For BMK1000



State of the Art Technology and Features

Benchmark 750, 1000, 1500, 2000, 2500, 3000

- 15:1-20:1 turndown
- Oxygen level [O₂] monitoring
- Durable and reliable 439 Stainless Steel firetube heat exchanger
- Capable of variable primary flow installations
- Low NOx emissions [20 ppm or less at all firing rates]
- 9 ppm optional calibration*
- Compact footprint – all models fit through standard doorway
- Ducted combustion air capable
- Venting versatility with AL29-4C, Polypropylene, CPVC**, or PVC**
- Available in Natural Gas, Propane, and Dual Fuel [1500, 2000, 2500, 3000]

Benchmark 5000, 6000

- 12.5:1-15:1 turndown
- Oxygen level [O₂] monitoring
- Durable and reliable 439 Stainless Steel firetube heat exchanger
- Capable of variable primary flow installations
- Low NOx emissions [20 ppm or less at all firing rates]
- 9 ppm optional calibration [BMK6000 requires 14" exhaust venting]
- Compact footprint – up to a third the size of the competition
- Ducted combustion air capable
- Venting versatility with AL29-4C, Polypropylene
- Available in Natural Gas and Dual Fuel



Optimizing Your System

To optimize your system, Benchmark boilers come standard with our Boiler Sequencing Technology (BST) which shares the load between a few units to maximize energy efficiency. An additional way to ensure your system operates at peak performance is through our onAER Remote Monitoring Service detailed below.

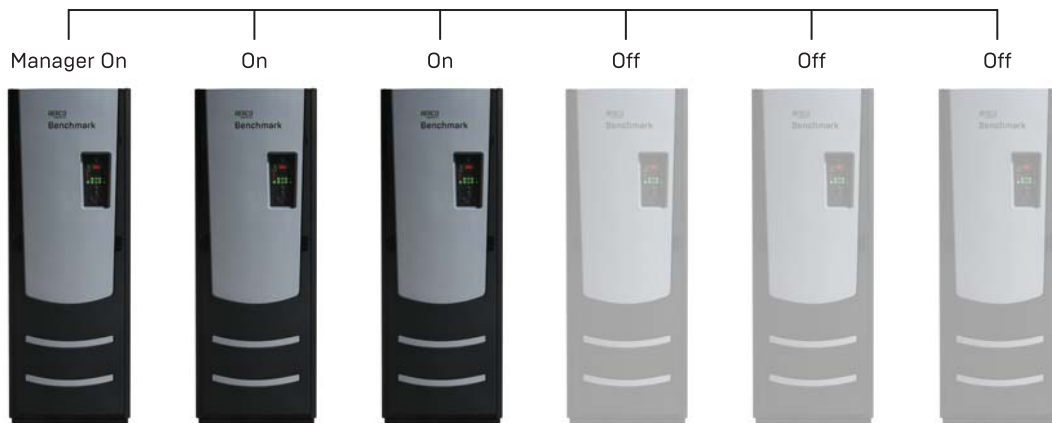
Boiler Sequencing Technology (BST) Maximizes Energy Efficiency

It requires less energy for a group of modulating boilers, each firing at “part load,” to heat a building, than for a single boiler operating at “full fire” to carry the entire workload. That’s why Benchmark boilers come standard with our Boiler Sequencing Technology (BST) enabling the load to be shared between a few units in order to maximize your system’s energy efficiency.

How it Works

To meet building demand, the BST employs as many boilers as available, each operating at its most efficient firing rate. Because the BST reacts in real-time (up to 8 boilers), users can take a unit offline for maintenance at any time or bring on back-up boilers for extremely cold conditions without changes to your system’s performance. And as individual boilers are added or deleted, the energy delivered is automatically adjusted to prevent fluctuations in the header temperature of the plant.

AERCO’s BST optimizes your system’s performance to increase uptime reliability, the longevity of your units and your Return on Investment.



Office Buildings



Education



REVIEWED BY
Government
Chintan Desai, RA

APPROVED
WITH CONDITIONS

Date: 05/31/2018

Control #54434

31/40

Multifamily Housing



Lodging



Environmental Stewards



The Greenspec® Listed Benchmark boilers are perfect for “green” designs. Their small footprint, flexible venting/piping options, high efficiency and lower operating costs can help facilities earn LEED points. Benchmark has been designed with several environmental advantages:

O₂ Monitoring System

Benchmark units are available with AERCO’s proprietary O₂ monitoring system, which displays the oxygen level directly on the C-More controller in real time. It can be monitored via Modbus, so customers can measure emission levels and fuel combustion efficiency to maximize fuel economy.

Low NOx Burner

Benchmark boilers are fitted with a low NOx burner whose emissions consistently meet the highest regulatory standards. Ultra low NOx (9 ppm or less) calibrations are available.*

C-More Advanced Controls

The C-More Control System optimizes the efficiency and operation of your system by combining temperature and operating controls, combustion safeguards and fault enunciator functions – all at your fingertips.

Benefits include:

- Simplifies diagnostic troubleshooting
- User-friendly intuitive control
- Full integration with BAS and EMS systems
- Supports remote data monitoring and control
- Integrated Boiler Sequencing Technology (BST)
- Ensures fail-safe boiler operation (if external building controls fail)

REVIEWED BY
Chintan Desai, RA

A handwritten signature in black ink, appearing to read "Chintan Desai".

**APPROVED
WITH CONDITIONS**

Date: 05/31/2018

Control #54434

32/40

*See tech data sheets for model specs.

Sample Installations



Education

SUNY Cortland University, New York

The 60-year-old centralized heating plant at the State University of New York at Cortland was outdated and extremely inefficient. Heating costs accounted for more than 40 percent of the college's energy budget. The old plant allowed much heat go to waste as the steam traveled from the plant to dozens of campus buildings. To update their heating plant, the college decided to decentralize their old system and installed AERCO Benchmark boilers in each building across campus. The \$12 million, two-year project replaced the

old central steam heating plant and its three-pipe network with 42 individual boilers going into 21 buildings. This allowed the heat produced by each boiler to remain in that structure as well as reduced the amount of natural gas used and eliminated maintenance costs needed for previous steam leaks in the old pipe system. As a result of incorporating AERCO Benchmark boilers, SUNY Cortland expects to save nearly \$600,000 in energy costs per year.



Healthcare

Massachusetts General Hospital, Massachusetts

The 95,000 square-foot Massachusetts General Hospital used a central steam plant to supply indirect heat exchangers for space heating and domestic hot water. The steam boilers also supplied primary energy for the facility's sterilization equipment. The building's single centralized steam system was meeting all the facility's needs, but it was far from efficient—coming in at a paltry 50 to 60%. To make matters more complicated, the final solution had to be small enough to make a six-flight elevator journey to a small mechanical

room at the top of facility. The engineering firm hired to help the hospital upgrade the building, found that the plant had to operate continuously to meet the facility's domestic hot water and sterilization needs. The combination of piping losses and inefficient operation at low load times compounded the problem. Decentralizing the domestic hot water system and converting to hydronic space heating was the best answer. AERCO's 94% efficient Benchmark 3000 and 96% efficient Innovations are easily meeting all the facility's heating, domestic hot water and sterilization needs—but are reducing fuel operating costs from 30 to 40%.

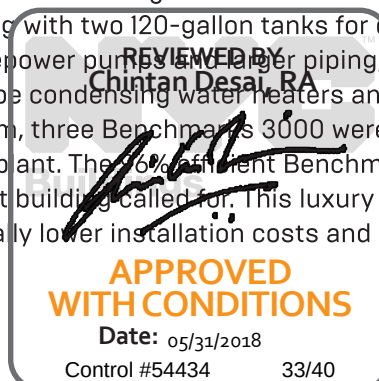


Multifamily Housing

Luxury High Rise Apartment Building, New York City

The distinctive 12-story luxury rental residential building offers 199 units in a mix of studios and one-, two- and three-bedroom apartments; along with amenities that include a state-of-the-art fitness center, gaming lounge, clubroom and more. The building was designed for high efficiency, incorporating a water source heat pump loop for space heating—so low inlet water temperatures and condensing equipment was a given. But the current plans for the building called for three 2500 MBH water-tube boilers to provide

supplemental heating for the loop, along with two 120-gallon tanks for domestic water heating. This meant a more expensive installation, high horsepower pumps and larger piping, valves, and fittings, along with a pricey induced draft fan. Since AERCO fire-tube condensing water heaters and boilers didn't have the limitations of the current specified water-tube system, three Benchmarks 3000 were recommended for the job, along with three Innovation 1060s for the heating plant. The 96% efficient Benchmark 3000s and tankless Innovation 1060s were exactly what this apartment building called for. This luxury high rise got a much more energy and space efficient system, with substantially lower installation costs and electrical operating requirements.



Installation Advantages

Venting Versatility for Easy Installation

Benchmark products provide numerous venting options including sidewall, through-the-roof, and ducted combustion capabilities (direct-vent). They're approved for venting with PVC, CPVC, Polypropylene, or AL29-4C materials are all available and provide broad installation flexibility and savings.

Due to its high efficiency and low flue gas temperatures, the Benchmark 6000 can be installed with 12" flue venting – **no other 6000 MBH boiler is able to use polypropylene venting under all operating conditions.** Not only does the ability to use polypropylene venting prove the Benchmark 6000's superior efficiency, but it also provides big savings on total cost, as well as the flexibility to customize its fit making the units even easier to install.

Space-saving Design

All Benchmark products are delivered as a single, fully assembled unit. Its small footprint, doorway size, and quiet operation make it ideal for both new construction and retrofit applications. The Benchmark 6000 is the most compactly designed 6 million BTU/hr boiler in the market – up to a third the size of the competition.

Zero Side Clearance for Easy Maintenance

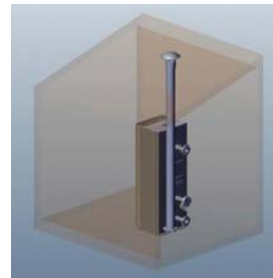
The redesigned Benchmark can be serviced via the front or top of the boiler, as well as the side. This flexibility allows units to be configured side by side.

Consult an AERCO representative for additional venting configuration inquiries.

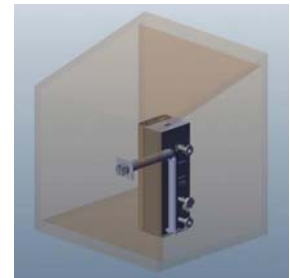


BMK 3000 Shown

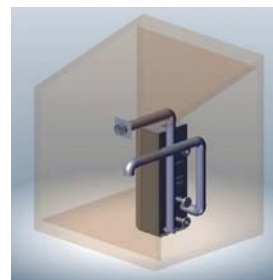
Vent Configurations



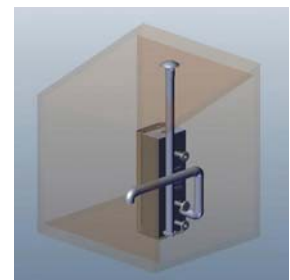
Vertical vent/room air



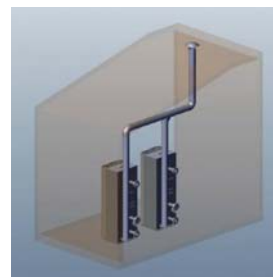
Sidewall vent/room air



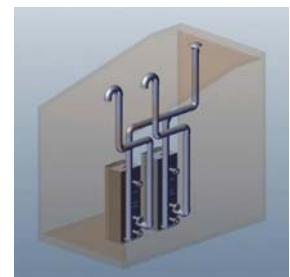
Direct-vent



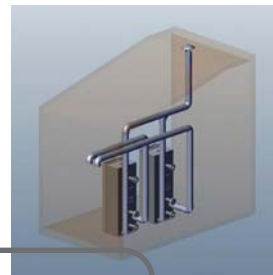
Vertical vent/sidewall air



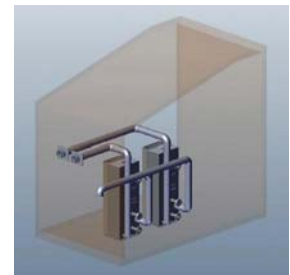
Common vertical vent/
room air



Common vertical vent/
individual vertical air



Common vertical vent/
individual sidewall air



Individual sidewall vent/
common sidewall air



Venting

To ensure AERCO products operate as well as they are designed, it's vital they are paired with strong, high-quality venting that can match the Benchmark's durability and longevity. That's why AERCO has partnered with two leaders in the industry, Centrotherm and Security Chimneys, to offer you superior venting alongside our trusted equipment, providing you with complete engineered systems for all your projects:

- Security Chimneys International SS and SSD/SSID venting systems are made from AL29-4C® super-ferritic stainless steel. The single- and double-wall SS and SSD/SSID install effortlessly, are highly reliable and meet industry specifications.
- Centrotherm InnoFlue® Single Wall Commercial vent system is for ANSI Category II and IV gas-burning appliances. The InnoFlue® vent system is suitable for exhaust temperatures up to 230°F/110°C and is rated to a maximum vent pressure of 20" w.c. without the toxic risk associated with other plastic materials.

AERCO representatives can help size the venting for your specific job. AERCO guarantees the vented appliances will operate within the optimal outlet pressure range throughout the firing cycle if the venting is purchased through us.

Engineering Support

Customers can also leverage the vast experience of AERCO engineers who have devoted their careers to developing cost- and space-saving solutions. Standard services available include:

- Engineering — AERCO engineers work with manufacturers to verify vent sizing/design for enhanced reliability
- AutoCAD drawings
- Submittal information
- Customer service



Security Chimneys SS and SSD/SSID Venting Systems

Centrotherm InnoFlue®

Accessories



AERCO Control System (ACS)

The ACS maximizes heating plant efficiency if your heating plant has more than eight boilers or if you are designing a combination control system. The ACS relay panel provides additional pump and valve control for several combination control configurations.



Motorized Valves

The Belimo F6...H DU Series 2-way butterfly valves are designed to meet the needs of HVAC and commercial application requiring bubble tight shut-off for liquids. Typical applications include boiler isolation, chiller isolation, cooling tower isolation, change-over systems, air handler coil control, bypass and process control applications. Valves specifically designed for easy installation on BST configured boiler plants are available as well.



Boiler Sequencing Technology (BST) Integration Panel

BST boiler plants have this option available to enable the BST Manager to automatically switch a C-More Client to the BST Manager control if the currently designated Manager is not able to manage the boilers in the plant. The change is automatic so there is no need for a technician to intervene. The C-More may change from a Client to a Manager if a unit is taken down for service or if there is a fault that disables the C-More currently acting as the BST Manager. The panel is the connection point for the Modbus sensors used by the BST Manager Control. This allows the signal input of any sensors attached to the Integration Panel to be accessed at any node on the BST communication cables.



AERCO Protonode/Gateways

AERCO offers a multi-protocol, communications gateway to support integration with customers' building control and energy management systems. The plug-n-play package supports integration with BACnet/IP, BACnet MS/TP, LonWorks, and Johnson Controls Metasys N2 systems. AERCO's Communications Gateway is available for all AERCO boilers, water heaters and electronically controlled indirect systems.



Condensate Neutralizer Kit

AERCO Condensate Neutralizers are ideal for condensing boilers and furnaces operating on natural gas or propane. The condensate is acidic and has the potential to harm the environment and the sewer system. The AERCO Condensate Neutralizer will raise the pH of the condensate to a more neutral level before it is discharged to drain.



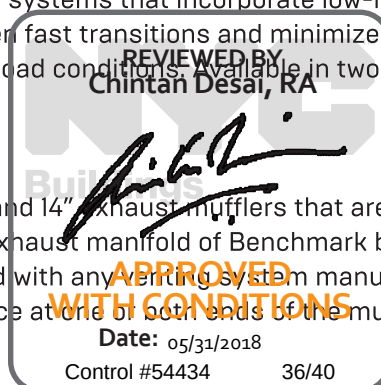
Buffer Tanks

AERCO buffer tanks are ASME certified pressure vessels designed for use with high efficiency, low volume systems that incorporate low-mass condensing boilers. They add thermal mass, dampen fast transitions and minimize boiler cycling that occurs during zero or low domestic load conditions. Available in two and four-port (Primary-Secondary) configurations.



Venting Mufflers

AERCO offers 6", 8", and 14" exhaust mufflers that are specifically designed with flanged ends to fit directly on the exhaust manifold of Benchmark boilers. The flanged-end design allows the muffler to be used with any venting system manufacturer – the only adapter required is an AERCO starter piece at one or both ends of the muffler.



Specifications and Dimensions

	750	1000	1500	2000
Adjustable Temp. Control	50°F to 190°F	50°F to 190°F	50°F to 190°F	50°F to 190°F
Ambient Temperature	0°F to 130°F	0°F to 130°F	0°F to 130°F	0°F to 130°F
Accuracy	+/-4°F	+/-4°F	+/-4°F	+/-4°F
Input	750,000 BTUH (Natural Gas)	1,000,000 BTUH (Natural Gas)	1,500,000 BTUH (Natural Gas)	2,000,000 BTUH (Natural Gas)
Net Output	697,000 BTUH (Natural Gas)	930,000 BTUH (Natural Gas)	1,395,000 BTUH (Natural Gas)	1,860,000 BTUH (Natural Gas)
Turndown Ratio	15:1	20:1	20:1	20:1
Flue Size	6" Diameter	6" Diameter	6" Diameter	8" Diameter
Flue Material (per local code)	PVC, CPVC, PP or AL29-4C	PVC, CPVC, PP or AL29-4C	AL29-4C, PP	PP or AL29-4C
Water Inlet and Outlet	3" 150# Flange	3" 150# Flange	4" 150# Flange	4" 150# Flange
Gas Connection	1" NPT Male	1" NPT Male	2" NPT Male	2" NPT Male
Gas Pressure Requirements*	14" WC Maximum, 4" WC Minimum at Full Load	14" WC Maximum, 4" WC Minimum at Full Load	14" WC Maximum, 4" WC Minimum at Full Load	14" WC Maximum, 4" WC Minimum at Full Load
Min/Max Water Flow	12-175 GPM	12-175 GPM	25-250 GPM	25-350 GPM
Condensate Connection	3/4" NPT Female	3/4" NPT Female	1.5" Tube	1.5" Tube
Max. Condensate Flow	6 GPH	8 GPH	9 GPH	10 GPH
Pressure Rating	160 PSIG at 210°F	160 PSIG at 210°F	160 PSIG at 210°F	160 PSIG at 210°F
NOx Emissions Certifications	SCAQMD, TCEQ	SCAQMD, TCEQ	SCAQMD, TCEQ	SCAQMD, TCEQ
Standard Listing and Approvals	UL, CUL, ASME	UL, CUL, ASME	UL, CUL, ASME	UL, CUL, ASME
Gas Train Options	FM Compliant or Factory Installed, Double Block and Bleed (Formerly IRI)	FM Compliant or Factory Installed, Double Block and Bleed (Formerly IRI)	FM Compliant or Factory Installed, Double Block and Bleed (Formerly IRI)	FM Compliant or Factory Installed, Double Block and Bleed (Formerly IRI)
Electrical Requirements	120/1/60 20 AMP [13 AMP FLA]	120/1/60 20 AMP [13 AMP FLA]	120/1/60 20 AMP [16 AMP FLA]	120/1/60 20 AMP [16 AMP FLA]
Water Pressure Drop at 20°ΔT	1.5 psi	3 psi	2.8 psi	3.4 psi
Water Volume	16.25 gallons	14.25 gallons	44 gallons	40 gallons
Weight, Installed	669 lbs. (dry), 802 lbs. (wet)	700 lbs. (dry), 817 lbs. (wet)	1,406 lbs. (dry), 1,654 lbs. (wet)	1,500 lbs. (dry), 1,760 lbs. (wet)

*Values are for Natural Gas FM Compliant gas trains only. See Benchmark Gas Components & Supply Design Guide GF-2030 for Propane, DBB & Dual Fuel gas train gas pressure requirements.

Benchmark 750 / 1000 / 1500 / 2000 / 2500 / 3000 / 5000 / 6000



Specifications and Dimensions

	2500	3000	5000	6000
Adjustable Temp. Control	50°F to 190°F	50°F to 190°F	50°F to 190°F	50°F to 190°F
Ambient Temperature	0°F to 130°F	0°F to 130°F	0°F to 130°F	0°F to 130°F
Accuracy	+/-4°F	+/-4°F	+/-4°F	+/-4°F
Input	2,500,000 BTUH (Natural Gas)	3,000,000 BTUH (Natural Gas)	5,000,000 BTUH (Natural Gas)	6,000,000 BTUH (Natural Gas)
Net Output	2,325,000 BTUH (Natural Gas)	2,790,000 BTUH (Natural Gas)	4,650,000 BTUH (Natural Gas)	5,580,000 BTUH (Natural Gas)
Turndown Ratio	15:1	15:1	12.5:1	15:1
Flue Size	8" Diameter	8" Diameter	12" or 14" Diameter	12" or 14" Diameter
Flue Material (per local code)	PP or AL29-4C	PP or AL29-4C	PP or AL29-4C	PP or AL29-4C
Water Inlet and Outlet	4" 150# Flange	4" 150# Flange	6" 150# Flange	6" 150# Flange
Gas Connection	2" NPT Male	2" NPT Male	2" NPT Male	2" NPT Male
Gas Pressure Requirements*	14" WC Maximum, 4" WC Minimum at Full Load	14" WC Maximum, 4" WC Minimum at Full Load	2" PSI Maximum, 14" WC Minimum at Full Load	2" PSI Maximum, 14" WC Minimum at Full Load
Min/Max Water Flow	25-350 GPM	25-350 GPM	75-600 GPM	75-600 GPM
Condensate Connection	1.5" Tube	1.5" Tube	1.5" Tube	1.5" Tube
Max. Condensate Flow	17 GPH	20 GPH	40 GPH	40 GPH
Pressure Rating	160 PSIG at 210°F	160 PSIG at 210°F	80 PSIG at 210°F / 150 PSIG at 210°F	80 PSIG at 210°F / 150 PSIG at 210°F
NOx Emissions Certifications	SCAQMD, TCEQ	SCAQMD, TCEQ	SCAQMD, TCEQ	SCAQMD, TCEQ
Standard Listing and Approvals	UL, CUL, ASME	UL, CUL, ASME	UL, CUL, ASME	UL, CUL, ASME
Gas Train Options	FM Compliant or Factory Installed, Double Block and Bleed (Formerly IRI)	FM Compliant or Factory Installed, Double Block and Bleed (Formerly IRI)	FM Compliant or Factory Installed, Double Block and Bleed (Formerly IRI)	FM Compliant or Factory Installed, Double Block and Bleed (Formerly IRI)
Electrical Requirements	208-230/3/60 20 AMP [10 AMP FLA] 460-230/3/60 15 AMP [5 AMP FLA]	208-230/3/60 20 AMP [10 AMP FLA] 460-230/3/60 15 AMP [5 AMP FLA]	208-230V/3/60 30 AMP [19 AMP FLA] 460/3/60 15 AMP [10 AMP FLA] 575/3/60 15 AMP [9 AMP FLA]	208-230V/3/60 30 AMP [19 AMP FLA] 460/3/60 15 AMP [10 AMP FLA] 575/3/60 15 AMP [9 AMP FLA]
Water Pressure Drop at 20°ΔT	2.9 psi	4 psi	6.2 psi	6.2 psi
Water Volume	58 gallons	55 gallons	110 gallons	110 gallons
Weight, Installed	2,000 lbs. (dry), 2,332 lbs. (wet)	2,170 lbs. (dry), 2,365 lbs. (wet)	3,000 lbs. (dry), 3,920 lbs. (wet)	3,000 lbs. (dry), 3,920 lbs. (wet)

Model	Width	Depth	Height
BMK 750	28"	25"	78"
BMK 1000	28"	25"	78"
BMK 1500	28"	43.6"	78"
BMK 2000	28"	43.6"	78"

Model	Width	Depth	Height
BMK 2500	28"	56"	78"
BMK 3000	28"	56"	78"
BMK 5000	34"	89.3"	79.4"
BMK 6000	34"	89.3"	79.4"

REVIEWED BY
 Chintan Desai, RA
 APPROVED
 WITH CONDITIONS
 Date: 05/31/2018
 Control #54434 38/40

Please find complete dimensions on the Benchmark tech data sheet.



Heat | Hot Water | Energy Recovery Solutions

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Certificate of Product Ratings

AHRI Certified Reference Number: 5760802

Date: 12/2/2013

†Status: Active

Product: Commercial Boiler Heating Equipment

Model Number: BMK 2500

Manufacturer: AERCO INTERNATIONAL, INC.

Trade/Brand name: AERCO

Rated as follows in accordance with Department of Energy (DOE) Boiler test procedures as published in the latest edition of the Code of Federal Regulations, 10 CFR Part 431 and subject to verification of rating accuracy by AHRI-sponsored, independent, third party testing:

Combustion Efficiency: 94.0 %

Thermal Efficiency: 93.5 %

The following data is for reference only and is not certified by AHRI:

Material:	Stainless Steel
Location:	Indoor
Fuel Type:	Natural Gas
Input:	2500.0 MBTUH
Gross Output:	2337 MBTUH
Ignition Type:	Intermittent/Electronic Ignition
Draft Type:	Forced Draft
CO2:	9.0
Net Ratings - Water:	2032.00 MBTUH

† Models with an 'Active' status are those that are currently in production. Models with a 'Discontinued' status are those that the manufacturer has elected to stop producing, yet stock is still available. Models with an 'Obsolete' status are those that the manufacturer is required to stop manufacturing due to an AHRI certification program test failure.

* Ratings followed by an asterisk (*) indicate a voluntary rerate of previously published data, unless accompanied with a WAS, which indicates an involuntary rerate.

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The information for the model cited on this certificate can be verified at www.ahridirectory.org, click on "Verify Certificate" link and enter the AHRI Certified Reference Number and the date on which the certificate was issued, which is listed above, and the Certificate No., which is listed below.

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Date: 05/31/2018

Control #54434

40/40



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CERTIFICATE NO.: 130304679375086499