REMEEDER HOUSE 585 BLAKE AVE COGENERATION SYSTEM

(BLOCK 3769, LOT 1)

DRAWING INDEX:

SHEET NO. TITLE OF DRAWING

TITLE SHEET, GENERAL NOTES & MECHANICAL SYMBOL LIST T-101.00

G-101.00ENERGY ANALYSIS

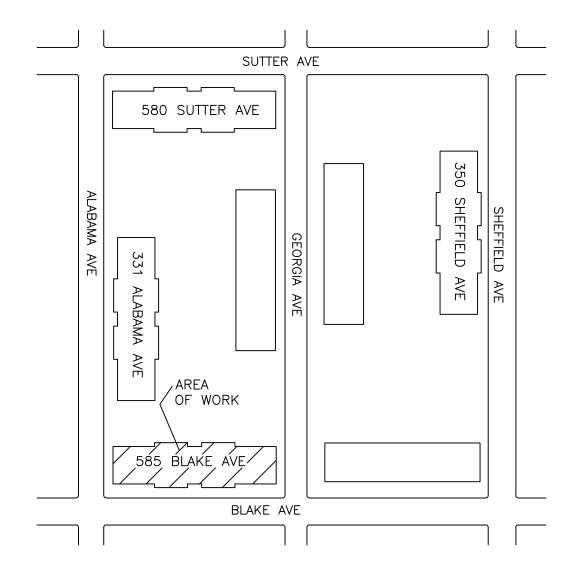
MECHANICAL/HVAC SCHEDULES & FLOW DIAGRAM M-101.00

CELLAR MECHANICAL PLAN M-201.00M - 301.00MECHANICAL/HVAC DETAILS

PLUMBING/GAS PIPING PLAN P-101.01

PLUMBING DETAIL & GAS RISER DIAGRAM P-201.01

E-101.00ELECTRICAL CELLAR PLAN E-102.00ELECTRICAL CELLAR PLAN E-201.00ELECTRICAL DETAILS



REVIEWER NOTE:

THE SCOPE OF WORK FOR THIS PROJECT INCLUDES THE INSTALLATION OF ONE (1) 35KW MODULAR COGENERATION MODULES TO GENERATE HEAT AND ELECTRICITY FOR REMEEDER HOUSE, 585 BLAKE AVE, NEW YORK, NEW

BUILDINGS: 3 (ALL WORK AT 3328018) # FLOORS: 6 & CELLAR ROSS AREA: 153,588

<u> ADDRESS: 585 BLAKE AVE</u> BIN: 3328018 BLOCK: 3769

DWELLING UNITS: 65 YEAR OF CONSTRUCTION: 1975

GENERAL NOTES:

- CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD PRIOR TO CONSTRUCTION. AND REPORT TO ENGINEER ALL ERRORS. DISCREPANCIES, OMISSIONS, DEFECTS, OR UNUSUAL WORK CONDITIONS BEFORE COMMENCING CONSTRUCTION.
- 2. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE RULES AND REGULATIONS OF ALL GOVERNING AGENCIES INCLUDING BUT NOT LIMITED TO THE CODES AND REGULATIONS AS SET FORTH BY THE CITY OF NEW YORK AND STATE OF NEW YORK.
- CONTRACTOR TO SECURE ALL NECESSARY PERMITS REQUIRED FOR THE STIPULATED WORK PRIOR TO COMMENCING WITH CONSTRUCTION OR DEMOLITION.
- 4. ALL ASBESTOS REMOVAL, PLUMBING, ELECTRICAL, WELDING WORK, ETC. TO BE PERFORMED BY LICENSED CONTRACTORS SUBCONTRACTED BY AEGIS ENERGY SERVICES.
- 5. ALL CONTRACTORS, WORKMEN, AND AGENTS WORKING AT OR VISITING THE SITE SHALL BE COVERED BY ALL NECESSARY STATUTORY INSURANCE INCLUDING LIABILITY, WORKMEN'S COMPENSATION, DISABILITY, ETC.
- 6. ALL WORK SHALL BE PERFORMED IN A NEAT, CLEAN, ORDERLY MANNER AND THE SITE KEPT CLEAN FROM DUST AND DEBRIS AT ALL TIMES.
- 7. CONTRACTORS TO PROVIDE ALL NECESSARY TEMPORARY LIGHTING, POWER, WATER, WATERPROOFING, ETC. NEEDED TO ENSURE PROJECT SAFETY AT ALL TIMES.
- CONTRACTORS TO PROVIDE ALL NECESSARY SHORING, BRIDGING, BARRICADES, SIGNS, ETC. NEEDED TO ENSURE PROJECT SAFETY AT ALL TIMES.
- 9. ALL WORK, INCLUDING TESTING AND TEMPORARY SHUT DOWN OF SERVICES IS TO BE COORDINATED WITH OWNER'S SCHEDULE FOR DELIVERIES, WORKDAYS, TIMES, ETC.
- 10. ALL NEW WORK TO BE THOROUGHLY TIED AND BONDED TO EXISTING WORK
- 11. ALL PATCHING AND JOINING SHALL BE NEAT, CLEAN, AND SQUARE, MATCHING ADJACENT SURFACES IN FINISH AND
- 12. ALL FIRE RETARDANT MATERIALS SHALL BEAR STAMPS, SEALS, AND/OR PERMANENT LABELS AS REQUIRED. AFFIDAVITS SHALL BE PROVIDED WHEN REQUESTED.
- 13. ALL WORK TO BE PLUMB, LEVEL, AND TO THE BEST OF WORKMANSHIP
- 14. CONTRACTOR TO FULLY COORDINATE HIS WORK AND EFFORTS WITH OTHER TRADES TO ENSURE A NEAT, PROPER, DIMENSIONALLY ACCURATE JOB IN ALL RESPECTS TO RELATED WORK.
- 15. THE JOB SHALL BE ADEQUATELY STAFFED AT ALL TIMES TO ENSURE CONTINUITY AND PROGRESS, WITH ALL PHASES/SEGMENTS OF WORK PROPERLY COORDINATED.
- 16. ALL DEFECTIVE OR UNACCEPTABLE WORK SHALL BE REMOVED AND REPLACED, INCLUDING ANY SURROUNDING AFFECTED AREAS, AT NO ADDITIONAL COST TO THE OWNER.
- 17. CONTRACTOR TO SUBMIT SHOP DRAWINGS AND SAMPLES FOR ENGINEER'S APPROVAL WHERE REQUIRED BY DOCUMENTS PRIOR TO PROCEEDING WITH WORK
- 18. ALL WORK, UNLESS OTHERWISE SPECIFIED, TO BE GUARANTEED FOR A MINIMUM OF ONE YEAR FROM FINAL ACCEPTANCE. 19. ANY MATERIAL COMPOSITION WHICH IS QUESTIONABLE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- THE DETERMINATION OF THE ACCEPTABILITY OF ALL MATERIALS SHALL BE AT THE SOLE DISCRETION OF THE ENGINEER. 20. ANY CONFLICT BETWEEN THE SPECIFICATIONS AND DRAWINGS IS TO BE BROUGHT TO THE ATTENTION OF THE
- 21. ALL PIPES TO BE INSULATED WITH 1" HEAVY DENSITY FIBERGLASS INSULATION WITH ALL SURFACE JACKET,
- 22. ALL PIPING TO BE HARD COPPER "L" GRADE UNLESS OTHERWISE SPECIFIED.

TENANT PROTECTION PLAN:

ENGINEER PRIOR TO WORK.

- THE BUILDING CONTAINS SPACES WHICH WILL BE OCCUPIED DURING CONSTRUCTION.
- EGRESS: DURING THE COURSE OF CONSTRUCTION EGRESS FROM ALL FLOORS SHALL BE MAINTAINED AT ALL TIMES.
- FIRE SAFETY: ALL REQUIRED PRECAUTIONS WILL BE TAKEN TO PROVIDE FIRE SAFETY DURING CONSTRUCTION.
- HEALTH REQUIREMENTS: DUST SHALL BE KEPT AT A MINIMUM AND SHALL BE REMOVED AT THE END OF EACH WORKING DAY. CONSTRUCTION DEBRIS SHALL BE DISPOSED IN A SAFE MANNER. CONSTRUCTION NOISE WILL BE CEASED AFTER NORMAL WORKING HOURS. NOISE SHALL BE LIMITED TO ACCEPTABLE LIMITS. SANITARY FACILITIES SHALL BE PROVIDED AT ALL TIMES. PEST CONTROL SHALL BE PROVIDED AT ALL TIMES DURING THE COURSE OF
- THE CONTRACTOR SHALL COMPLY WITH APPLICABLE LAWS RELATING TO LEAD AND ASBESTOS. IN CASE LEAD OR ASBESTOS ARE FOUND THE OWNER OR ENGINEER SHALL BE INFORMED IMMEDIATELY.
- ELECTRICAL, GAS OR OTHER UTILITIES SHALL NOT BE INTERRUPTED DURING CONSTRUCTION. CONTRACTOR OR OWNER SHALL NOTIFY THE TENANT IN WRITING BEFORE ANY INTERRUPTION OF SERVICES IS PERFORMED.
- BUILDING SECURITY SHALL BE MAINTAINED TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING THE BUILDING.
- FLOORS SHALL NOT BE OVERLOADED BEYOND PERMISSIBLE LIMITS.
- NO STRUCTURAL WORK SHALL BE PERFORMED WHICH MAY ENDANGER THE OCCUPANTS.
- 10. CONSTRUCTION OPERATION SHALL BE CONFINED TO NORMAL WORKING HOURS: 8:00 A.M. THROUGH 5:00 P.M. MONDAY THROUGH FRIDAY, EXCEPT LEGAL HOLIDAYS, UNLESS AUTHORIZED IN WRITING BY OWNERS.

DRAWINGS ARE TO BE READ, NOT SCALED. ALL WORK SHALL CONFORM TO THE 2008 NEW YORK CITY BUILDING CODE. TO THE BEST OF OUR KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGMENT, SUCH PLANS AND SPECIFICATIONS ARE IN CONFORMANCE WITH THE 2011 NYC ENERGY CONSERVATION CONSTRUCTION CODE. PIPING HAVE BEEN SPECIFIED TO BE INSULATED WITH R-3 INSULATION, DOMESTIC HOT WATER STORAGE TANKS HAVE R-13 INSULATION AND COGENERATION

MODULE MEETS EFFICIENCY REQUIREMENTS. SEE ENERGY ANALYSIS ON SHEET G-1.

ALL CONDITIONS ARE EXISTING EXCEPT AS NOTED. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED EITHER APPROVED OR IN ACCORDANCE WITH APPLICABLE CODE. NO CHANGE IN USE, EGRESS OR OCCUPANCY.

SPECIAL/PROGRESS INSPECTION REQUIREMENTS: THE FOLLOWING ITEMS OF WORK SHALL BE SUBJECT TO SPECIAL AND/OR PROGRESS INSPECTION. MADE AND WITNESSED BY OR UNDER THE DIRECT SUPERVISION OF AN

ARCHITECT OR ENGINEER RETAINED BY THE CONTRACTOR WHO SHALL BE QUALIFIED TO PERFORM SUCH INSPECTIONS. A TEST REPORT AND CERTIFICATE OF INSPECTION SHALL BE FILED WITH THE BUILDING DEPARTMENT. - BC 1704.16

- MECHANICAL SYSTEMS HEATING SYSTEMS
- FIRESTOP, DRAFTSTOP & FIREBLOCK
- BC 1704.25 - BC 1704.27

SPECIAL INSPECTIONS/PROGRESS (TR-1)		ENERGY CODE COMPLIANCE INSPECTIONS (TR-8)							
 ✓ MECHANICAL SYSTEMS ✓ HEATING SYSTEMS ✓ FIRE-RESISTANT PENETRATIONS AND JOINTS ✓ ENERGY CODE COMPLIANCE INSPECTION 	BC 1704.16 BC 1704.25 BC 1704.27 BC 110.3.5	HVAC & SERVICE WATER HEATING EQUIPMENT HVAC & SERVICE WATER HEATING CONTROLS DUCT PLENUM AND PIPING INSULATION & SEALING MAINTENANCE INFORMATION	IIB3 IIB4 IIB5 IID1						

MECHANICAL SYMBOLS LIST:

CIRCULATION PUMP TEMPERATURE SENSOR

BALL VALVE

BUTTERFLY VALVE UNION

THERMOMETER

PRESSURE RELIEF VALVE

AQUASTAT

STRAINER - Y TYPE

MANUAL AIR VENT

FLOW DIRECTION

COGEN TEMPERATURE SENSOR

GATE VALVE CHECK VALVE

— FLOW CHECK

FAN/COIL UNIT



HEAT EXCHANGER



3-WAY VALVE A: NORMALLY CLOSED B: NORMALLY OPEN AB: MIXED WATER

NORMALLY OPEN/ON NORMALLY CLOSED/OFF

CLOSED WINTER C.S. CLOSED SUMMER

POINT OF CONNECTION TO EXISTING

—cw—— COLD WATER (DOMESTIC) -CWF- COLD WATER FILL

--HWS--- BUILDING HEAT SUPPLY

—DHWR— BUILDING DHW RETURN —DHWS— BUILDING DHW CIRCULATION

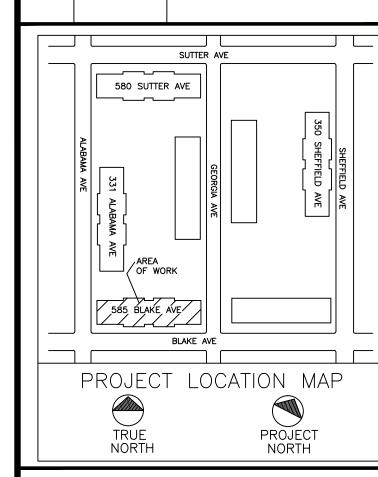
—c—— COGEN PROCESS LOOP PIPING

-CDHW- COGEN DHW SUPPLY —gs— GLYCOL SUPPLY

—GR—— GLYCOL RETURN

—E—— COGEN EXHAUST PIPE

—G—— COGEN GAS LINE



DATE

3/15/17

REVISION DESCRIPTION

GAS PIPING SIZE REVISED

AEGIS ENERGY SERVICES, INC 55 JACKSON STREET

HOLYOKE, MA 01040 TEL.: 413-536-1156 FAX: 413-536-1104 ATTN: KEVIN MAY

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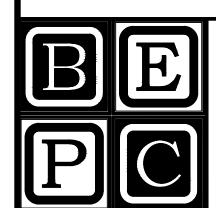
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PREPARED BY:

BECKER ENGINEERING, PC

777 SUNRISE HIGHWAY, SUITE 300 LYNBROOK, NY 11563 PHONE: (516) 561-5922 FAX: (516) 823-0219 EMAIL: SUPPORT@BEPC.US



WEB: WWW.BEPC.US

REMEEDER HOUSE COGENERATION PROJECT 585 BLAKE AVE BROOKLYN, NY 11207

TITLE SHEET, GENERAL NOTES & MECHANICAL SYMBOL LIST

DESIGN	BY:	SP	DATE:	12-14-16
DRN BY	′ :	SP	DATE:	12-14-16
CKD BY	' :	•	DATE:	•
FINAL C	KD BY:		DATE:	•
SCALE:	AS NOT	ED	DATE:	
DWG No).	P	AGE 1 OF	10

T-101.01

60 - 340

	INSPECTION/TEST SCHEDULE	FREQUENCY (MINIMUM)	REFERENCE STANDARD (SEE NYCECC CHAPTER 6)	NYCECC OR OTHER CITATION
IIB3	HVAC, SERVICE WATER HEATING AND POOL EQUIPMENT SIZING AND PERFORMANCE: 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 MANUFACTURE'S DATA. POOL HEATERS AND COVERS SHALL BE VERIFIED BY VISUAL INSPECTION.	PRIOR TO FINAL PLUMBING AND CONSTRUCTION INSPECTION	AFTER INSTALLATION AND PRIOR TO CLOSING SHAFTS CEILINGS AND WALLS	C403.1, C404.2, C404.7
IIB4	HVAC SYSTEM CONTROLS AND ECONOMIZERS AND SERVICE HOT WATER SYSTEM CONTROLS: NO LESS THAN 20% OF EACH TYPE OF REQUIRED CONTROLS AND ECONOMIZERS SHALL BE VERIFIED BY VISUAL INSPECTION AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION	AFTER INSTALLATION AND PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION, EXCEPT THAT FOR CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY, SUCH TESTING SHALL B 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, C403.2, C403.3.3, C403.3, C404.6, C404.7 PERFORMED BEFORE SIGNOFF FOR ISSURANCE OF A FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS INCLUDING	C403.2.4, C403.2.5.1, C403.2.11, C403.2, C403.3.3, C403.3, C404.6 C404.7
IIB5	HVAC INSULATION AND SEALING: INSTALLED DUCTS AND PIPING INSULATION SHALL BE VISUALLY INSPECTED TO VERIFY PROPER INSULATION PLACEMENT AND VALUES. JOINS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK SHALL BE VISUALLY INSPECTED FOR PROPER SEALING.	PERFORMED BEFORE SIGN OFF FOR ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS: SMACNA DUCT CONSTRUCTION STANDARDS. METAL AND FLEXIBLE: UL 181A OR UL 181B	C403.2.7, C403.2.8, C404.5

ENERGY	ANALYSIS FOR ALTERATION — 2014 NYCECC	- CHAPTER C4, CLIMATE ZONE 4
	EQUIPMENT	
ITEM TAG	COGENERATIO	N MODULE
NYCECC CITATION	C404.3	C404.5
PROVISION	TEMPERATURE CONTROLS	PIPE INSULATION
ITEM DESCRIPTION	TEMPERATURE CONTROLS	PIPE INSULATION
PROPOSED DESIGN VALUE	MIXED WATER TEMPERATURE SET FOR 110°F	2" INSULATION SHALL BE USED ON ALL HOT WATER SERVICE PIPING
CODE PRECRIPTIVE VALUE	CONTROLS SHALL ALLOW 110°F SET POINT FOR ALL	CONDUCTIVITY FOR INSULATION SHALL NOT EXCEED 0.27 BTU/INCH/HXFT^2XF
SUPPORTING DOCUMENTATION	SEE PLUMBING DRAWINGS FOR REFERENCE	SEE PLUMBING DRAWINGS FOR REFERENCE

Electric Usage and Costs With AEGIS 35kW Cogen Plant										
									Total	
		kW		Co	nEd SC8		ESCO		Electric	
Date	Days	Demand	kWh		elivery		Supply	(Charges	
12/22/2014										
1/21/2015	30	100	33,820	\$	4,156	\$	3,629	\$	7,785	
2/20/2015	30	93	30,780	\$	3,492	\$	3,303	\$	6,795	
3/22/2015	30	85	27,100	\$	3,526	\$	2,908	\$	6,434	
4/22/2015	31	57	14,142	\$	2,096	\$	1,517	\$	3,613	
5/21/2015	29	61	15,258	\$	2,044	\$	1,637	\$	3,681	
6/22/2015	32	92	21,664	\$	3,694	\$	2,325	\$	6,019	
7/22/2015	30	130	47,980	\$	5,812	\$	5,148	\$	10,960	
8/22/2015	31	123	46,142	\$	5,690	\$	4,951	\$	10,641	
9/23/2015	32	121	46,944	\$	5,830	\$	5,037	\$	10,867	
10/22/2015	29	71	19,658	\$	2,496	\$	2,109	\$	4,605	
11/22/2015	31	59	15,502	\$	2,173	\$	1,663	\$	3,836	
12/22/2015	30	77	23,100	\$	3,012	\$	2,479	\$	5,490	
Total:	365	130	342,090	\$	44,020	\$	36,706	\$	80,727	

				AEG	IS 35 kV	V Cogen	Plant Ho	urs		Usage		With	out	AEGIS C	Costs		With	AE	EGIS C	osts					
		Total	DHW	Sp. Ht.	Displ.	Cogen	Cogen	Cogen	Total	Suppl.	Cogen	Total		N-Grid	Direct Energy			N	l-Grid	Direct Energy	N-Grid	N	N-Grid		
		Gas	Gas	Gas	Heat	Run	#1 Daily	Dump	Cogen	Gas	Gas	Gas	∥ т	3 Gas	Boiler Gas	Т	otal	Т	3 Gas	Boiler Gas	4-A Cogen	4-⊅	Cogen		Total
Date	Days	Therms	Therms	Therms	Therms	Hours	Hours	Hours	Hours	Therms	Therms	Therms	∥ D	elivery	Supply	Cha	arges	De	elivery	Supply	Gas Delivery	Gas	Supply	CI	harges
1/5/15																									
2/4/15	30	8,089	1,286	6,803	862	401	24	283	684	6,867	2,784	9,651	\$	2,191	\$ 4,395	\$	6,586	\$	1,879	\$ 3,731	\$ 737	\$	852	\$	7,198
3/7/15	31	8,099	1,329	6,770	891	415	24	292	707	6,836	2,877	9,713	\$	2,198	\$ 4,400	\$	6,598	\$	1,875	\$ 3,714	\$ 762	\$	833	\$	7,183
4/5/15	29	6,793	1,243	5,550	833	388	24	273	661	5,612	2,691	8,303	\$	1,856	\$ 3,691	\$	5,546	\$	1,553	\$ 3,049	\$ 713	\$	642	\$	5,957
5/5/15	30	3,557	1,286	2,271	862	401	24	283	684	2,335	2,784	5,119	\$	1,031	\$ 1,932	\$	2,964	\$	719	\$ 1,269	\$ 737	\$	681	\$	3,406
6/4/15	30	1,939	1,286	653	862	401	24	283	684	717	2,784	3,501	\$	617	\$ 1,053	\$	1,671	\$	282	\$ 390	\$ 737	\$	507	\$	1,916
7/6/15	32	1,708	1,372	336	919	428	24	301	730	404	2,969	3,374	\$	566	\$ 928	\$	1,494	\$	181	\$ 220	\$ 786	\$	610	\$	1,797
8/5/15	30	1,323	1,323	-	886	413	24	271	684	66	2,784	2,850	\$	460	\$ 719	\$	1,178	\$	64	\$ 36	\$ 737	\$	543	\$	1,381
9/4/15	30	1,258	1,258	-	843	393	24	291	684	63	2,784	2,847	\$	443	\$ 683	\$	1,127	\$	63	\$ 34	\$ 737	\$	577	\$	1,412
10/5/15	31	1,321	1,321	-	885	412	24	295	707	66	2,877	2,943	\$	463	\$ 718	\$	1,181	\$	66	\$ 36	\$ 762	\$	648	\$	1,511
11/6/15	32	2,769	1,372	1,397	919	428	24	301	730	1,465	2,969	4,435	\$	838	\$ 1,504	\$	2,342	\$	504	\$ 796	\$ 786	\$	703	\$	2,790
12/6/15	30	3,956	1,286	2,670	862	401	24	283	684	2,734	2,784	5,518	\$	1,134	\$ 2,149	\$	3,283	\$	821	\$ 1,485	\$ 737	\$	734	\$	3,777
1/5/16	30	5,316	1,286	4,030	862	401	24	283	684	4,094	2,784	6,878	\$	1,482	\$ 2,888	\$	4,370	\$	1,169	\$ 2,224	\$ 737	\$	834	\$	4,965
Total:	365	46,128	15,651	30,477	10,486	4,883		3,439	8,322	31,260	33,871	65,130	\$	13,279	\$ 25,061	<u> </u>	38,340	\$	9,176	\$ 16,983	\$ 8,970	<u> </u>	8,164	<u> </u>	43,293

Remeeder Hous 585 Blake Ave Brooklyn, NY 11)	
Energy Expenses With	out A	LEGIS
ConEd SC8 Electric Delivery ESCO Electric Supply N-Grid T-3 Boiler Gas Delivery Direct Energy Boiler Gas Supply	\$ \$ \$ \$	63,758 67,960 13,279 25,061 170,058
Unit Type # Of Units		CP35D 1
Energy Expenses Wit	h AE	GIS
ConEd SC8 Electric Delivery ESCO Electric Supply N-Grid T-3 Boiler Gas Delivery Direct Energy Boiler Gas Supply N-Grid 4-A Cogen Gas Delivery N-Grid 4-A Cogen Gas Supply	\$ \$ \$ \$ \$ \$ \$ \$	44,020 36,706 9,176 16,983 8,970 8,164 124,020
Gross Savings Cogen Maintenance Net Savings:	\$ \$ \$	46,038 (6,242) 39,797

Electric Usage and Costs Without AEGIS 35 kW Cogen Plant

123 57,760 \$

116 54,720 \$

109 51,040 \$

80 38,880 \$

84 38,400 \$

115 47,200 \$

153 71,920 \$

146 70,880 \$

145 72,480 \$

100 47,040 \$

83

42,800 \$

40,240 \$

Date Days Demand kWh

12/22/2014

1/21/2015 30

2/20/2015 30

3/22/2015 30

4/22/2015 31

5/21/2015 29

6/22/2015 32

7/22/2015 30

8/22/2015 31

9/23/2015 32

10/22/2015 29

11/22/2015 31

12/22/2015 30

Total: 365

ConEd SC8

Delivery

ESCO

Supply

5,477 \$

5,065 \$

7,777 \$

5,047 \$

5,940 \$ 6,198 \$

5,002 \$ 5,871 \$

3,816 \$ 4,172 \$

3,481 \$ 4,120 \$

7,405 \$ 7,717 \$

7,356 \$ 7,605 \$

3,898 \$ 4,592 \$

3,806 \$ 4,318 \$

5,362 \$

5,380 \$

7,564 \$

4,747 \$

153 633,360 \$ 63,758 \$ 67,960 \$ 131,718

Electric

Charges

12,138

10,874

10,838

7,988

7,602

10,445

15,122

14,962

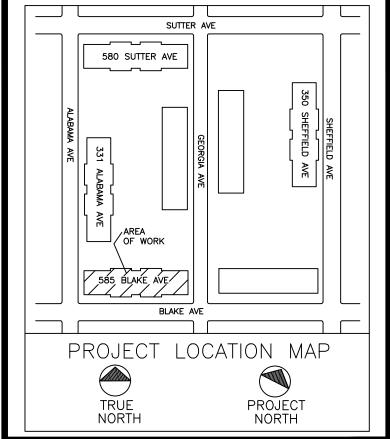
15,341

8,491

8,124

9,794

NO.	DATE	REVISION DESCRIPTION
1	3/15/17	GAS PIPING SIZE REVISED



CLIENT:

AEGIS ENERGY SERVICES, INC 55 JACKSON STREET HOLYOKE, MA 01040 TEL.: 413-536-1156 FAX: 413-536-1104 ATTN: KEVIN MAY

ALL DRAWINGS ARE TO BE READ NOT SCALED.

STATEMENT:

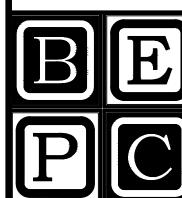
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PREPARED BY:

BECKER ENGINEERING, PC

777 SUNRISE HIGHWAY, SUITE 300 LYNBROOK, NY 11563 PHONE: (516) 561-5922 FAX: (516) 823-0219 EMAIL: SUPPORT@BEPC.US WEB: WWW.BEPC.US



DPO IFCT

REMEEDER HOUSE COGENERATION PROJECT 585 BLAKE AVE BROOKLYN, NY 11207

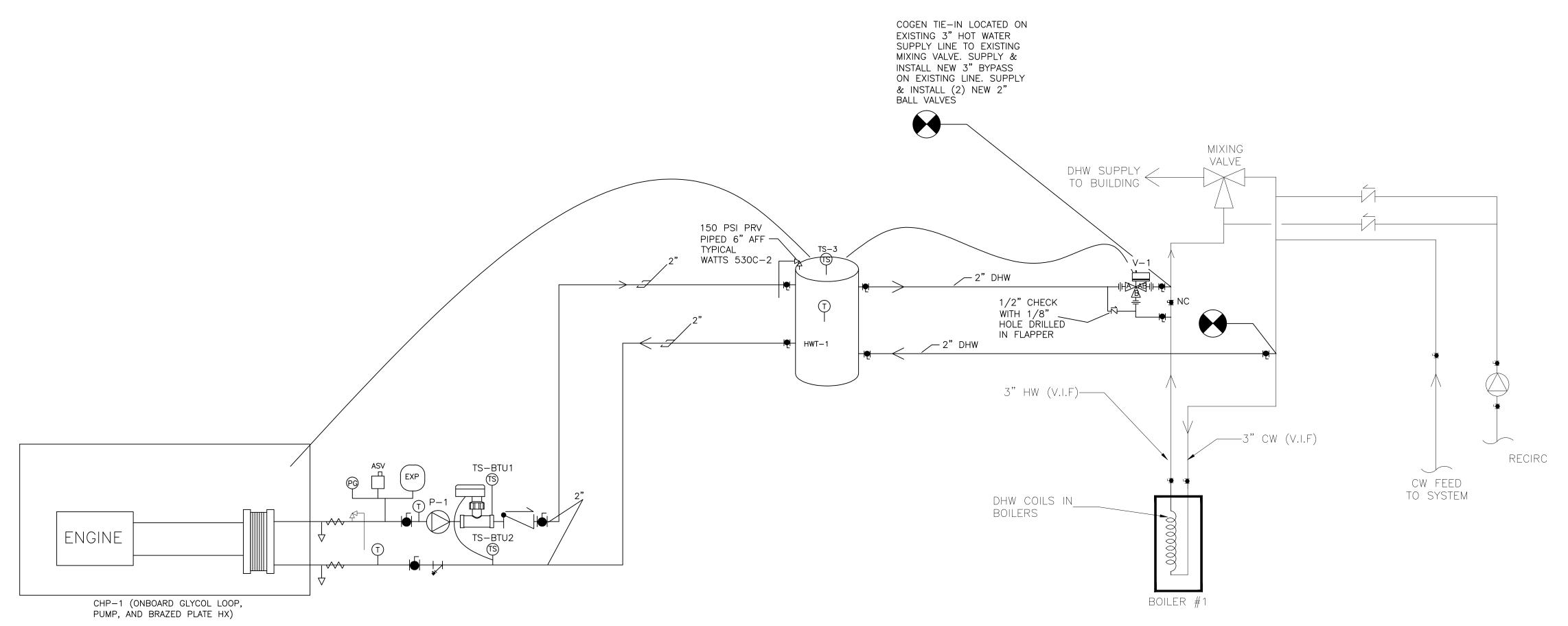
DRAWING TITLE

ENERGY ANALYSIS

	DESIGN	BY:	SP	DATE:	12-14-16
ı	DRN BY	':	SP	DATE:	12-14-16
	CKD BY	' :	•	DATE:	•
ı	FINAL C	KD BY:	•	DATE:	•
	SCALE:	AS NOT	ΓED	DATE:	
	DWG No).	Р	AGE 2 OF	10

G-101.00

60-340



DHW STORAGE TA	NK SCHEDULE HWT-1
MANUFACTURER	AO SMITH
WEIGHT	~800 LBS
CAPACITY	120 GAL
ORIENTATION	VERTICAL
LINING	GLASS
DIAMETER	28"
HEIGHT	62"
MODEL	TJV-120M
MANWAY	N/A
MAX PRESSURE	160 PSI
PRESSURE RELIEF VALVE	WATTS530C-2 SET AT 150 PSI

COGENERATION SC	CHEDULE CHP-1
DESIGN MANUFACTURER	YANMAR
FUEL	NATURAL GAS
FUEL INPUT	408 CFH
THERMAL OUTPUT	202,000 BTU/H
ELECTRICAL OUTPUT	35 KW, 208V
POWER GENERATOR	DG GENERATOR - INVERTER
ACOUSTIC LEVEL	64 dB (A)
VIBRATION ISOLATION	YES
CONTROLS	MICROPROCESSOR BASED
UNIT WEIGHT	3,374 LBS
MODEL	CP35D1
NOMINAL INLET TEMP	167 F
NOMINAL OUTLET TEMP	176 F
NOMINAL WATER FLOW RATE	39.6 GPM

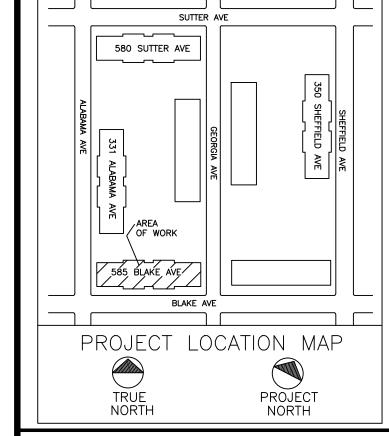
PUN	MP SCHEDULE					
PUMP NO.	SERVICE	FLOW	HEAD	PUMP H.P.	PHASE	PUMP MODEL
P-1	COGEN LOOP	40 GPM	17 FT	1/2 HP	1 PH	GRUNDFOS UPS 43-100 SF

CON	ITROL VALVE SCHEDULE					
VALVE NO.	SERVICE	FLOW TYPE	SIZE	VOLTAGE	VALVE MODEL	ACTUATOR
V-1	BUILDING DHW LOOP	NORMALLY B	2"	24 V	BARBER COLMAN VA2313-526-9-67	MA40-7043 ON/OFF

TEMPERATURE SENSOR SCHEDULE						
TS NO.	SERVICE	SENSOR MODEL NO.	WELL TYPE			
TS-BTU1	COGEN SUPPLY	MAMAC TE-703-C-5A	AT-225			
TS-BTU2	COGEN LOOP LEAVING H.X1	MAMAC TE-703-C-5A	AT-225			
TS-3	TANK TEMPERATURE	MAMAC TE-703-C-5A	AT-225			

1. ALL PIPE TO BE COPPER "L" UNLESS OTHERWISE NOTED
2. COGEN HEAT DISSIPATION LOOP TO BE 40% PROP. GLYCOL. ALL FILLING OF GLYCOL LOOP BY AEGIS.
3. CONTRACTOR SHALL PROTECT FROM HARM AND MAINTAIN ALL EXISTING EQUIPMENT, PLANT, FACILITY, ETC. TO REMAIN.

NO.	DATE	REVISION DESCRIPTION
1	3/15/17	GAS PIPING SIZE REVISED



CLIENT:

AEGIS ENERGY SERVICES, INC 55 JACKSON STREET HOLYOKE, MA 01040 TEL.: 413-536-1156 FAX: 413-536-1104 ATTN: KEVIN MAY

ALL DRAWINGS ARE TO

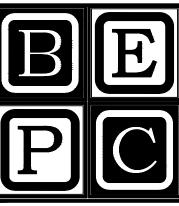
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777 SUNRISE HIGHWAY, SUITE 300 LYNBROOK, NY 11563 PHONE: (516) 561-5922 FAX: (516) 823-0219 EMAIL: SUPPORT@BEPC.US WEB: WWW.BEPC.US



REMEEDER HOUSE COGENERATION PROJECT 585 BLAKE AVE BROOKLYN, NY 11207

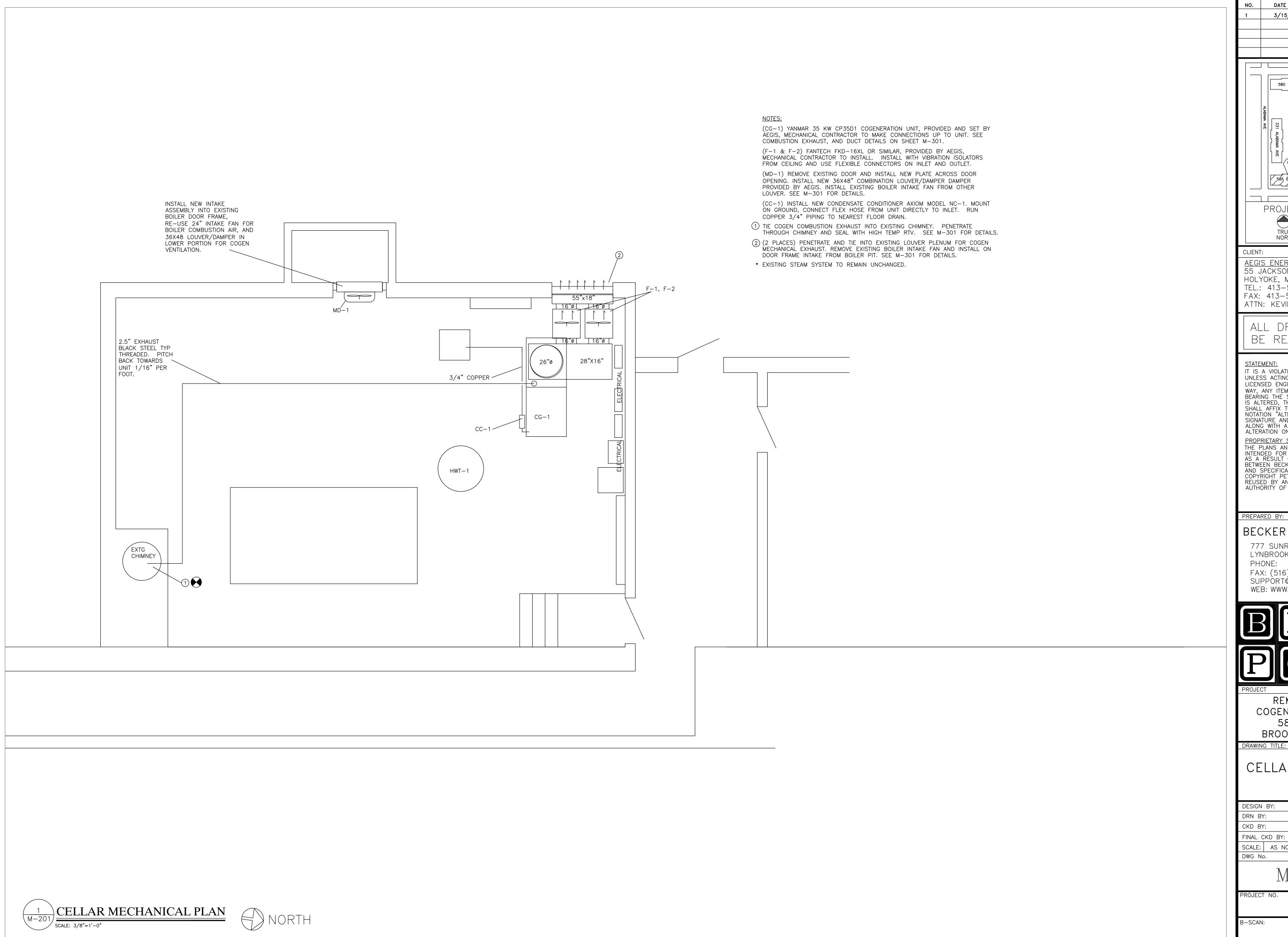
MECHANICAL/HVAC SCHEDULES & FLOW DIAGRAM

	DESIGN	BY:	SP	DATE:	12-14-16
	DRN BY	':	SP	DATE:	12-14-16
	CKD BY	':	•	DATE:	•
	FINAL C	KD BY:		DATE:	•
	SCALE:	AS NOT	ΓED	DATE:	
	DWG No).	Р	AGE 3 OF	10

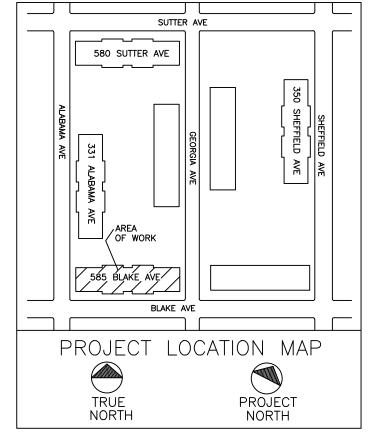
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60 - 340





REVISION DESCRIPTION 3/15/17 GAS PIPING SIZE REVISED



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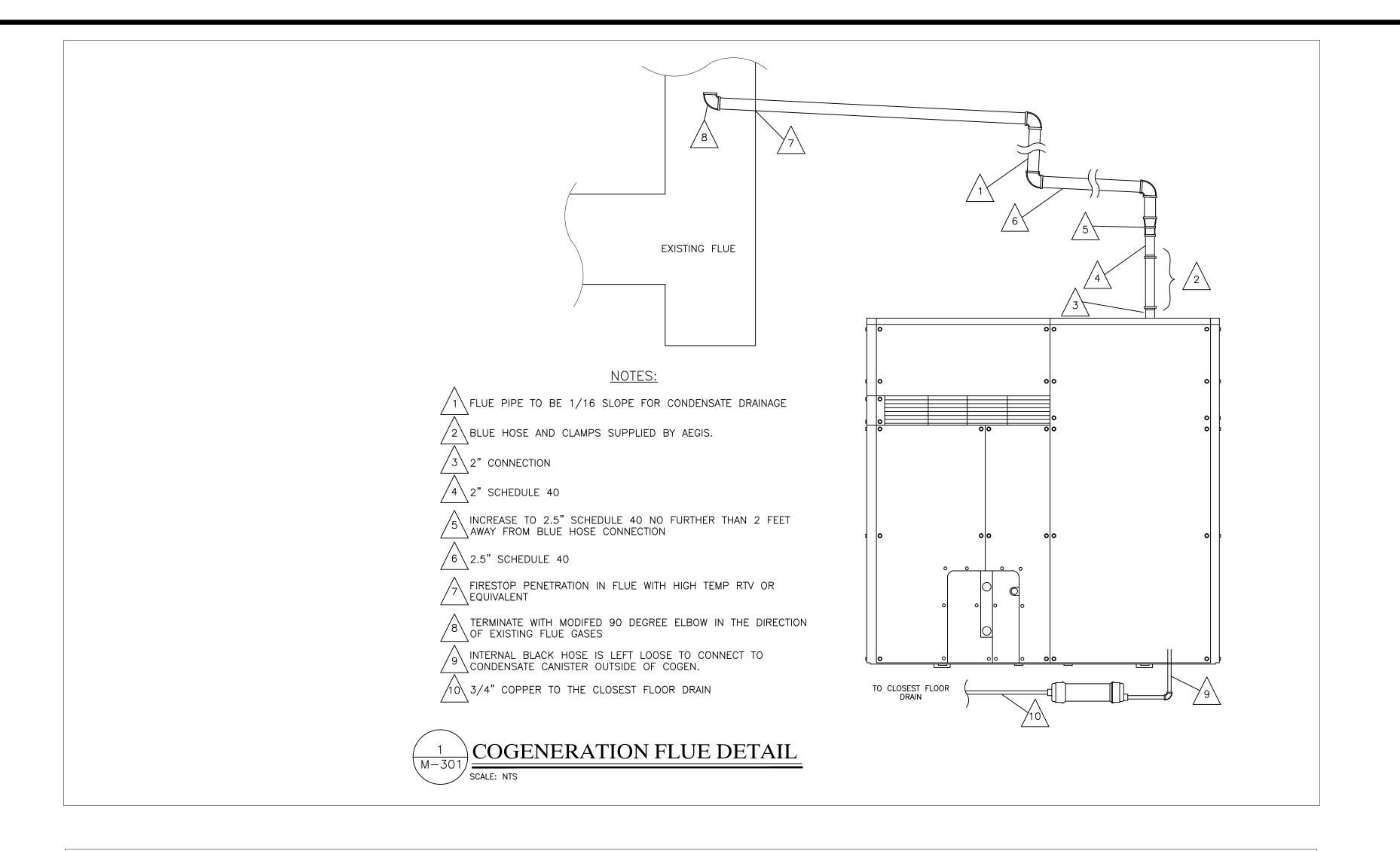
REMEEDER HOUSE COGENERATION PROJECT 585 BLAKE AVE BROOKLYN, NY 11207

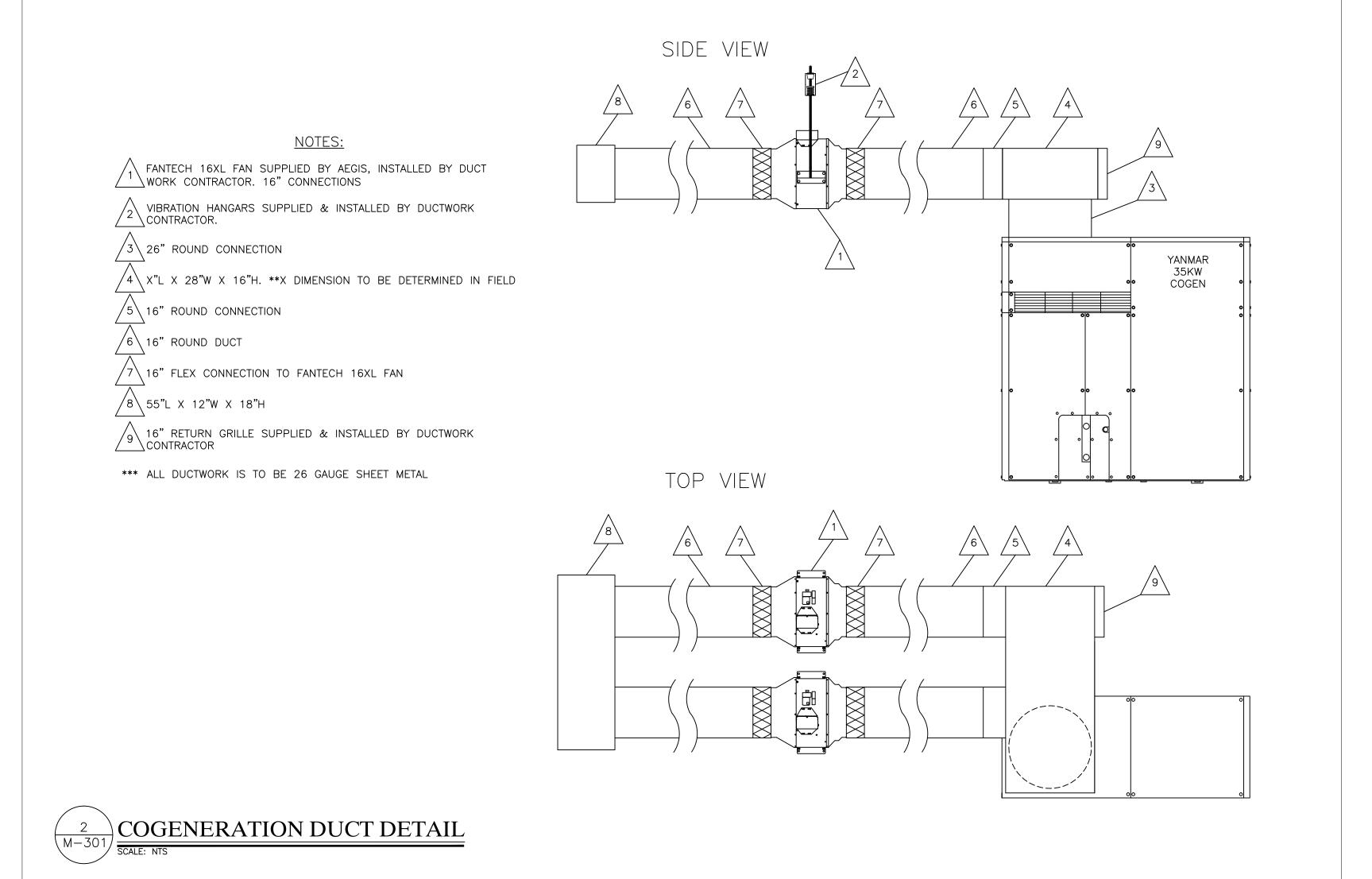
CELLAR MECHANICAL PLAN

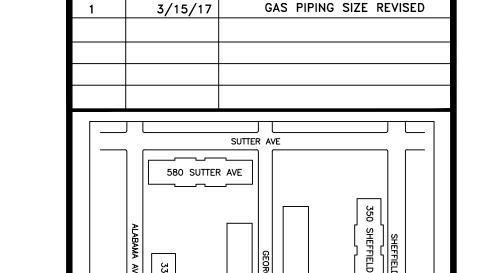
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DWG No).	Р	AGE 4 OF	10

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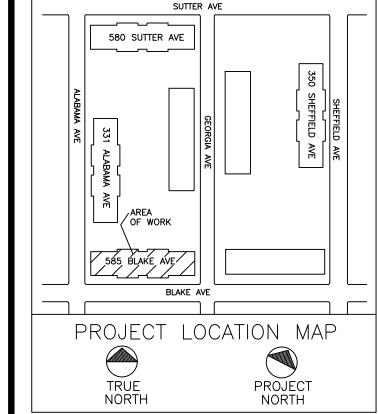






REVISION DESCRIPTION

GAS PIPING SIZE REVISED



CLIENT:

AEGIS ENERGY SERVICES, INC 55 JACKSON STREET HOLYOKE, MA 01040 TEL.: 413-536-1156 FAX: 413-536-1104 ATTN: KEVIN MAY

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STATEMENT:

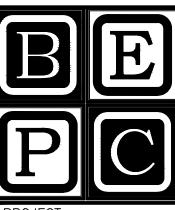
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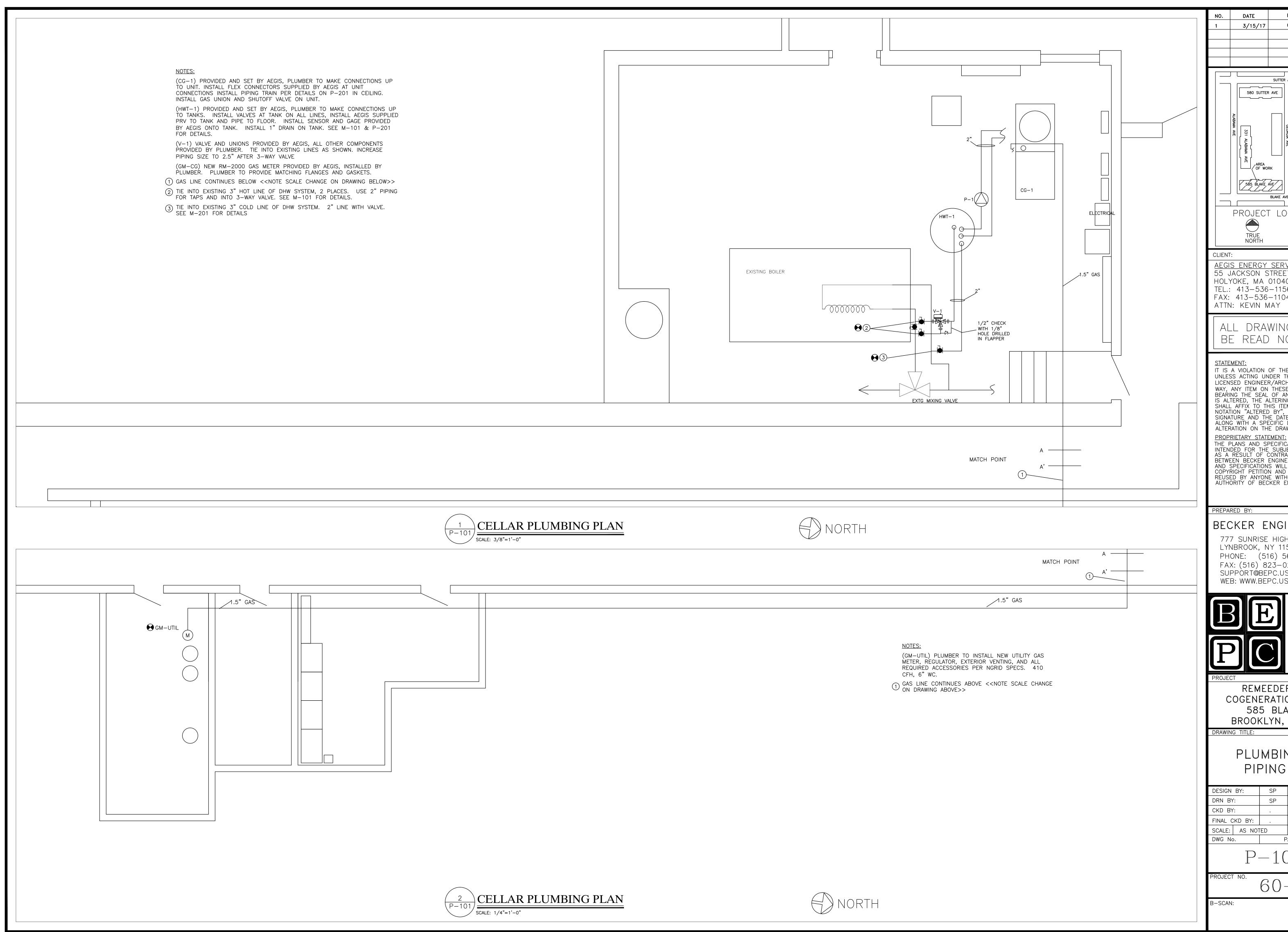
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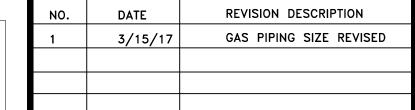
MECHANICAL/ HVAC DETAILS

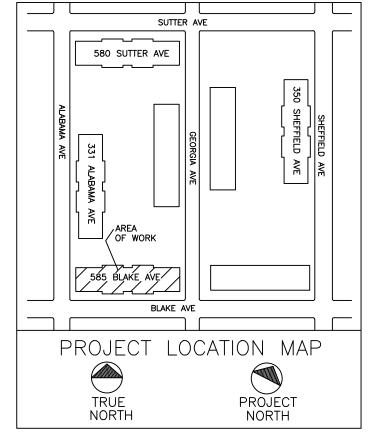
DESIGN	BY:	SP	DATE:	12-14-16
DRN BY	' :	SP	DATE:	12-14-16
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DWG No).	Р	AGE 5 OF	10

M - 301.00

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AEGIS ENERGY SERVICES, INC 55 JACKSON STREET HOLYOKE, MA 01040 TEL.: 413-536-1156 FAX: 413-536-1104 ATTN: KEVIN MAY

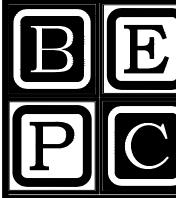
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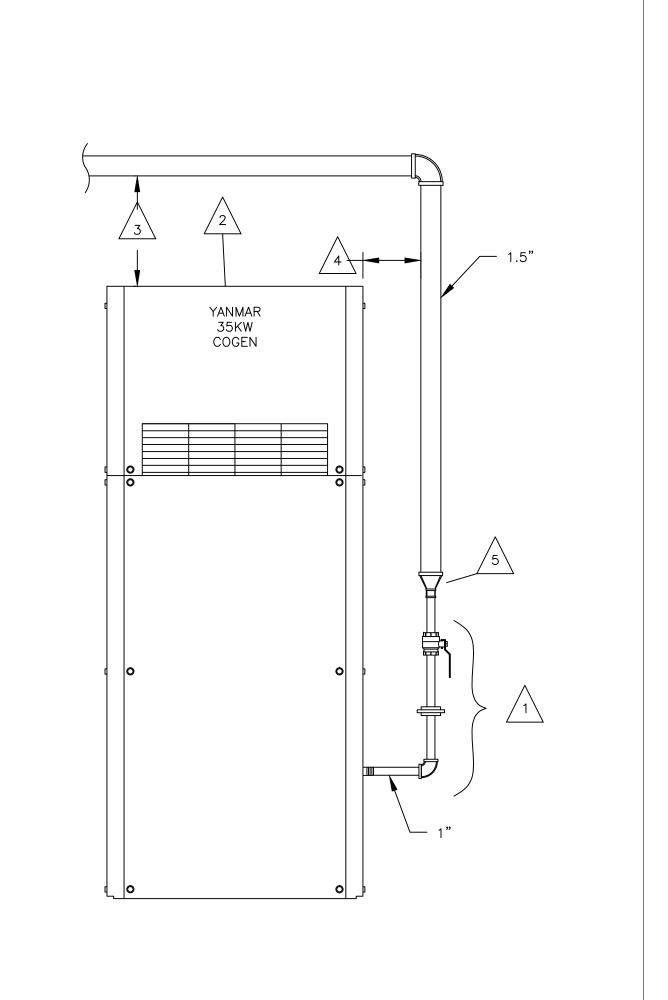
REMEEDER HOUSE COGENERATION PROJECT 585 BLAKE AVE BROOKLYN, NY 11207

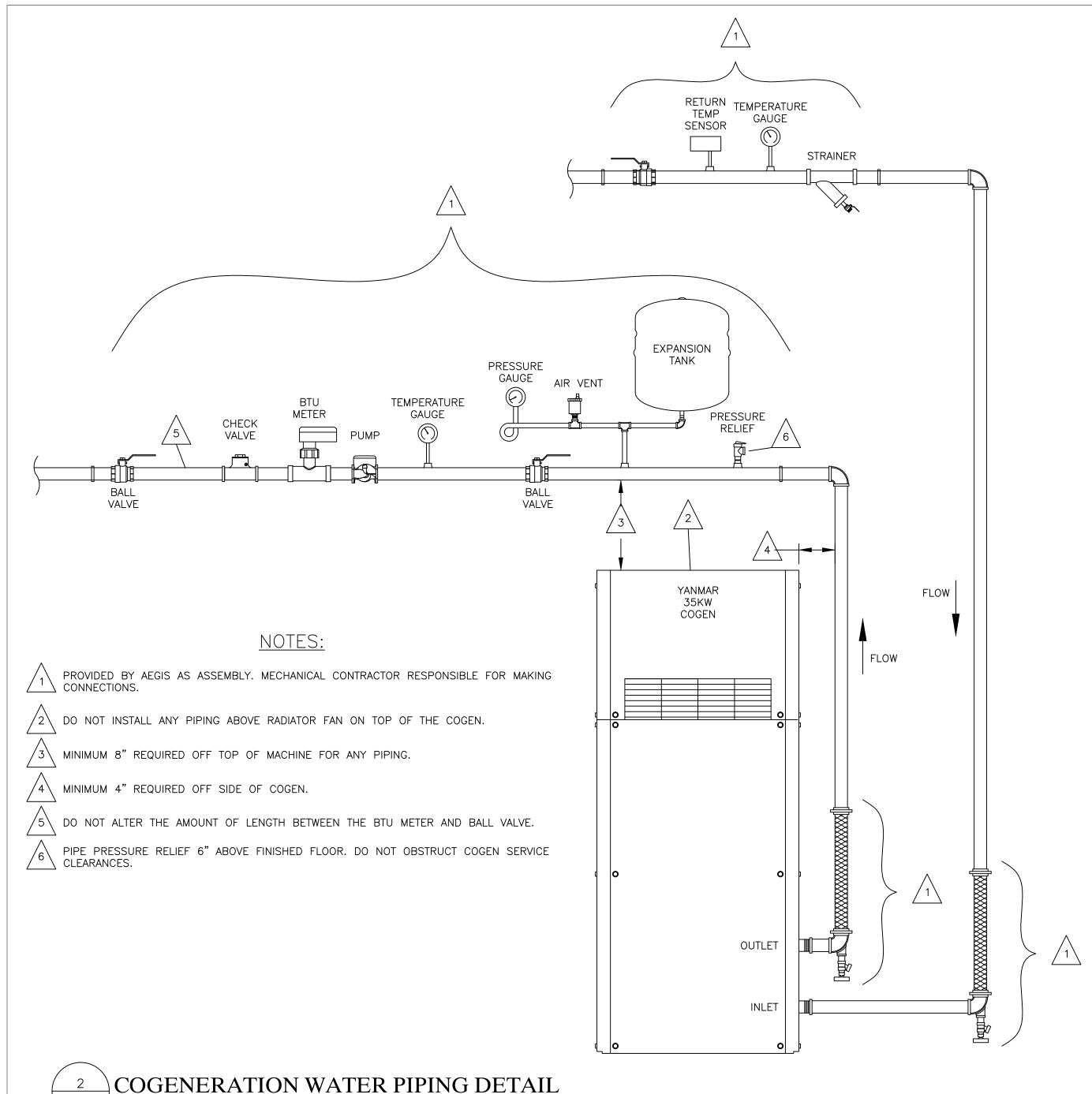
PLUMBING/GAS PIPING PLAN

DESIGN	BY:	SP	DATE:	12-14-16
DRN BY:		SP	DATE:	12-14-16
CKD BY	':	•	DATE:	•
FINAL C	KD BY:		DATE:	•
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DWG No).	Р	AGE 6 OF	10

P-101.01

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NOTES:

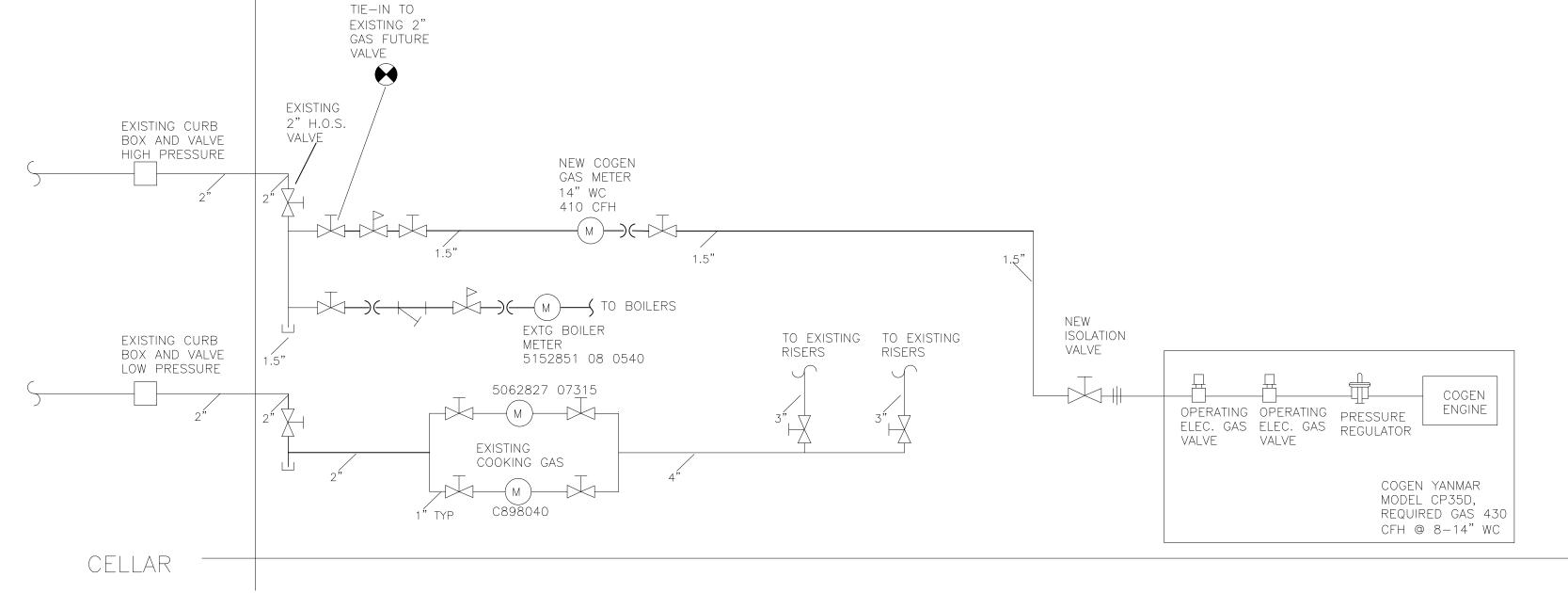
1\ INSTALL UNION AND VALVE AT COGEN. DO NOT EXCEED MORE THAN 2' OF 1" PIPING

DO NOT INSTALL ANY PIPING ABOVE RADIATOR FAN ON TOP OF THE COGEN.

 $3\$ MINIMUM 8" REQUIRED OFF TOP OF MACHINE FOR ANY PIPING.

 $/4\$ MINIMUM 2" REQUIRED OFF SIDE OF COGEN.

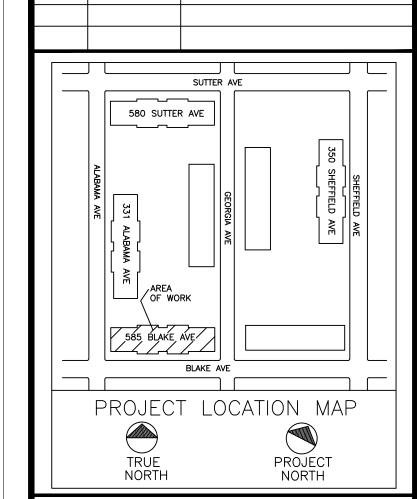
/5\ REDUCE FROM 1.5" TO 1"



COGENERATION GAS RISER DIAGRAM

PROJECT NO.

B-SCAN:



REVISION DESCRIPTION

GAS PIPING SIZE REVISED

CLIENT:

AEGIS ENERGY SERVICES, INC 55 JACKSON STREET HOLYOKE, MA 01040 TEL.: 413-536-1156 FAX: 413-536-1104 ATTN: KEVIN MAY

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PROJECT

REMEEDER HOUSE COGENERATION PROJECT 585 BLAKE AVE BROOKLYN, NY 11207

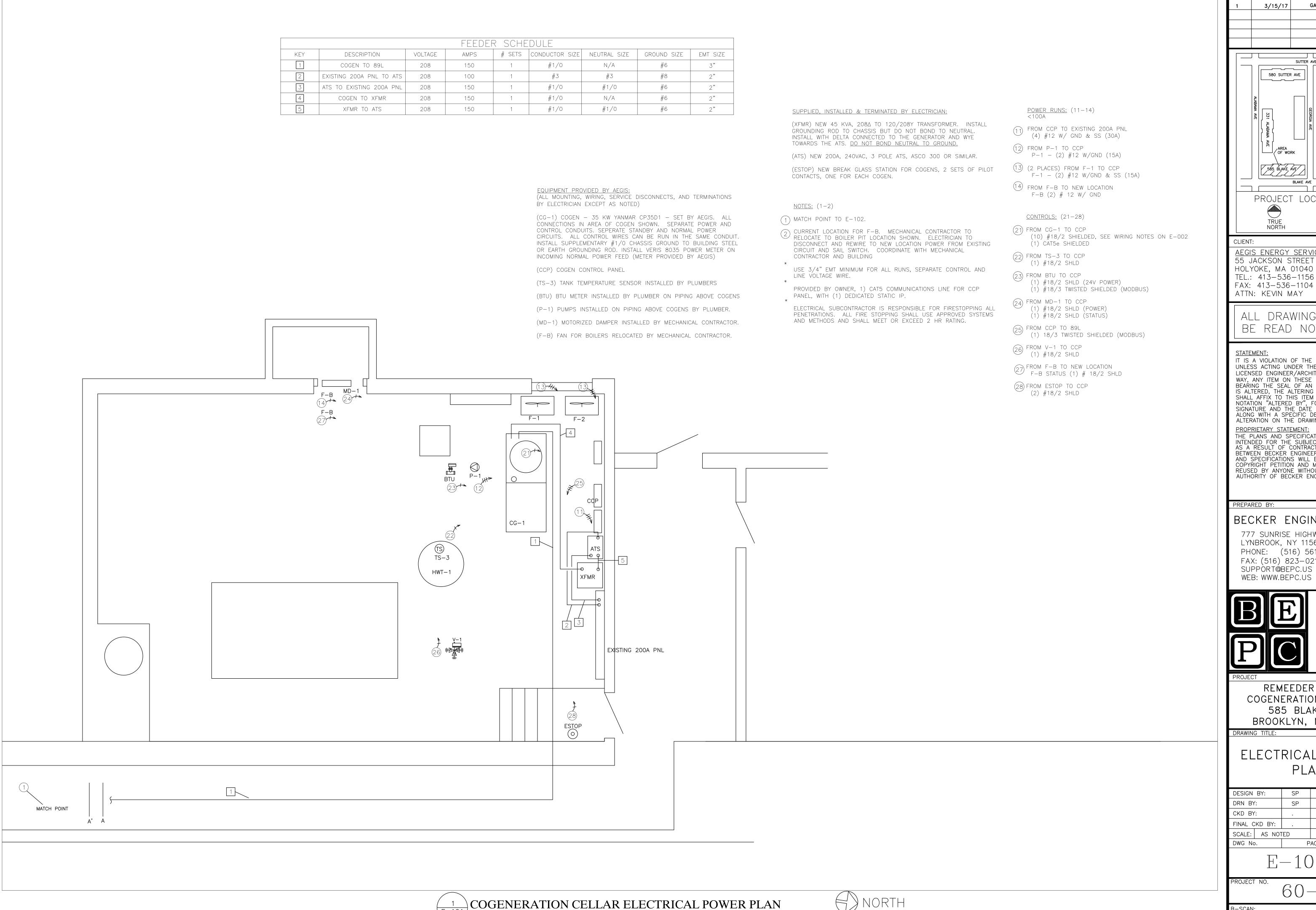
DRAWING TITLE:

PLUMBING DETAIL & GAS RISER DIAGRAM

	DESIGN	BY:	SP	DATE:	12-14-16
	DRN BY: CKD BY:		SP	DATE:	12-14-16
			•	DATE:	
	FINAL C	KD BY:	•	DATE:	•
	SCALE:	AS NOT	ΓED	DATE:	
	DWG No).	Р	AGE 7 OF	10

P-201.01

60 - 340



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

AEGIS ENERGY SERVICES, INC 55 JACKSON STREET HOLYOKE, MA 01040 TEL.: 413-536-1156

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REVISION DESCRIPTION GAS PIPING SIZE REVISED

3/15/17

____ 580 SUTTER AVE

585 BLAKE AVE

BLAKE AVE

PROJECT LOCATION MAP

PROJECT

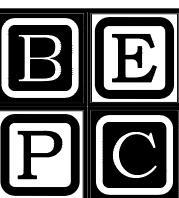
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REMEEDER HOUSE COGENERATION PROJECT 585 BLAKE AVE BROOKLYN, NY 11207

DRAWING TITLE:

ELECTRICAL CELLAR PLAN

	DESIGN BY:		SP	DATE:	12-14-16
	DRN BY	:	SP	DATE:	12-14-16
	CKD BY:		•	DATE:	
	FINAL C	KD BY:		DATE:	
	SCALE:	AS NOT	ED	DATE:	
	DWG No).	Р	AGE 8 OF	10

E-101.00

60 - 340

FEEDER SCHEDULE								
KEY	DESCRIPTION	VOLTAGE	AMPS	# SETS	CONDUCTOR SIZE	NEUTRAL SIZE	GROUND SIZE	EMT SIZE
1	COGEN TO 89L	208	150	1	#1/0	N/A	#6	3"
2	89L TO MAINS PANEL	208	150	1	#1/0	N/A	#1/0	2"

EQUIPMENT PROVIDED BY AEGIS:

(ALL MOUNTING, WIRING, SERVICE DISCONNECTS, AND TERMINATIONS BY ELECTRICIAN EXCEPT AS NOTED)

(BECK) BECKWITH PROTECTION PANEL.

(CT'S) INSTALL (3) 600A:5 FLEXCORE CT'S ONTO MAINS ON LOAD SIDE OF CONED CT'S. DO NOT INSTALL IN CONED CT COMPARTMENT. INSTALL ON A/B/C CONDUCTORS.

(MTR-8043) INSTALL VERIS 4043 MODULAR POWER METER ONTO MAINS ON LOAD SIDE OF CONED CT'S. DO NOT INSTALL IN CONED CT COMPARTMENT. INSTALL CT'S AND VOLTAGE TAPS ON A/B/C CONDUCTORS.

SUPPLIED, INSTALLED & TERMINATED BY ELECTRICIAN:

(DC-VT'S) NEW 3P, 208V RATED, 30 AMP RATED, FUSED DISCONNECT WITH 15 AMP FUSES. VISIBLE BREAK, GANG OPERATED. TAP FROM ANY PANEL IN MAIN ELECTRIC ROOM

(89L) NEW 200A, 240A RATED 3 POLE FUSED DISCONNECT WITH 125A FUSES. TAP BUS ON EXISTING 1200A DISTRIBUTION PANEL. VISIBLE BREAK, GANG OPERATED, AT ARMS HEIGHT.

<u>NOTES:</u> (1-10)

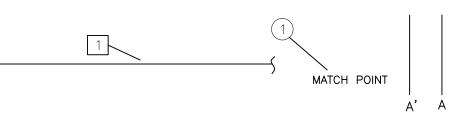
- * USE 3/4" EMT MINIMUM FOR ALL RUNS, SEPARATE CONTROL AND LINE VOLTAGE WIRE.
- * PROVIDED BY OWNER, 1) CAT5 COMMUNICATIONS LINE FOR CCP PANEL, WITH (1) DEDICATED STATIC IP.
- * ELECTRICAL SUBCONTRACTOR IS RESPONSIBLE FOR FIRESTOPPING ALL PENETRATIONS. ALL FIRE STOPPING SHALL USE APPROVED SYSTEMS AND METHODS AND SHALL MEET OR EXCEED 2 HR RATING.

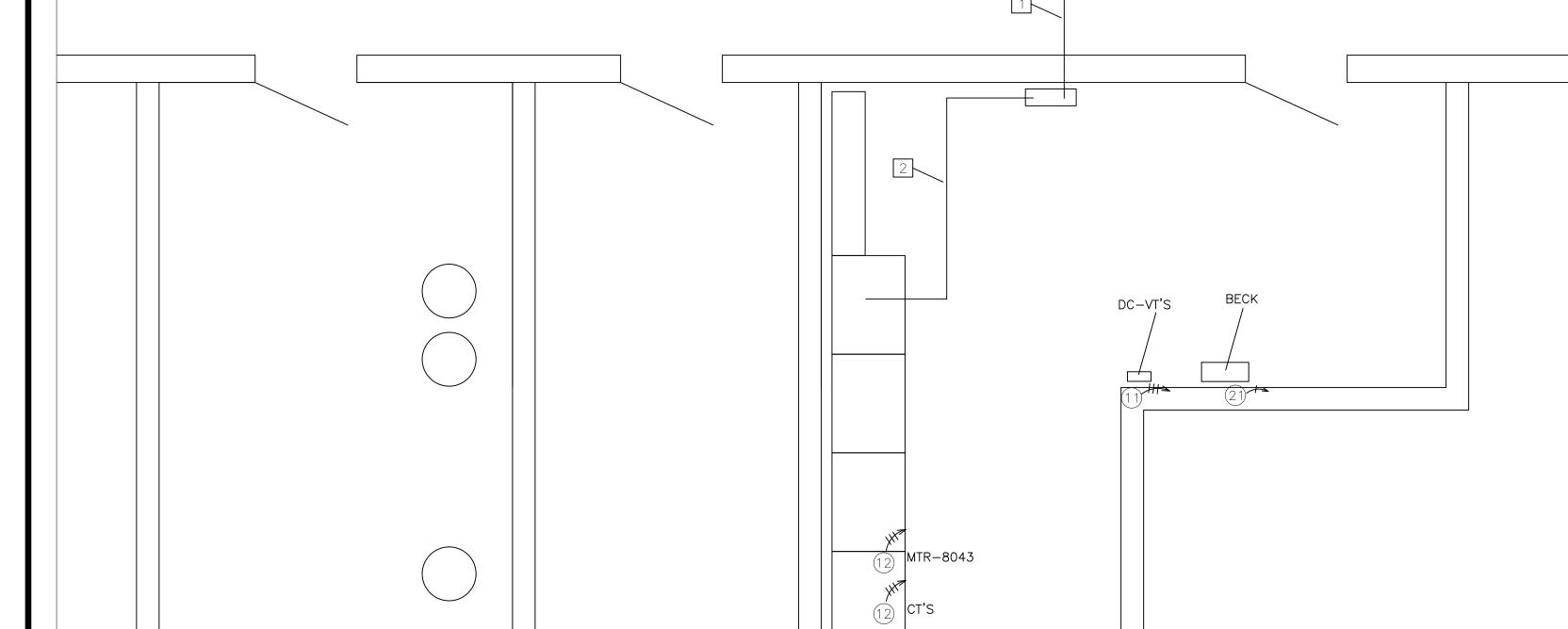
POWER RUNS: (11-12)

- 11) FROM DC-VT'S TO BECK (4) #12 & GND (15A)
- (12) FROM CT'S TO BECK
 (6) #12 W/GND (FLEXCORE CT'S)

CONTROLS: (21-22)
CONTROLS:

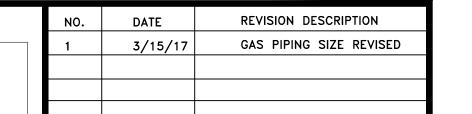
- (1) #18/2 SHLD (1) SPARE
- (2) FROM MTR-MAINS TO CG-1
 (1) #18/2 SHLD COGEN TRIP
 (1) #18/2 SHLD MAINS POWER
 (1) SPARE

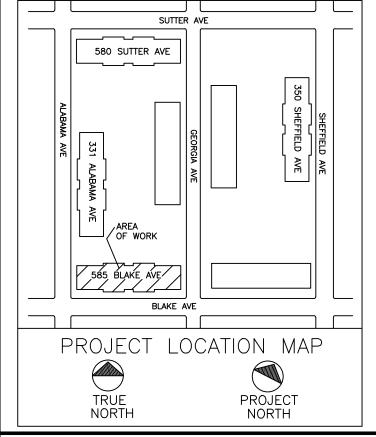












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STATEMENT:

PROPRIETARY STATEMENT:

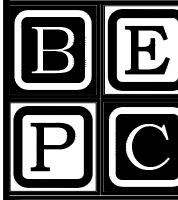
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OJECT

REMEEDER HOUSE COGENERATION PROJECT 585 BLAKE AVE BROOKLYN, NY 11207

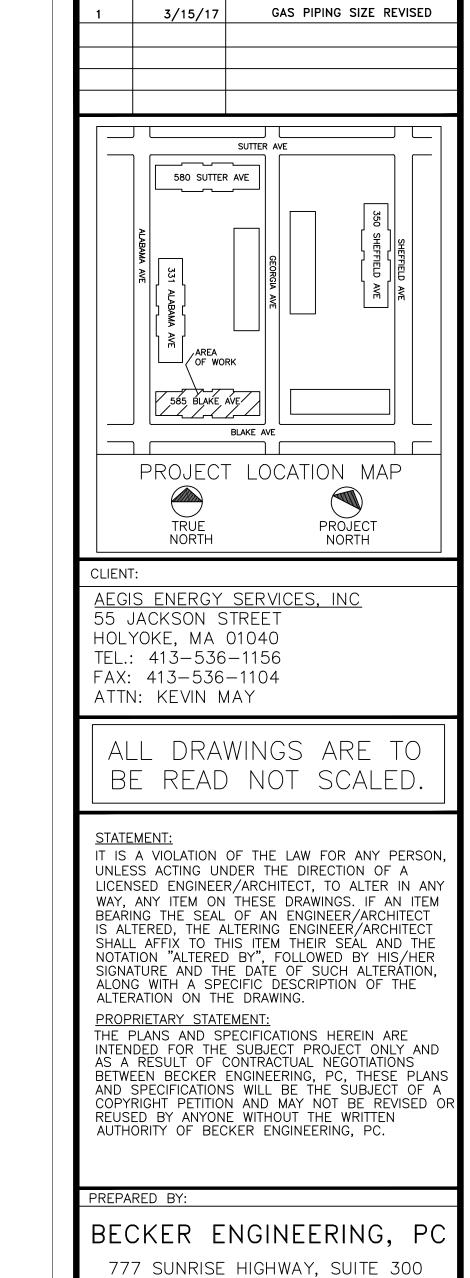
DRAWING TITLE:

ELECTRICAL CELLAR PLAN

DESIGN	DESIGN BY:		DATE:	12-14-16
DRN BY	':	SP	DATE:	12-14-16
CKD BY	':		DATE:	
FINAL C	KD BY:		DATE:	
SCALE:	AS NOT	ΓED	DATE:	
DWG No).	Р	AGE 9 OF	10

E-102.00

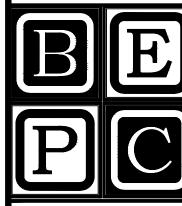
60 - 340



REVISION DESCRIPTION

BECKER ENGINEERING, PC

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DRAWING TITLE:

ELECTRICAL ONE LINE DIAGRAM

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CKD BY:		•	DATE:	•
FINAL C	KD BY:	•	DATE:	
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DWG No).	Р	AGE 10 OF	10

E-201.00

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