

**APPENDIXC.15**

**CASE 10-T-0139**

**SITE PLANS AND CONSTRUCTION DRAWINGS ENERGY  
PACKAGE – AUXILIARY ENCLOSURES  
ASTORIA HVDC CONVERTER STATION - SEGMENT 22**

# ASTORIA HVDC CONVERTER STATION

## AUXILIARY ENCLOSURES ENERGY PACKAGE

### SCOPE OF WORK

THE ENERGY SCOPE OF WORK FOR THE ASTORIA CONVERTER STATION INCLUDES THE AREAS BELOW:

1. STORAGE ENCLOSURE
2. RELAY ENCLOSURE
3. MVS ENCLOSURE

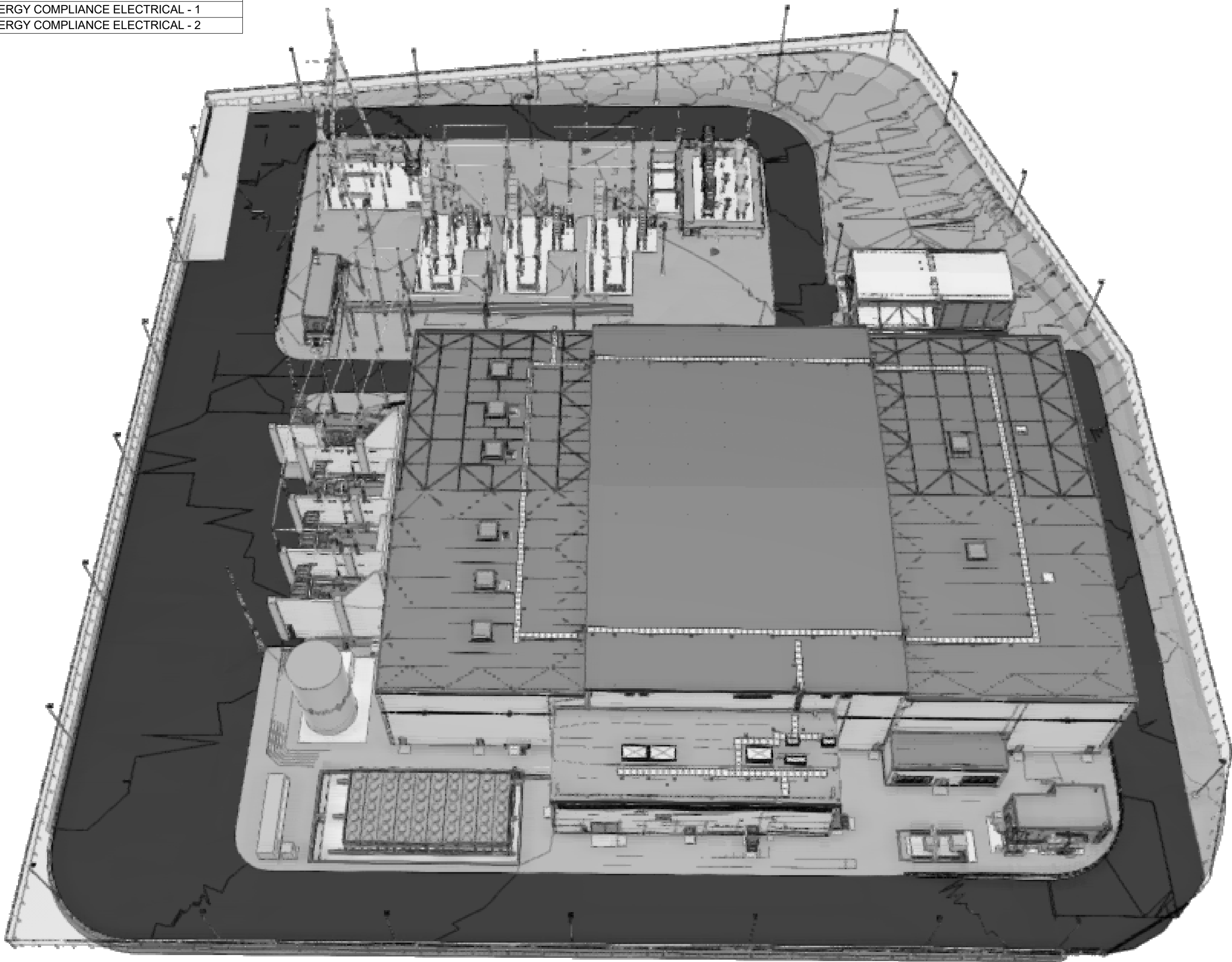
ENERGY SHEET LIST	
SHEET NUMBER	SHEET NAME
EN-100.00	OVERALL SITE PLAN
T-100.00	COVER SHEET
EN-101.00	ENERGY COMPLIANCE ARCHITECTURE - 1
EN-102.00	ENERGY COMPLIANCE ARCHITECTURE - 2
EN-103.00	ENERGY COMPLIANCE ARCHITECTURE - 3
EN-104.00	ENERGY COMPLIANCE MECHANICAL - 1
EN-105.00	ENERGY COMPLIANCE MECHANICAL - 2
EN-106.00	ENERGY COMPLIANCE MECHANICAL - 3
EN-107.00	ENERGY COMPLIANCE ELECTRICAL - 1
EN-108.00	ENERGY COMPLIANCE ELECTRICAL - 2

### FLOOD ZONE DESIGN CERTIFICATION:

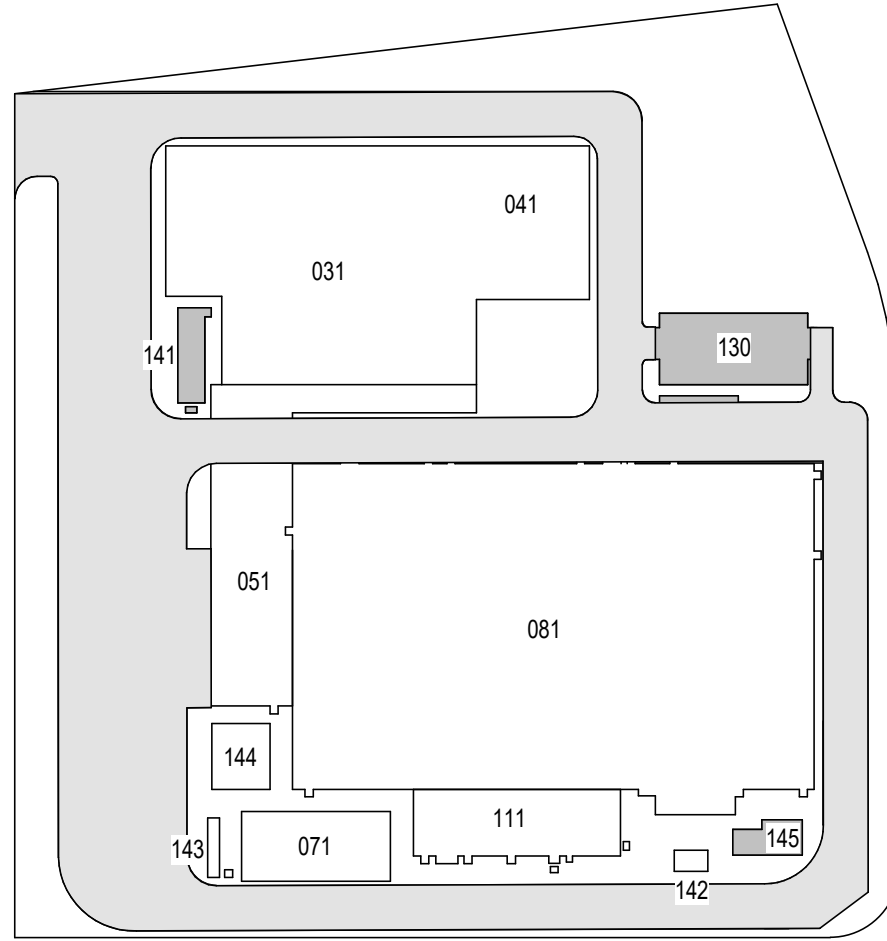
THE EXISTING PROPERTY IS IN THE SPECIAL FLOOD HAZARD AREA (SFHA), ZONE AE PER EFFECTIVE 2015 FLOOD INSURANCE RATE MAP(FIRM). THIS IS TO CONFIRM THAT THE PROPOSED INSTALLATION IS IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN APPENDIX Q OF THE NYC BUILDING CODE.

### NYC ENERGY CODE COMPLIANCE:

STATEMENT: TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE. PROPOSED WORK MEETS THE GUIDELINES AND INSTRUCTIONS OUTLINED IN THE 2020 NYC ECC CHAPTER 4.



ISSUED FOR PERMIT



KEY PLAN  
N.T.S.

**Engineering and  
Land Surveying, P.C.**

370 7th Avenue  
SUITE 1604  
New York, NY 10001

**SOWINSKI  
SULLIVAN**  
ARCHITECTURE+ENGINEERING

25 Mohawk Avenue  
Sparta, NJ 07871

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B	FINAL SUBMITTAL	JP	JS	DEC 12, 2022
A	INTERIM SUBMITTAL	VSP	SS	SEP 13, 2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

**Kiewit**  
470 Chestnut Ridge Rd # 2,  
Woodcliff Lake, NJ 07677

**Hitachi Energy**  
901 Main Campus Drive  
Raleigh, North Carolina 27606

PROJECT

**CHPE**  
Champlain Hudson  
Power Express

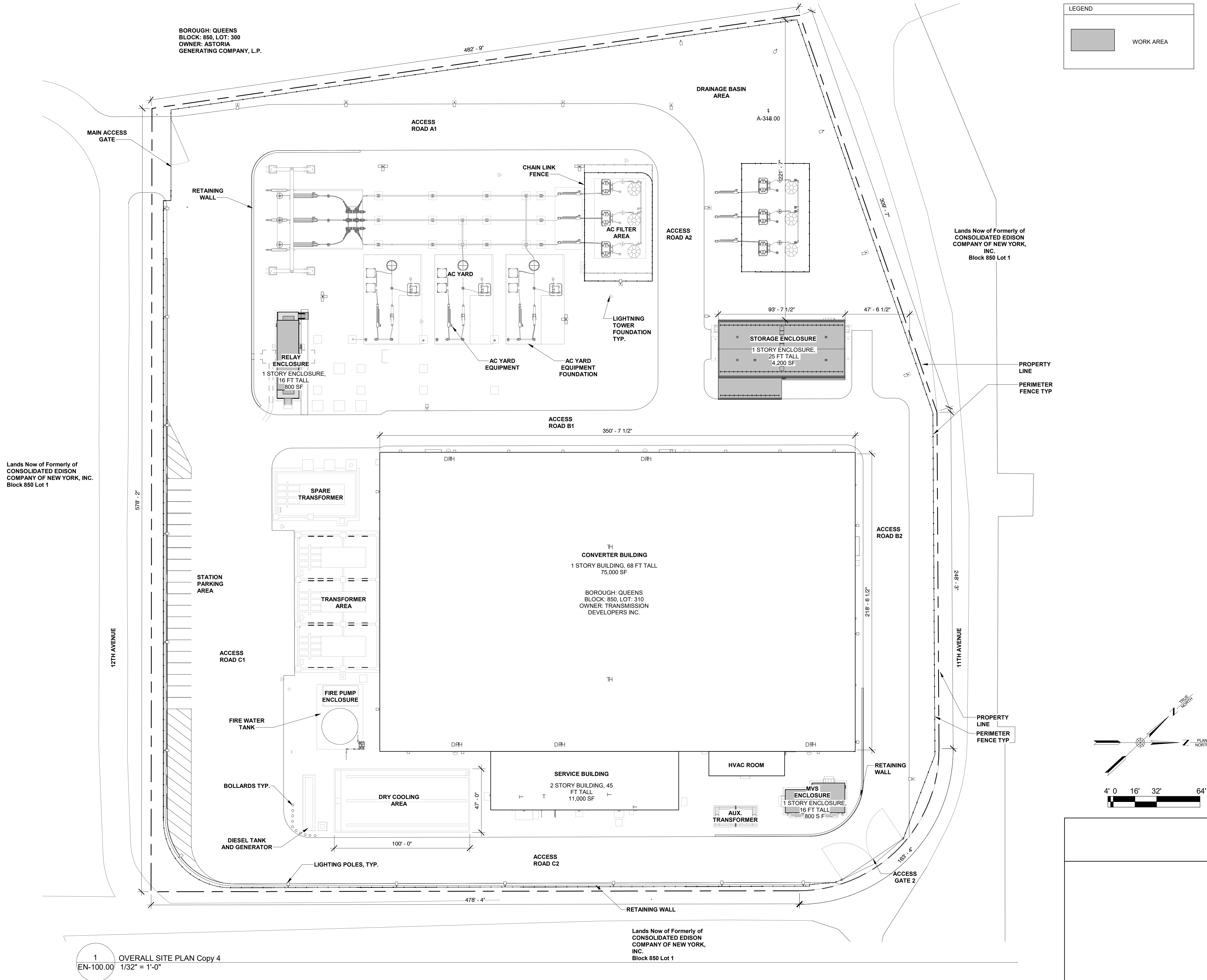
**Astoria HVDC  
Converter Station**

31-45 20th Avenue, Astoria, Queens NY 11105  
Block #850 - Lot #310 - BIN #4624437

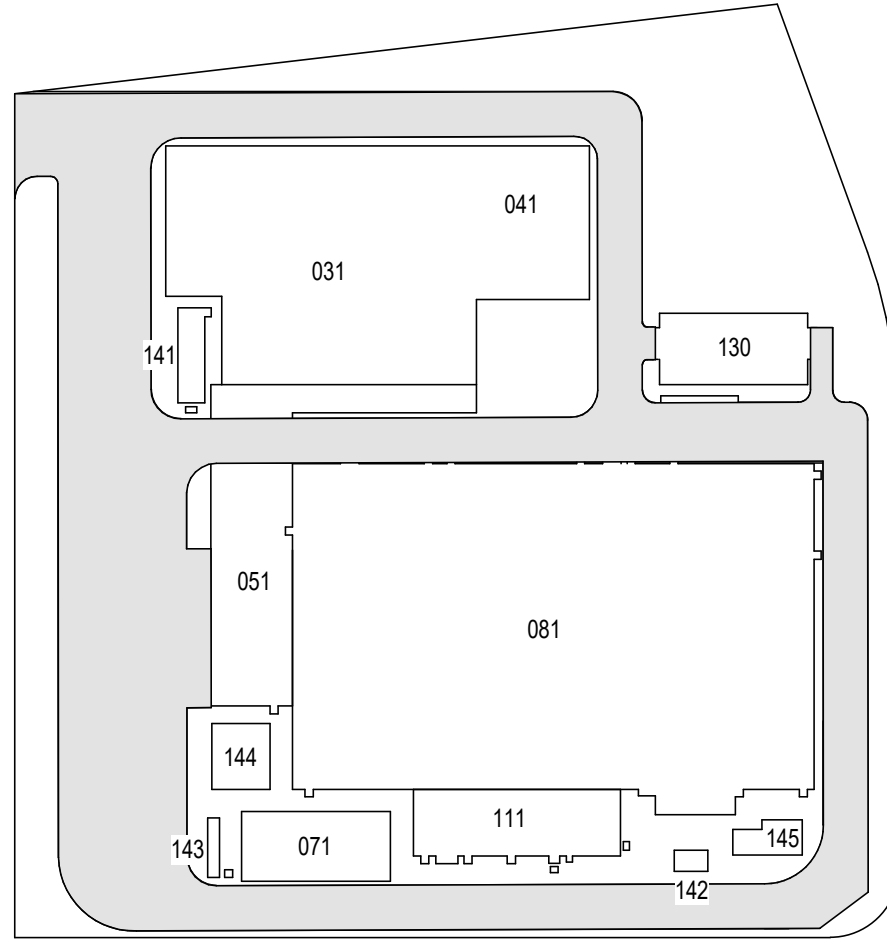
COVER SHEET

DATE 12/12/2022  
PROJECT NO 105121  
DRAWING BY S. WARYAH  
CHECKED BY J. STEPHENS  
DRAWING NO  
**T-100.00**  
CADD FILE NO  
Astoria-HVDC-CHPE  
Astoria-CHA-KIE-141-ZZ-M3-A-001.rvt

12/9/2022 2:13:27 PM



ISSUED FOR PERMIT



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Land Surveying, P.C.

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REV	DESCRIPTION	DRW BY	CHK BY	DATE

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CHPE  
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Power Express

Astoria HVDC  
Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105  
Block #850 - Lot #310 - BIN #4624437

OVERALL SITE PLAN

DATE 12/12/2022  
PROJECT NO 105121  
DRAWING BY S. WARYAH  
CHECKED BY J. STEPHENS  
DRAWING NO  
EN-100.00  
CADD FILE NO  
Astoria-HVDC-CHPE  
Astoria-CHPE-141-ZZ-M3-A-001.rvt



Energy Code:	90.1 (2016) Standard
Project Title:	CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2
Location:	New York, New York
Climate Zone:	4a
Project Type:	New Construction
Performance Sim. Specs:	EnergyPlus 8.1.0.009 (EPW: USA_NY_NewYork-LaGuardia.AP.725030_TMY3.epw)

Construction Site:	Owner/Agent:	Designer/Contractor:
21-45 20th Avenue, Astoria, Queens NY 11105 Astoria, Queens, New York 11105		

Building Area	Floor Area
1-Storage Enclosure (Manufacturing Facility) : Nonresidential	4486
2-Relay Enclosure (Manufacturing Facility) : Nonresidential	820
3-MVS Enclosure (Manufacturing Facility) : Nonresidential	831

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor <sup>(a)</sup>
Roof: Insulation Entirely Above Deck, [Bldg. Use 1 - Storage Enclosure]	4486	---	35.0	0.028	0.032
Floor: Unheated Slab-On-Grade, [Bldg. Use 1 - Storage Enclosure] (c)	540	---	---	0.730	0.520
Roof: Insulation Entirely Above Deck, [Bldg. Use 2 - Relay Enclosure]	820	---	35.0	0.028	0.032
Floor: Unheated Slab-On-Grade, [Bldg. Use 2 - Relay Enclosure] (c)	182	---	---	0.730	0.520
Roof: Insulation Entirely Above Deck, [Bldg. Use 3 - MV5 Enclosure]	831	---	35.0	0.028	0.032
Floor: Unheated Slab-On-Grade, [Bldg. Use 3 - MV5 Enclosure] (c)	540	---	---	0.730	0.520
<b>NORTH</b>					
Ext. Wall: Other Exterior Wall, Heat capacity 0.0, [Bldg. Use 1 - Storage Enclosure] (b)	2124	---	---	0.038	0.064
Ext. Wall: Other Exterior Wall, Heat capacity 0.0, [Bldg. Use 2 - Relay Enclosure] (b)	657	---	---	0.038	0.064
Ext. Wall: Other Exterior Wall, Heat capacity 0.0, [Bldg. Use 3 - MV5 Enclosure] (b)	331	---	---	0.038	0.064
<b>EAST</b>					
Ext. Wall: Other Exterior Wall, Heat capacity 0.0, [Bldg. Use 1 - Storage Enclosure] (b)	839	---	---	0.038	0.064
Ext. Wall: Other Exterior Wall, Heat capacity 0.0, [Bldg. Use 2 - Relay Enclosure] (b)	215	---	---	0.038	0.064
Ext. Wall: Other Exterior Wall, Heat capacity 0.0, [Bldg. Use 3 - MV5 Enclosure] (b)	735	---	---	0.038	0.064

Project Title: CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2 Report date: 12/08/22  
 Data filename: Page 1 of 12



Energy Code:	90.1 (2016) Standard
Project Title:	CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2
Location:	New York, New York
Climate Zone:	4a
Project Type:	New Construction

Construction Site:	Owner/Agent:	Designer/Contractor:
21-45 20th Avenue, Astoria, Queens NY 11105		
Astoria, Queens, New York 11105		

[illegible]

**Compliance Statement:** The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2016) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title	Signature	Date
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Project Title:	CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2	Report date:	12/08/22
Data filename:		Page	5 of 12



Energy Code: 90.1 (2016) Standard  
Project Title: CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2  
Project Type: New Construction

Construction Site: 21-45 20th Avenue, Astoria, Queens  
NY 11105  
Astoria, Queens, New York 11105

### Proposed Interior Lighting Power

**Interior Lighting TBD: No lighting fixtures specified**

Project Title: CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2 Report date: 12/08/22  
 Data filename: Page 3 of 12

COMcheck Software Version COMcheckWeb

**Exterior Lighting Compliance Certificate**

Energy Code:	90.1 (2016) Standard
Project Title:	CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2
Project Type:	New Construction
Exterior Lighting Zone	0 (Unspecified)

Construction Site:	Owner/Agent:	Designer/Contractor:
21-45 20th Avenue, Astoria, Queens NY 11105 Astoria, Queens, New York 11105		

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
		Total Tradable Watts (a) =		0
		Total Allowed Watts =		0
		Total Allowed Supplemental Watts (b) =		350

- (a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
- (b) A supplemental allowance equal to 350 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

**Exterior Lighting TBD: Exterior lighting zone not specified (see project screen)**

Project Title:	CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2	Report date:	12/08/22
Data filename:		Page	4 of 12

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B	FINAL SUBMISSION	VSP	EK	12/12/2022	
REV	INTERIM SUBMISSION	VSP	EK	09/13/2022	
	DESCRIPTION	DRW BY	CHK BY	DATE	



470 Chestnut Ridge Rd # 2  
Woodcliff Lake, NJ 07677



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Raleigh, North Carolina 27606

**CHPE**  
Champlain Hudson  
Power Express

# Astoria HVDC Converter Station

31-45 20<sup>th</sup> Avenue, Astoria, Queens NY 11105  
Block #850 - Lot #310 - BIN #4624437

# ENERGY COMPLIANCE ARCHITECTURE - 1

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	Author
CHECKED BY	Designer
DRAWING NO	
<b>EN-101.00</b>	
CADD FILE N0 Autodesk Docs://CHPE Aztoria/CHA-KIE-141-ZZ-M3-A-001.rvt	





## Inspection Checklist

Energy Code: 90.1 (2016) Standard

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 5.4.3.1.1, 5.7.1 [PR1] <sup>1</sup>	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 8.4.1.1, 8.4.1.2, 8.7 [PR6] <sup>2</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.5.4.2.3 [PR7] <sup>2</sup>	In buildings > 2,500 ft <sup>2</sup> , any enclosed spaces directly under a roof with ceiling heights > 15 ft. and used as an office, lobby, atrium, concourse, corridor, storage (including nonrefrigerated warehouse), gymnasium, fitness/exercise area, playing area, gymnasium seating area, convention exhibit/event space, courtroom, automotive service, fire station engine room, manufacturing corridor/transition and bay areas, retail, library reading and stack areas, distribution/sorting area, transportation baggage and seating areas, or workshop, the following requirements apply: The daylight zone under skylights is >= half the floor area and (a) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40 or (b) the minimum skylight effective aperture >= 1 percent. The skylights have a measured haze value > 90 percent.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2 Report date: 12/08/22  
Data filename: Page 6 of 12

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10] <sup>2</sup>	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
8.4.3 [EL11] <sup>2</sup>	New buildings have electrical energy use measurement devices installed. Where tenant spaces exist, each tenant is monitored separately. In buildings with a digital control system the energy use is transmitted to to control system and displayed graphically.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2 Report date: 12/08/22  
Data filename: Page 9 of 12

Section # & Req.ID	Footing / Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
4.2.4 [FO1] <sup>2</sup>	Installed below-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____	R-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
4.2.4 [FO3] <sup>2</sup>	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____ <input type="checkbox"/> Unheated <input type="checkbox"/> Heated	R-____ <input type="checkbox"/> Unheated <input type="checkbox"/> Heated	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2 [FO4] <sup>2</sup>	Slab edge insulation installed per manufacturer's instructions.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.5.3.5 [FO5] <sup>2</sup>	Slab edge insulation depth/length.	____ ft	____ ft	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.7 [FO6] <sup>1</sup>	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.7.3 [FO7] <sup>2</sup>	Insulation in contact with the ground has <=0.3% water absorption rate per ASTM C272.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.5 [FO11] <sup>3</sup>	Bottom surface of floor structures incorporating radiant heating insulated to >=R-3.5.	R-____	R-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. See the Envelope Assemblies table for values.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2 Report date: 12/08/22  
Data filename: Page 7 of 12

Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
4.2.4 [IN2] <sup>1</sup>	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	R-____ <input type="checkbox"/> Above deck <input type="checkbox"/> Metal <input type="checkbox"/> Attic	R-____ <input type="checkbox"/> Above deck <input type="checkbox"/> Metal <input type="checkbox"/> Attic	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2, 5.8.1.3 [IN3] <sup>1</sup>	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the ceiling slope is <= 3:12.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.4 [IN6] <sup>1</sup>	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Metal <input type="checkbox"/> Steel <input type="checkbox"/> Wood	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Metal <input type="checkbox"/> Steel <input type="checkbox"/> Wood	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2 [IN7] <sup>1</sup>	Above-grade wall insulation installed per manufacturer's instructions.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.4 [IN8] <sup>2</sup>	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Steel <input type="checkbox"/> Wood	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Steel <input type="checkbox"/> Wood	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.1 [IN10] <sup>2</sup>	Building envelope insulation is labeled with R-value or insulation certificate has been provided listing R-value and other relevant data.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.9 [IN18] <sup>2</sup>	Building envelope insulation extends over the full area of the component at the proposed rated R or U value.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.4 [IN11] <sup>2</sup>	Eaves are baffled to deflect air to above the insulation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.5 [IN12] <sup>2</sup>	Insulation is installed in substantial contact with the inside surface separating conditioned space from unconditional space.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.6 [IN13] <sup>2</sup>	Recessed equipment installed in building envelope assemblies does not compress the adjacent insulation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.7.1 [IN15] <sup>2</sup>	Attics and mechanical rooms have insulation protected where adjacent to attic or equipment access.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> requirement does not apply

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2 Report date: 12/08/22  
Data filename: Page 10 of 12

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.4.3.2 [FR1] <sup>1</sup>	Factory-built and site-assembled fenestration and doors are labeled or certified as meeting air leakage requirements.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Metal coiling doors in semiheated spaces in zones 1-6 when leakage is = 1.0 CFM/ft <sup>2</sup> .
5.4.3.4 [FR4] <sup>1</sup>	Vestibules are installed where building entrances separate conditioned space from the exterior, and meet exterior envelope requirements. Doors have self-closing devices, and are >=7 ft apart (>= 16 ft apart for adjoining floor area >= 40000 sq.ft.). Vestibule floor area <=7 50 sq.ft. or 2 percent of the adjoining conditioned floor area.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
5.5.4.3a [FR8] <sup>1</sup>	Vertical fenestration U-Factor.	U-____	U-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.4.3b [FR9] <sup>1</sup>	Skylight fenestration U-Factor.	U-____	U-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.4.4.1 [FR10] <sup>1</sup>	Vertical fenestration SHGC value.	SHGC: ____	SHGC: ____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.4.4.2 [FR11] <sup>1</sup>	Skylight SHGC value.	SHGC: ____	SHGC: ____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.2.1, 5.8.2.3, 5.8.2.4, 5.8.2.5 [FR12] <sup>2</sup>	Fenestration products rated (U-factor, SHGC, and VT) in accordance with NFRC or energy code defaults are used.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.2.2 [FR13] <sup>1</sup>	Fenestration and door products are labeled, or a signed and dated certificate listing the U-factor, SHGC, VT, and air leakage rate has been provided by the manufacturer.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.5.3.6 [FR14] <sup>2</sup>	U-factor of opaque doors associated with the building thermal envelope meets requirements.	U-____ <input type="checkbox"/> Swinging <input type="checkbox"/> Nonswinging	U-____ <input type="checkbox"/> Swinging <input type="checkbox"/> Nonswinging	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.4.3.1 [FR15] <sup>1</sup>	Continuous air barrier is wrapped, sealed, caulked, gasketed, and/or taped in an approved manner, except in semiheated spaces in climate zones 1-6.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: CHPE Astoria Auxiliary Enclosures Copy 2 Copy 2 Report date: 12/08/22  
Data filename: Page 8 of 12

ISSUED FOR PERMIT

**K** Engineering and  
Land Surveying, P.C.

370 7th Avenue  
SUITE 1604  
New York, NY 10001

**SOWINSKI  
SULLIVAN**  
—ARCHITECTURE+ENGINEERING—

25 Mohawk Avenue  
Sparta, NJ 07871

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B	FINAL SUBMISSION	VSP	EK	12/12/2022
A	INTERIM SUBMISSION	VSP	EK	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

**Kiewit**  
470 Chestnut Ridge Rd # 2,  
Woodcliff Lake, NJ 07677

**Hitachi Energy**  
901 Main Campus Drive  
Raleigh, North Carolina 27606

PROJECT

**CHPE**  
Champlain Hudson  
Power Express

**Astoria HVDC  
Converter Station**

31-45 20<sup>th</sup> Avenue, Astoria, Queens NY 11105  
Block #850 - Lot #310 - BIN #4624437

**ENERGY COMPLIANCE  
ARCHITECTURE - 2**

DATE 12/12/2022  
PROJECT NO 105121  
DRAWING BY Author  
CHECKED BY Designer  
DRAWING NO  
**EN-102.00**  
CADD FILE NO  
Astoria CHPE  
Astoria CHPE-141-ZZ-M3-A-001.rvt

Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.8.1.7.2 [IN16] <sup>2</sup>	Foundation vents do not interfere with insulation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.8 [IN17] <sup>1</sup>	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1

High Impact (Tier 1)

2

Medium Impact (Tier 2)

3

Low Impact (Tier 3)

Project Title: CHPE Astoria Auxilliary Enclosures Copy 2 Copy 2

Report date: 12/08/22

Data filename:

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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
5.4.3.3 [FI1] <sup>1</sup>	Weatherseals installed on all loading dock cargo doors in Climate Zones 4-8.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

Additional Comments/Assumptions:

1

High Impact (Tier 1)

2

Medium Impact (Tier 2)

3

Low Impact (Tier 3)

Project Title: CHPE Astoria Auxilliary Enclosures Copy 2 Copy 2

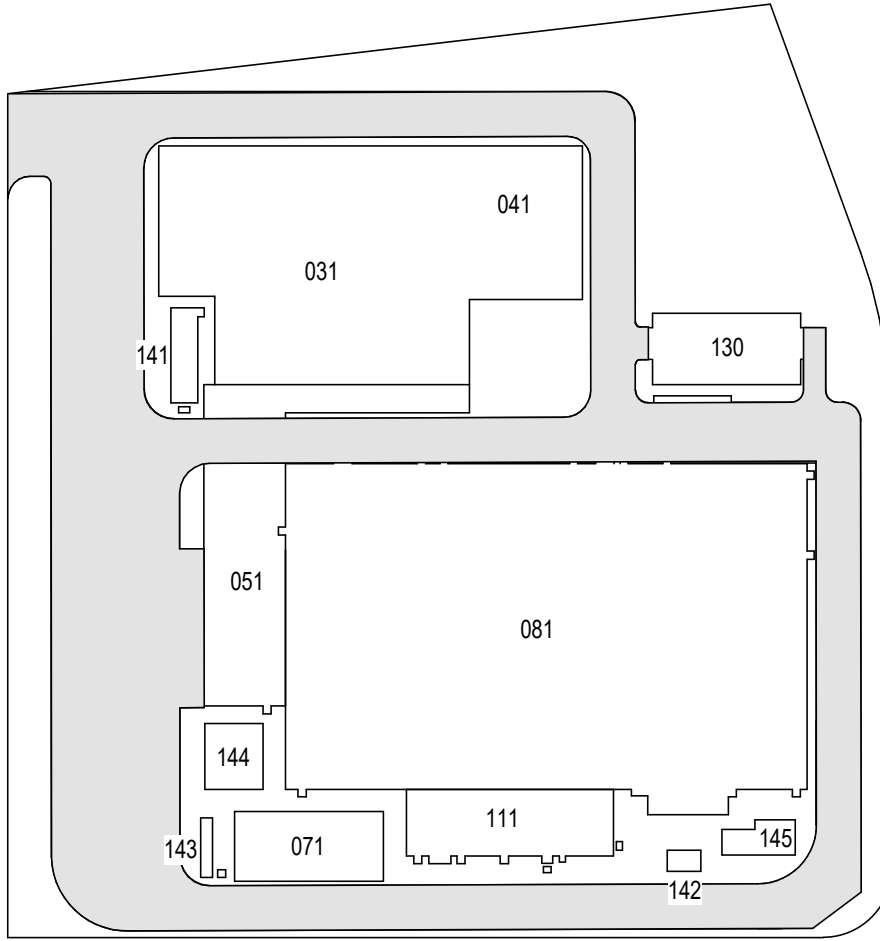
Report date: 12/08/22

Data filename:

Page 12 of 12



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KEY PLAN  
N.T.S.

PLAN NORTH  
N

**K** Engineering and  
Land Surveying, P.C.

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SUITE 1604  
New York, NY 10001

**SOWINSKI  
SULLIVAN**  
—ARCHITECTURE+ENGINEERING—

25 Mohawk Avenue  
Sparta, NJ 07871

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B	FINAL SUBMISSION	VSP	EK	12/12/2022
A	INTERIM SUBMISSION	VSP	EK	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

**Kiewit**

470 Chestnut Ridge Rd # 2,  
Woodcliff Lake, NJ 07677

**Hitachi Energy**

901 Main Campus Drive  
Raleigh, North Carolina 27606

PROJECT


**CHPE**  
Champlain Hudson  
Power Express

**Astoria HVDC  
Converter Station**

31-45 20<sup>th</sup> Avenue, Astoria, Queens NY 11105  
Block #850 - Lot #310 - BIN #4624437

**ENERGY COMPLIANCE  
ARCHITECTURE - 3**

DATE 12/12/2022  
PROJECT NO 105121  
DRAWING BY Author  
CHECKED BY Designer  
DRAWING NO  
**EN-103.00**  
CADD FILE NO  
Autodesk-DWG-CHPE  
Astoria/CHA-KIE-141-ZZ-M3-A-001.rvt



COMcheck Software Version 4.1.5.5

Mechanical Compliance Certificate

Project Information

Energy Code: 2020 New York City Energy Conservation Code, Appendix CA (modified 90.1-2016)

Project Title: Astoria HVDC Converter Station Auxiliary Buildings

Location: New York, New York

Climate Zone: 4a

Project Type: New Construction

Construction Site:

Owner/Agent:

Designer/Contractor: Kiewit

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed  
High Performance HVAC, 1.0 credit

Mechanical Systems List

Quantity	System Type & Description
1	EUH-130-01,02,03,04 (Storage) (Single Zone): Heating: 4 each - Unit Heater (Heating), Electric, Capacity = 27 kBtu/h No minimum efficiency requirement applies Fan System: EUH-103-01,02,03,04   Storage -- Compliance (Motor nameplate HP method) : Passes  Fans: UH13001020304 Supply, Constant Volume, 362 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade
1	ACCU-141-01/02 (Relay) (Single Zone): VRF Condensing Unit, Air Cooled Heat Pump Heating Mode: Capacity = 54 kBtu/h, Proposed Efficiency = 12.00 HSPF, Required Efficiency = 8.47 HSPF Cooling Mode: Capacity = 48 kBtu/h, Proposed Efficiency = 23.00 SEER, Required Efficiency: 14.30 SEER Fan System: None
2	ACCU-141-03A/B and 04A/B (MVS) (Single Zone): VRF Condensing Unit, Air Cooled Heat Pump Heating Mode: Capacity = 19 kBtu/h, Proposed Efficiency = 10.00 HSPF, Required Efficiency = 8.47 HSPF Cooling Mode: Capacity = 18 kBtu/h, Proposed Efficiency = 20.00 SEER, Required Efficiency: 14.30 SEER Fan System: None
1	AC-141-01A/B and 02A/B (Single Zone): Cooling: 2 each - VRF Zone Fan Unit, Capacity = 24 kBtu/h No minimum efficiency requirement applies Fan System: AC-141-01A/B and 02A/B   Relay Building -- Compliance (Motor nameplate HP method) : Passes  Fans: AC1410102 Supply, Single-Zone VAV, 742 CFM, 0.2 motor nameplate hp, 0.0 fan efficiency grade
1	AC-141-03A/B and 04A/B (Single Zone): Cooling: 2 each - VRF Zone Fan Unit, Capacity = 19 kBtu/h No minimum efficiency requirement applies Fan System: AC-141-03A/B and 04A/B   MVS Building -- Compliance (Motor nameplate HP method) : Passes  Fans: AC1410304 Supply, Single-Zone VAV, 459 CFM, 0.1 motor nameplate hp, 0.0 fan efficiency grade

Project Title: Astoria HVDC Converter Station Auxiliary Buildings

Report date: 12/09/22


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Page 1 of 14

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2020 New York City Energy Conservation Code, Appendix CA (modified 90.1-2016) requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Alexander Zabolotsky, PE- Lead Mechanical Engineer

Signature 

12/12/2022


Date

Project Title: Astoria HVDC Converter Station Auxiliary Buildings

Report date: 12/09/22

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COMcheck Software Version 4.1.5.5

Inspection Checklist

Energy Code: 2020 New York City Energy Conservation Code, Appendix CA

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 6.4.4.2.1, 6.7.2 [PR2] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 8.4.1.1, 8.4.1.2, 8.7 [PR6] <sup>2</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.4 [PR5] <sup>1</sup>	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects >=50,000 ft2.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
8.4.5 [PR11] <sup>2</sup>	Electrical meters for tenant spaces in covered buildings. Each covered tenant space in a new building shall be equipped with a separate meter or sub-meter to measure the electrical consumption of such space when let or sublet. See section details and Section 28-311.2 of the Administrative Code. As new covered tenant spaces are created, they shall be equipped with meters or sub-meters as provided in this section	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
11 [PR12] <sup>2</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary Buildings

Report date: 12/09/22

Data filename: C:\Users\Alexander.Zabolotsky\Downloads\Astoria Aux COMcheck.cck

Page 3 of 14

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
6.4.3.7 [FO9] <sup>2</sup>	Freeze protection and snow/ice melting system sensors for future connection to controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary Buildings

Report date: 12/09/22

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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.1.4, 6.4.1.5 [ME1] <sup>2</sup>	HVAC equipment efficiency verified. Non-NAECA HVAC equipment labeled as meeting 90.1.	Efficiency: _____	Efficiency: _____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Mechanical Systems list for values.
6.4.3.4.1 [ME3] <sup>3</sup>	Stair and elevator shaft vents have motorized dampers that automatically close.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.3.4.2, 6.4.3.4.3 [ME4] <sup>1</sup>	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.4.5 [ME39] <sup>2</sup>	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.3.4.4 [ME5] <sup>2</sup>	Ventilation fans >0.75 hp have automatic controls to shut off fan when not required.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.8 [ME6] <sup>1</sup>	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.3.2.1 [ME40] <sup>2</sup>	DX cooling systems >= 75 kBtu/h (>= 65 kBtu/h effective 1/2016) and chilled-water and evaporative cooling fan motor hp >= 1/4 designed to vary supply fan airflow as a function of load and comply with operational requirements.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. See the Mechanical Systems list for values.
6.4.4.1.1 [ME7] <sup>2</sup>	Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.2 [ME8] <sup>2</sup>	HVAC ducts and plenums insulated per Table 6.8.2. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	R- _____	R- _____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.3 [ME9] <sup>2</sup>	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	_____ in.	_____ in.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary Buildings

Report date: 12/09/22

Data filename: C:\Users\Alexander.Zabolotsky\Downloads\Astoria Aux COMcheck.cck

Page 5 of 14

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Engineering and Land Surveying, P.C.

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New York, NY 10001


SOWINSKI SULLIVAN

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B	FINAL SUBMISSION	VSP	EK	12/12/2022
A	INTERIM SUBMISSION	VSP	EK	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE



Kiewit

470 Chestnut Ridge Rd # 2,  
Woodcliff Lake, NJ 07677



Hitachi Energy

901 Main Campus Drive  
Raleigh, North Carolina 27606

PROJECT

CHPE

Champlain Hudson Power Express

Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105  
Block #850 - Lot #310 - BIN #4624437

ENERGY COMPLIANCE MECHANICAL - 1

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	Author
CHECKED BY	Designer
DRAWING NO	EN-104.00
CADD FILE NO	Astoria-HVDC-CHPE
Astoria-CHA-ME-141-ZZ-M3-A-001.rvt	

12/9/2022 2:13:29 PM



Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.4.1.4 [ME41] <sup>3</sup>	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.4.2.1 [ME10] <sup>2</sup>	Ducts and plenums having pressure class ratings are Seal Class A construction.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.8.1-15, 6.8.1-16 [ME110] <sup>2</sup>	Electrically operated DX-DOAS units meet requirements per Tables 6.8.1-15 or 6.8.1-16.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.4.2.2 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.4.2.2 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.4.2.2 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.4.2.2 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.4.2.2 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.2.3 [ME19] <sup>3</sup>	Dehumidification controls provided to prevent reheating, recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.2.4.1 [ME68] <sup>3</sup>	Humidifiers with airstream mounted preheating jackets have preheat auto-shutoff value set to activate when humidification is not required.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.2.4.2 [ME69] <sup>3</sup>	Humidification system dispersion tube hot surfaces in the airstreams of ducts or air-handling units insulated >= R-0.5.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.2.5 [ME70] <sup>3</sup>	Preheat coils controlled to stop heat output whenever mechanical cooling, including economizer operation, is active.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary Buildings  
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Report date: 12/09/22  
Page 6 of 14

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.2.6 [ME106] <sup>3</sup>	Units that provide ventilation air to multiple zones and operate in conjunction with zone heating and cooling systems are prevented from using heating or heat recovery to warm supply air above 60°F when representative building loads or outdoor air temperature indicate that most zones demand cooling.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.3.6 [ME72] <sup>2</sup>	Motors for fans >= 1/12 hp and < 1 hp are electronically commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> units that operate only when providing heat.
6.5.3.6 [ME72] <sup>2</sup>	Motors for fans >= 1/12 hp and < 1 hp are electronically commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.3.6 [ME72] <sup>2</sup>	Motors for fans >= 1/12 hp and < 1 hp are electronically commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.3.4 [ME108] <sup>3</sup>	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.3.4 [ME108] <sup>3</sup>	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary Buildings  
Data Filename: C:\Users\Alexander.Zabolotsky\Downloads\Astoria Aux COMcheck.cck

Report date: 12/09/22  
Page 7 of 14

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.3.4 [ME108] <sup>3</sup>	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.3.7 [ME109] <sup>3</sup>	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment, or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.3.7 [ME109] <sup>3</sup>	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment, or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary Buildings  
Data Filename: C:\Users\Alexander.Zabolotsky\Downloads\Astoria Aux COMcheck.cck

Report date: 12/09/22  
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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.3.7 [ME109] <sup>3</sup>	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment, or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.3.3 [ME42] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
6.5.3.3 [ME42] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
6.5.3.3 [ME42] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
6.5.3.3 [ME42] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
6.5.3.3 [ME42] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
6.5.4.2 [ME25] <sup>3</sup>	HVAC pumping systems with >= 3 control valves designed for variable fluid flow (see section details).			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.6.1 [ME56] <sup>3</sup>	Exhaust air energy recovery on systems meeting Tables 6.5.6.1-1, and 6.5.6.1-2.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.7.1 [ME100] <sup>3</sup>	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transfer air (see section details).			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary Buildings  
Data Filename: C:\Users\Alexander.Zabolotsky\Downloads\Astoria Aux COMcheck.cck

Report date: 12/09/22  
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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.7.1 [ME100] <sup>3</sup>	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transfer air (see section details).			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.7.1 [ME100] <sup>3</sup>	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transfer air (see section details).			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.7.2.1 [ME32] <sup>2</sup>	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust air volume.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.7.2.4 [ME49] <sup>3</sup>	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.8.1 [ME34] <sup>3</sup>	Unenclosed spaces that are heated use only radiant heat.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.3.9 [ME63] <sup>2</sup>	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.10 [ME73] <sup>3</sup>	Doors separating conditioned space from the outdoors have controls that disable/reset heating and cooling system when open.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Building entrances have automatic closing devices.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary Buildings  
Data Filename: C:\Users\Alexander.Zabolotsky\Downloads\Astoria Aux COMcheck.cck

Report date: 12/09/22  
Page 10 of 14

ISSUED FOR PERMIT

Engineering and Land Surveying, P.C.

370 7th Avenue  
SUITE 1604  
New York, NY 10001

SOWINSKI SULLIVAN  
ARCHITECTURE+ENGINEERING

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B	FINAL SUBMISSION	VSP	EK	12/12/2022
A	INTERIM SUBMISSION	VSP	EK	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

Kiewit  
470 Chestnut Ridge Rd # 2,  
Woodcliff Lake, NJ 07677

Hitachi Energy  
901 Main Campus Drive  
Raleigh, North Carolina 27606

PROJECT

CHPE  
Champlain Hudson  
Power Express

Astoria HVDC  
Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105  
Block #850 - Lot #310 - BIN #4624437

ENERGY COMPLIANCE  
MECHANICAL - 2

DATE 12/12/2022  
PROJECT NO 105121  
DRAWING BY Author  
CHECKED BY Designer  
DRAWING NO  
EN-105.00  
CADD FILE NO  
Astoria-HVDC-CHPE-141-ZZ-M2-A-001.rvt



12/9/2022 2:13:29 PM

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10] <sup>2</sup>	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	<b>Exception:</b> Requirement does not apply.
8.4.3 [EL11] <sup>2</sup>	New buildings have electrical energy use measurement devices installed. Where tenant spaces exist, each tenant is monitored separately. In buildings with a digital control system the energy use is transmitted to to control system and displayed graphically.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	<b>Exception:</b> Requirement does not apply.
10.4.1 [EL9] <sup>2</sup>	Electric motors meet requirements where applicable.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1)2 Medium Impact (Tier 2)3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary BuildingsReport date: 12/09/22  
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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
6.4.3.1.2 [F13] <sup>3</sup>	Thermostatic controls have a 5 °F deadband.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.
6.4.3.2 [F120] <sup>3</sup>	Temperature controls have setpoint overlap restrictions.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.
6.4.3.3.1 [F121] <sup>3</sup>	HVAC systems equipped with at least one automatic shutdown control.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.
6.4.3.3.2 [F122] <sup>3</sup>	Setback controls allow automatic restart and temporary operation as required for maintenance.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.
6.4.3.5 [F15] <sup>3</sup>	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.
6.4.3.5 [F15] <sup>3</sup>	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.
6.4.3.6 [F16] <sup>3</sup>	When humidification and dehumidification are provided to a zone, simultaneous operation is prohibited. Humidity control prohibits the use of fossil fuel or electricity to produce RH > 30% in the warmest zone humidified and RH < 60% in the coldest zone dehumidified.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.
6.7.2.1 [F17] <sup>3</sup>	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.
6.7.2.2 [F18] <sup>3</sup>	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.
6.7.2.3 [F19] <sup>1</sup>	An air and/or hydronic system balancing report is provided for HVAC systems serving zones >5,000 ft2 of conditioned area.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	<b>Exception:</b> Requirement does not apply.
6.7.2.4 [F110] <sup>1</sup>	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	Requirement will be met.
10.4.3 [F124] <sup>2</sup>	Elevators are designed with the proper lighting, ventilation power, and standby mode.	<div><input type="checkbox"/>Complies</div> <div><input type="checkbox"/>Does Not</div> <div><input type="checkbox"/>Not Observable</div> <div><input type="checkbox"/>Not Applicable</div>	<b>Exception:</b> Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1)2 Medium Impact (Tier 2)3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary BuildingsReport date: 12/09/22  
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1 High Impact (Tier 1)2 Medium Impact (Tier 2)3 Low Impact (Tier 3)

Project Title: Astoria HVDC Converter Station Auxiliary BuildingsReport date: 12/09/22  
Data filename: C:\Users\Alexander.Zabolotsky\Downloads\Astoria Aux COMcheck.cckPage 13 of 14

ISSUED FOR PERMIT

Engineering and Land Surveying, P.C.

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SUITE 1604  
New York, NY 10001

SOWINSKI SULLIVAN  
—ARCHITECTURE+ENGINEERING—

25 Mohawk Avenue  
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B	FINAL SUBMISSION	VSP	EK	12/12/2022
A	INTERIM SUBMISSION	VSP	EK	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE



**Kiewit**

470 Chestnut Ridge Rd # 2,  
Woodcliff Lake, NJ 07677



901 Main Campus Drive  
Raleigh, North Carolina 27606

PROJECT

**CHPE**  
Champlain Hudson  
Power Express

**Astoria HVDC  
Converter Station**

31-45 20<sup>th</sup> Avenue, Astoria, Queens NY 11105  
Block #850 - Lot #310 - BIN #4624437

**ENERGY COMPLIANCE  
MECHANICAL - 3**

DATE 12/12/2022  
PROJECT NO 105121  
DRAWING BY Author  
CHECKED BY Designer

DRAWING NO

**EN-106.00**

CADD FILE NO  
Autodesk Docs: CHPE  
Astoria\CHA-KIE-141-ZZ-M3-A-001.rvt



COMcheck Software Version 4.1.5.5

## Interior Lighting Compliance Certificate

### Project Information

Energy Code: 2020 New York City Energy Conservation Code  
Project Title:  
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

### Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed  
Reduced Lighting Power, 1.0 credit

### Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-storage enclosure (Common Space Types:Storage >=1000 sq.ft.)	4486	0.39	1750
2-mvs enclosure (Common Space Types:Electrical/Mechanical)	831	0.35	291
3-relay enclosure (Common Space Types:Electrical/Mechanical)	820	0.35	287
Total Allowed Watts =			2327

### Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-storage enclosure (Common Space Types:Storage >=1000 sq.ft.)				
LED 1: L1: LED Linear 33W:	1	2	27	54
LED 3: L3: LED Linear 33W:	1	6	76	456
2-mvs enclosure (Common Space Types:Electrical/Mechanical)				
LED 2: L2: LED Linear 33W:	1	8	53	424
3-relay enclosure (Common Space Types:Electrical/Mechanical)				
LED 2: L2: LED Linear 33W:	1	10	53	530
Total Proposed Watts =			1464	

Interior Lighting PASSES: Design 37% better than code

### Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2020 New York City Energy Conservation Code requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

Project Title: Report date: 12/07/22  
Data filename: C:\Users\Daniel.Duzan\OneDrive - Kiewit Corporation\Documents\ASTORIA\comcheck\Astoria Ai Page 1 of 7  
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COMcheck Software Version 4.1.5.5

## Inspection Checklist

Energy Code: 2020 New York City Energy Conservation Code

Requirements: 22.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4]¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.5.2 [PR36]¹	Electrical meters for tenant spaces in covered buildings. Each covered tenant space in a new building shall be equipped with a separate meter or sub-meter to measure the electrical consumption of such space when let or sublet. See section details and Section 28-311.2 of the Administrative Code. As new covered tenant spaces are created, they shall be equipped with meters or sub-meters as provided in this section	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C406 [PR9]¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

### Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Report date: 12/07/22  
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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.2.2 [EL22]¹	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.1.1 [EL18]¹	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, corridor/transition areas, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, janitorial closets, corridors/transition areas, dining areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces, cafeteria dining areas, and fast food dining areas.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Areas such as security or emergency areas that need continuous lighting.
C405.2.1.2 [EL19]¹	Occupancy sensors control function in warehouses: In warehouses, the lighting in aiseways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.2.1.3 [EL20]¹	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.2.2.1, C405.2.2.2 [EL21]²	Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Lighting controlled by occupancy sensors.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Report date: 12/07/22  
Data filename: C:\Users\Daniel.Duzan\OneDrive - Kiewit Corporation\Documents\ASTORIA\comcheck\Astoria Ai Page 3 of 7  
COMcheck.cck

ISSUED FOR PERMIT



Engineering and  
Land Surveying, P.C.

370 7th Avenue  
SUITE 1604  
New York, NY 10001



25 Mohawk Avenue  
Sparta, NJ 08771

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REV	DESCRIPTION	DRW BY	CHK BY	DATE



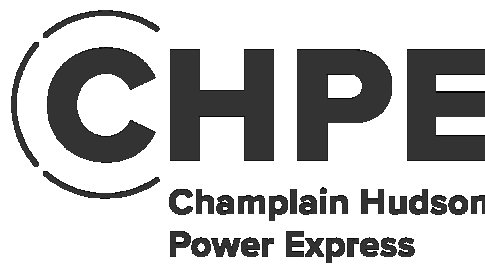
Kiewit

470 Chestnut Ridge Rd # 2,  
Woodcliff Lake, NJ 07677

Hitachi Energy

901 Main Campus Drive  
Raleigh, North Carolina 27606

### PROJECT



## Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105  
Block #850 - Lot #310 - BIN #4624437

## ENERGY COMPLIANCE ELECTRICAL - 1

DATE 12/12/2022  
PROJECT NO 105121  
DRAWING BY Author  
CHECKED BY Designer

DRAWING NO  
EN-107.00

CADD FILE NO  
Astoria\CHV-KIE-141-ZZ-M3-A-001.rvt

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [F117]¹	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.3.1 [F118]¹	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Interior Lighting fixture schedule for values.
C408.1.1 [F157]¹	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.3 [F133]¹	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1)


2 | Medium Impact (Tier 2)

3 | Low Impact (Tier 3)

Project Title: Report date: 12/07/22  
Data filename: C:\Users\Daniel.Duzan\OneDrive - Kiewit Corporation\Documents\ASTORIA\comcheck\Astoria A COMcheck.cck Page 6 of 7

Project Title: Report date: 12/07/22  
Data filename: C:\Users\Daniel.Duzan\OneDrive - Kiewit Corporation\Documents\ASTORIA\comcheck\Astoria A COMcheck.cck Page 7 of 7

ISSUED FOR PERMIT

 Engineering and Land Surveying, P.C.  
370 7th Avenue  
SUITE 1604  
New York, NY 10001

 25 Mohawk Avenue  
Sparta, NJ 07871

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THESE DRAWINGS ARE CONFIDENTIAL IN NATURE. ANY MISUSE OR UNAUTHORIZED DISTRIBUTION OF THE DRAWINGS CONTAINED HEREIN WILL BE A VIOLATION OF THIS CONFIDENTIALITY REQUIREMENT AND SUBJECT THE VIOLATOR TO LIABILITY. REVIEW OF THESE MATERIALS BY RECEIPT SHALL CONSTITUTE ACCEPTANCE OF THESE TERMS AND THE TERMS OF ANY UNDERLYING CONFIDENTIALITY AGREEMENT WE MAY HAVE. EXCLUDED IN OBTAINING THIS INFORMATION FROM A THIRD PARTY. IF THE RECIPIENT IS NOT IN AGREEMENT WITH THE OBLIGATION OF CONFIDENTIALITY THEN THE DRAWINGS SHALL BE RETURNED TO THE ORIGINATOR.

B	FINAL SUBMISSION	VSP	EK	12/12/2022
A	INTERIM SUBMISSION	VSP	EK	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

**Kiewit**  
470 Chestnut Ridge Rd # 2,  
Woodcliff Lake, NJ 07677

**Hitachi Energy**  
901 Main Campus Drive  
Raleigh, North Carolina 27606

PROJECT **CHPE**  
Champlain Hudson  
Power Express

**Astoria HVDC  
Converter Station**  
31-45 20th Avenue, Astoria, Queens NY 11105  
Block #850 - Lot #310 - BIN #4624437

**ENERGY COMPLIANCE  
ELECTRICAL - 2**

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	Author
CHECKED BY	Designer
DRAWING NO	
<b>EN-108.00</b>	
CADD FILE NO	
Astoria\CHPE-141-ZZ-M3-A-001.dwg	