

Site Info – Tower West

69 W 96th St.
New York, NY 10025

Site Contact

Chris Kay
GEM Mechanical
gemmechanical@gmail.com
347-231-8535 (cell)

- CDH was on site March 18, 2015 to verify meter locations and install modbus boards in the InVerde electrical cabinets.
- CDH was on site August 18, 2015 to install a datalogger and terminate meter wiring.
- CDH was on site May 6, 2016 to correct Modbus wiring to Inverde units and install heat recovery flow meter. The unit was not running during the site visit.

Issues / To Do:

- No gas meter pulse output installed. Gas meter pulse rate not set.
- Verify sensors
- Check CT orientation on WPAR

Summary

CDH provided the data logger and enclosure. GEM mechanical installed the metering, CDH's enclosure, and performed all of the necessary wire pulls. CDH terminated wiring to the data logger and sensors and configured all metering.

Monitored Data Points

Input	Data Point	Description	Units	Sensor
MB-001	WT1	Gross Generator Output	kW / kWh	Inverde 100 Modbus Output
MB-002	WT2	Gross Generator Output	kW / kWh	Inverde 100 Modbus Output
MB-003	WPAR	CHP Parasitic Power	kW / kWh	Wattnode WMB
IN-1	WB	Total Facility Power	kW / kWh	GE Utility Meter
IN-2	FL	Glycol Loop Flow	gpm	Onicon F1111
IN-3	TLS	Glycol Loop Supply Temp	°F	Veris 10k Type II Thermistor
IN-4	TLR1	Glycol Loop Temp After HX-DHW	°F	Veris 10k Type II Thermistor
IN-5	TLR2	Glycol Loop Temp After HBR-1	°F	Veris 10k Type II Thermistor
IN-6	FG	CHP Gas Consumption	cf	Con Ed Gas Meter Pulse Output

IP Info

Logger is on DHCP. No outside

Site Photos



Tecogen InVerde 100 kW cogen units (2x) located in basement mechanical room.



CDH panel containing data logger and CDH network switch.



Recovered heat loop supply temperature sensor THW1 (right)



Recovered heat loop temperature THW2 after useful HX



Recovered heat loop return temperature sensor THW3 after dump radiator



Onicon F-1100 insertion flow meter



Parasitic load panel (left) and parasitic power meter and enclosure (right)



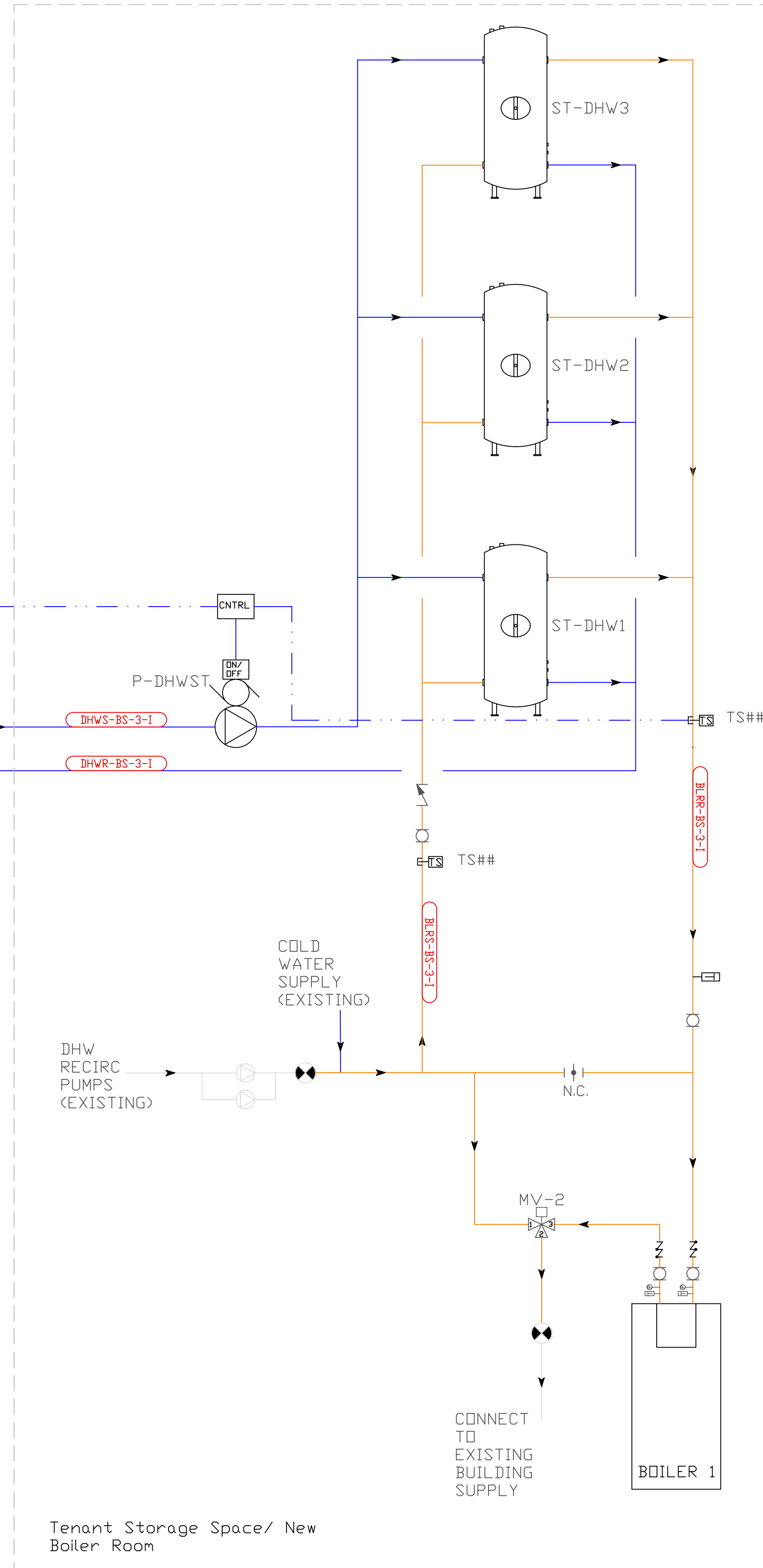
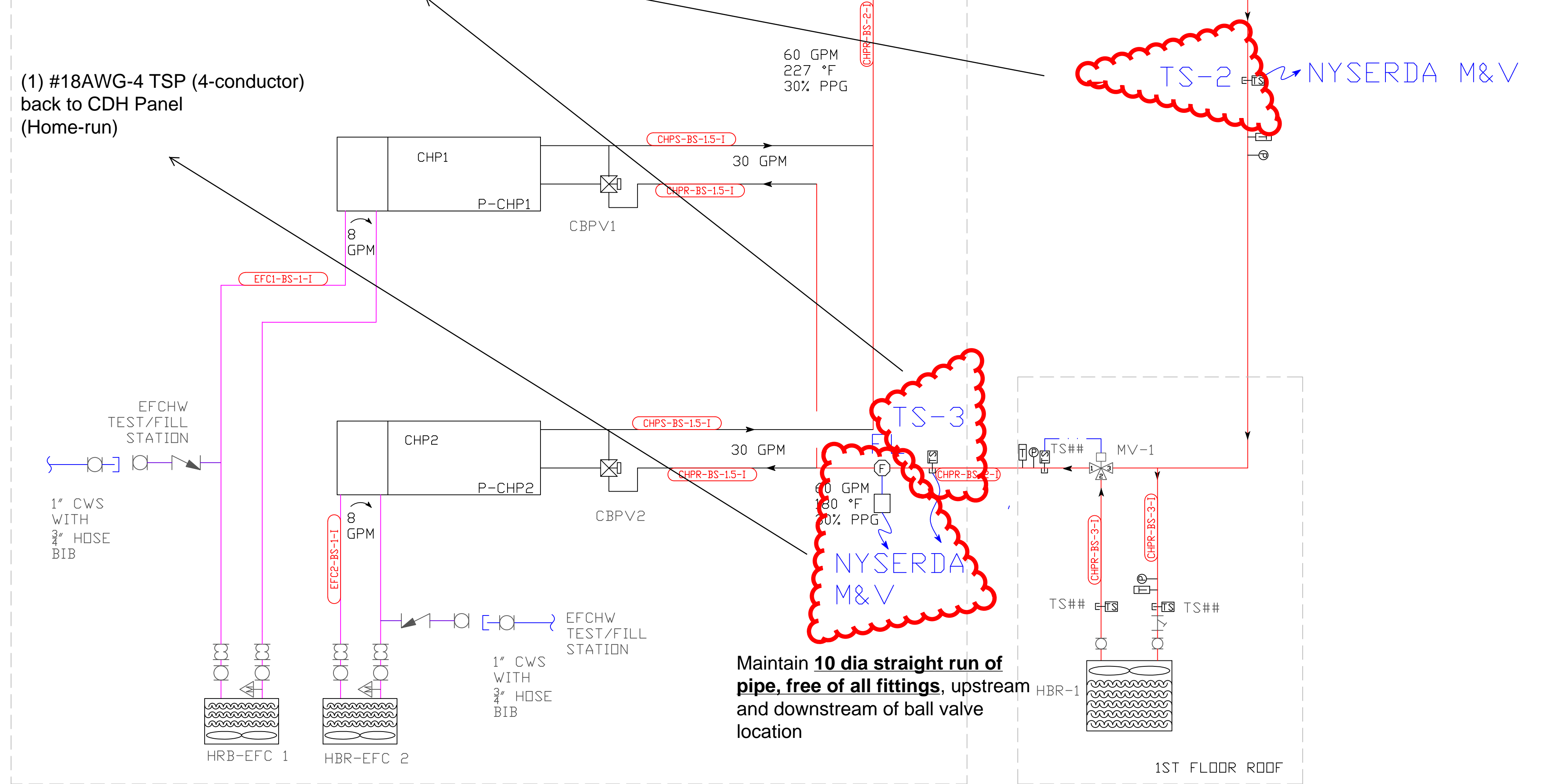
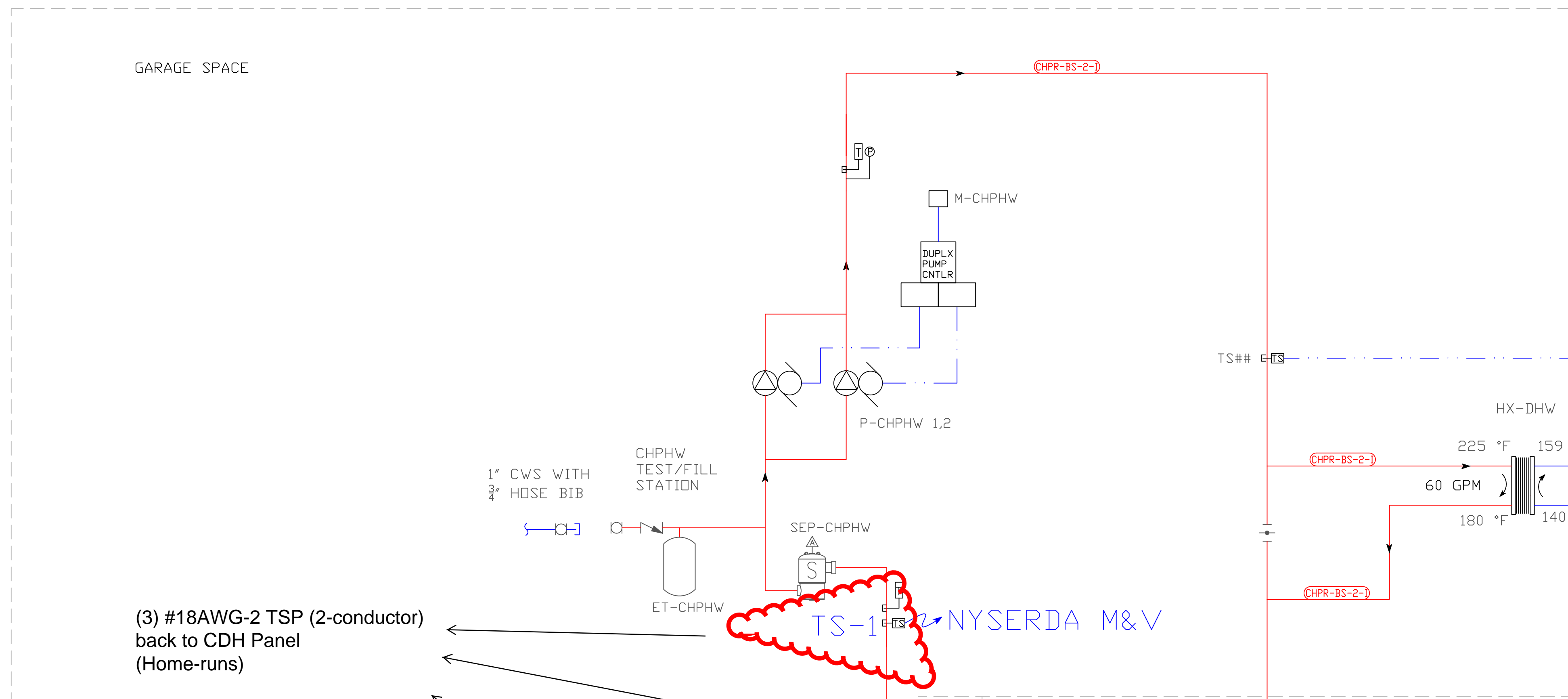
GE utility power meter (top) and demarcation pulse enclosure (bottom)



Modbus card (TYP) installed in each InVerde electrical cabinet for gross generator output.



Gas meter, signal wire, no pulse head installed



NOTES:

NO.	REVISION DESCRIPTION	DATE
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6		
5		
4		
3		
2		
1	NYSERDA MONITORING PLAN	10/14/20

Professional Seal

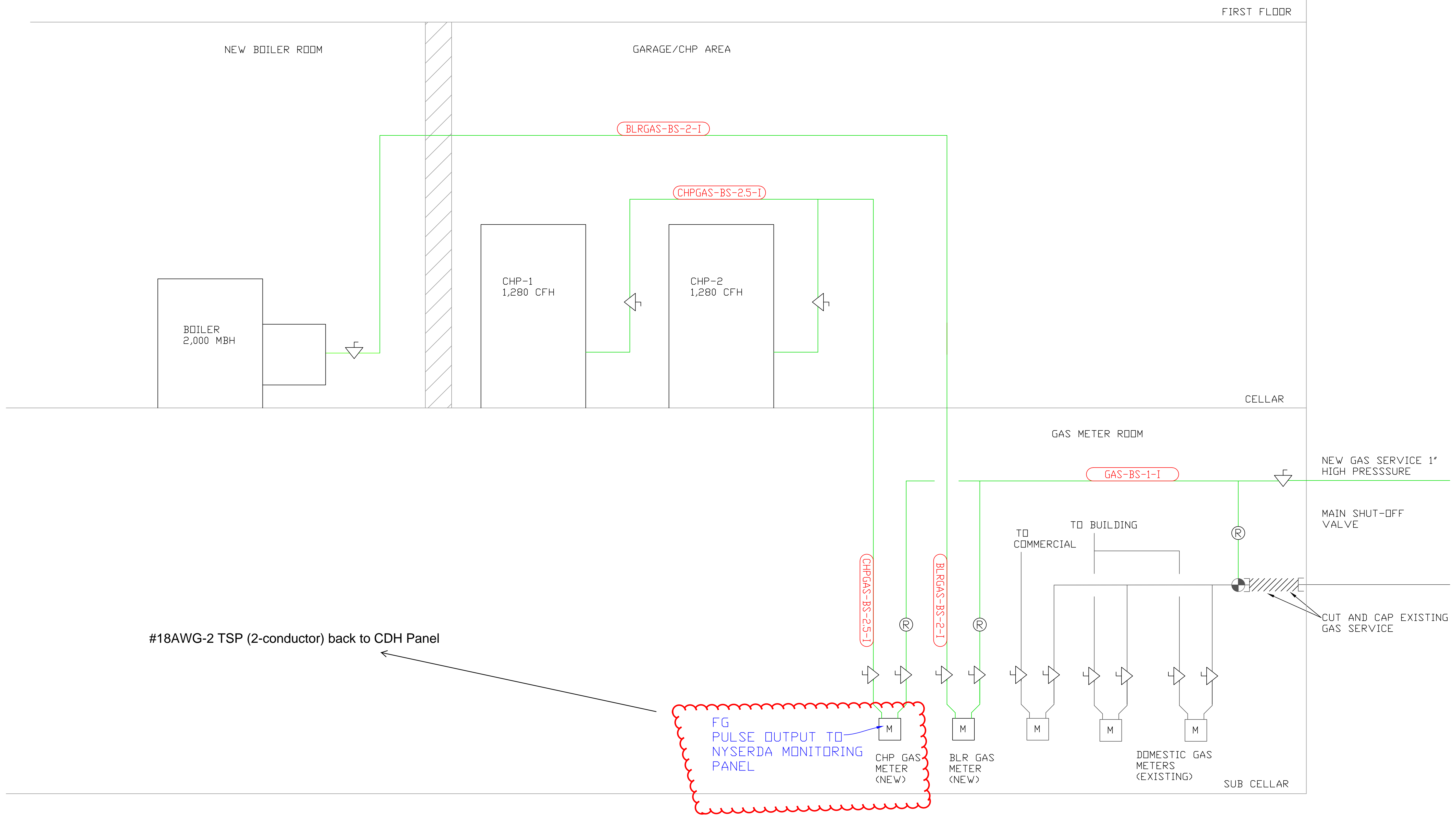
MECHANICAL
DSM Engineering Associates PC
 "Low Carbon" Engineering Specialists
 1363-26 Veterans Memorial Highway
 Hauppauge, New York 11788
 631-360-1208
 WWW.DSMEA.COM

CONSULTANT DISCIPLINE

CONSULTANT DISCIPLINE

Project Name and Address
MECHANICAL SCHEMATIC
TOWER WEST ASSOCIATES
CHP INSTALLATION
65 WEST 96TH STREET
NEW YORK, NY 10025
 BLOCK: 01832 LOT: 0001

Project No.	Drawing Number:
Date: 4/10/2014	M-300 NMP
Scale: NTS	
Drawn by: SES	Approved by: SMS
Sheet #:	of



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Project Name and Address
GAS RISER DIAGRAM
 TOWER WEST ASSOCIATES
 CHP INSTALLATION
 65 WEST 96TH STREET
 NEW YORK, NY 10025
 BLOCK: 01832 LOT: 0001

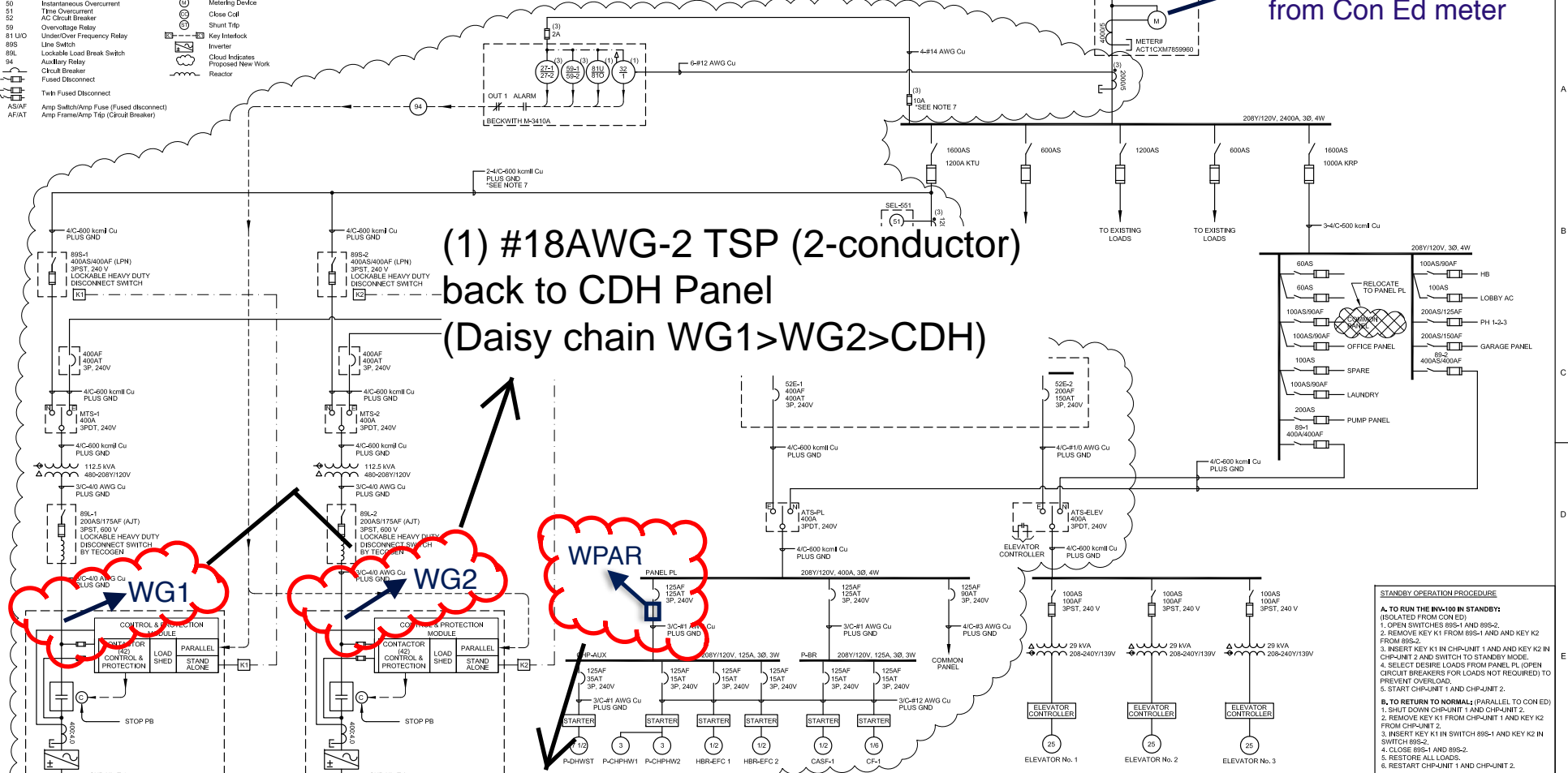
Project No.	Drawing Number:
Date: 4/10/2014	M-320 NMP
Scale: NTS	
Drawn by: SES	Approved by: SMS
Sheet #:	of

WT - Pulse output from Con Ed meter

(1) #18AWG-2 TSP (2-conductor) back to CDH Panel (Daisy chain WG1>WG2>CDH)

(1) #18AWG-2 TSP (2-conductor) back to CDH Panel from power transducer panel

- LEGEND**
- 27 Undervoltage Relay
 - 32R Reverse Power Relay
 - 42 Contactor
 - 47 Phase Unbalance
 - 50 Instantaneous Overcurrent
 - 51 Time Overcurrent
 - 52 AC Circuit Breaker
 - 59 Overvoltage Relay
 - 61 LVD Under/Over Frequency Relay
 - 69S Line Switch
 - 89L Lockable Load Break Switch
 - 94 Auxiliary Relay
 - Circuit Breaker
 - Fused Disconnect
 - Twins Fused Disconnect
 - AS/AF Amp Switch/Amp Fuse (Fused disconnect)
 - AF/AT Amp Frame/Amp Trip (Circuit Breaker)
- Contactor
 - Contactor Call
 - Open
 - Metering Device
 - Close Call
 - Inverter
 - Key Interlock
 - Shunt Trip
 - Cloud Indicates Proposed New Work
 - Reactor



- NOTES:**
1. THIS PROJECT INSTALLS TWO NEW 100 KW CHP MODULES AND ALL NECESSARY EQUIPMENT TO PROVIDE PARALLEL OPERATION WITH CON AND ISOLATED OPERATION IN THE EVENT OF A UTILITY OUTAGE.
 2. ALL FUSES INDICATED WILL PROVIDE SELECTIVE COORDINATION AND HAVE 200 kAIC RATING.
 3. THE GENERATORS TO BE INSTALLED IN ACCORDANCE WITH NEW YORK STATE STANDARD INTERCONNECTION REQUIREMENTS AND CON E GENERATORS MAY RUN DURING UTILITY OUTAGE ONLY WHEN 89S-1 AND 89S-2 ARE IN THE OPEN POSITION, AND KEYS ARE SET AS REQUIRED UNLESS NOTED. ALL EQUIPMENT IS EXISTING, AND WILL REMAIN IN USE AND IS PREVIOUSLY APPROVED.
 4. ALL ELECTRICAL CONSTRUCTION TO BE IN COMPLIANCE WITH 2008 NEC, AS AMENDED BY THE NYC DOB.
 5. BOND X0 BUSINGS TO SERVICE ENTRANCE THROUGH NEUTRAL CONDUCTOR. DO NOT GROUND AT TRANSFORMER.
 6. CABLE TAPS AND FUSING TO BE IN ACCORDANCE WITH SECTION 240 NFPA 70 (NEC).
 7. ELEVATOR CONTROL TO BE MODIFIED FOR EMERGENCY OPERATION. CONTRACTOR TO VERIFY ALL ELEVATOR POWER REQUIREMENTS ARE SUPPLIED THROUGH ATSELEV.
 8. LOADS TO BE SUPPLIED THROUGH PANEL PL ARE PRIORITY LOADS SELECTED BY THE OWNER. THESE LOADS ARE IDENTIFIED AS OPTION REQUIRED DURING A UTILITY OUTAGE AND SHALL BE TRANSFER FROM THE EXISTING PANEL WHICH THEY ARE SERVED.

ONE-LINE DIAGRAM
TOWER WEST
200 kW DISTRIBUTED GENERATION
741 WEST 96TH STREET
NEW YORK, NY

ENGINEERING SERVICES, LLC
15 TROWBRIDGE DRIVE BETHEL, CT 06802
PHONE: (203) 798-0419 FAX: (203) 743-2325

Drawn By: Scale: E-1.0
KT NONE

DSM Engineering Associates P.C.