#### **APPENDIX C.19**

**CASE 10-T-0139** 

# SITE PLANS AND CONSTRUCTION DRAWINGS FIRE PROTECTION DRAWINGS – WATER-BASED FIRE SUPRESSION ASTORIA HVDC CONVERTER STATION SEGMENT 22



# ASTORIA HVDC CONVERTER STATION

# FIRE PROTECTION SYSTEMS: WATER-BASED FIRE SUPPRESSION

# **SCOPE OF WORK**

THE FIRE PROTECTION SYSTEMS SCOPE OF WORK INCLUDES THE FOLLOWING WATER-BASED FIRE SUPPRESSION SYSTEMS AS SUBJECT TO THE REQUIREMENTS AND PERFORMANCE CRITERIA PROVIDED IN THE FIRE PROTECTION DESIGN BASIS DOCUMENT.

CONVERTER BUILDING: NO SUPPRESSION

**SHEET LIST - SP** 

FIRE SUPPRESSION GENERAL NOTES AND LEGEND CONVERTER BUILDING - FIRE SUPPRESSION PLAN

SERVICE BUILDING - FIRE SUPPRESSION HAZARD

SERVICE BUILDING - FIRE SUPPRESSION PLAN

SERVICE BUILDING - FIRE SUPPRESSION PLAN

TRANSFORMER AREA AND PUMP ENCLOSURE - FIRE

STORAGE ENCLOSURE - FIRE SUPPRESSION HAZARD

NYCBC SECTION 1704.23

OVERALL SITE PLAN

CLASSIFICATION PLAN

**CLASSIFICATION PLAN** 

SP-401.00 FIRE SUPPRESSION ENLARGED PLANS

FIRE SUPPRESSION RISER SECTIONS

FIRE SUPPRESSION RISER SECTIONS

CODE/SECTION

SP-001.00

SPECIAL INSPECTIONS

SHEET NAME

- SERVICE BUILDING: DOUBLE-INTERLOCK PRE-ACTION SPRINKLER
- STORAGE ENCLOSURE: WET-PIPE SPRINKLER
- 5. FIRE PUMP ENCLOSURE: DIESEL FIRE PUMP AND WET-PIPE SPRINKLER

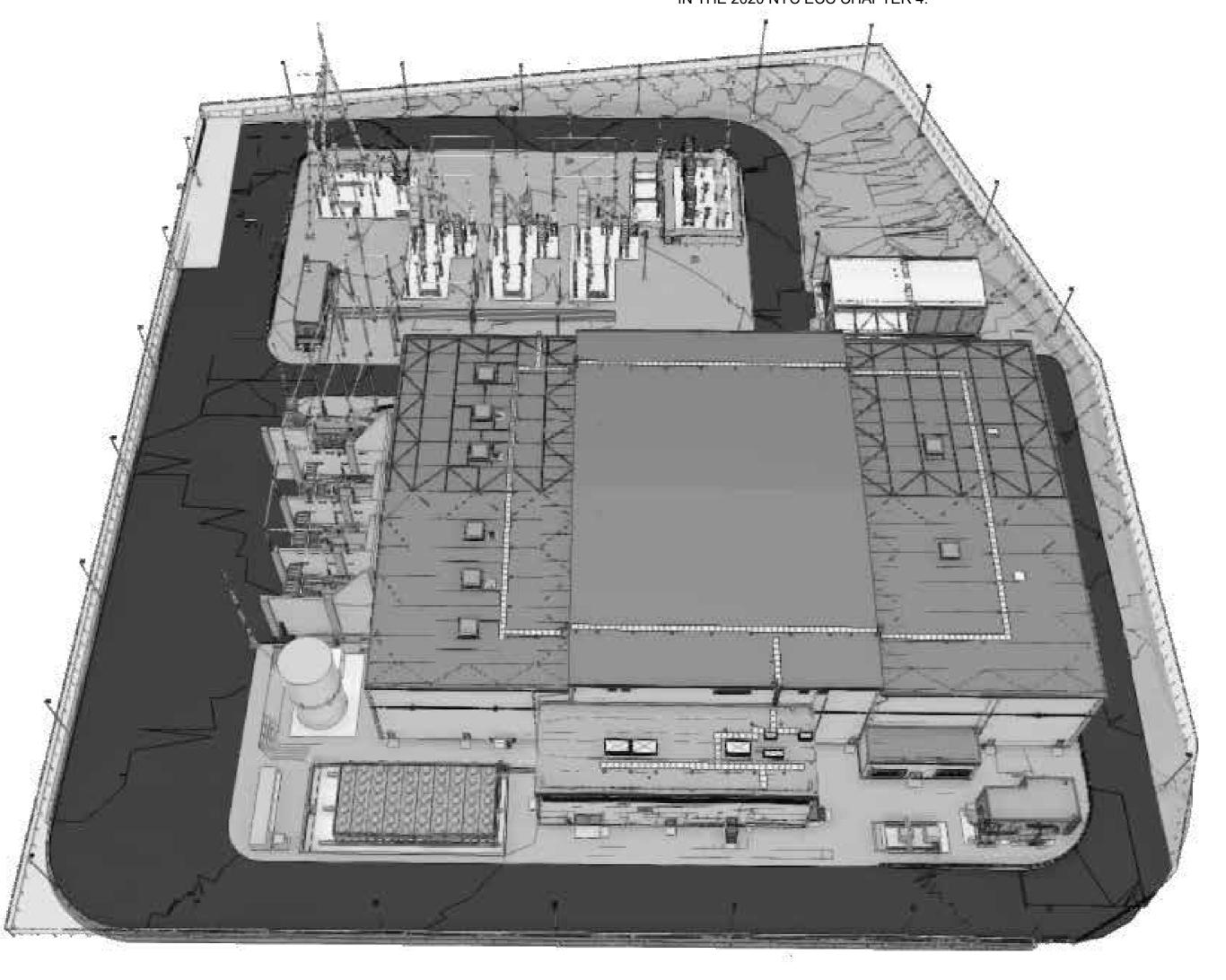
#### 4. CONVERTER TRANSFORMERS: DELUGE SPRINKLER

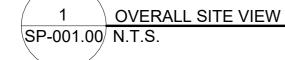
### FLOOD ZONE DESIGN CERTIFICATION:

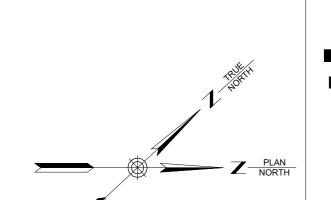
THE EXISTING PROPERTY IS IN THE SPECIAL FLOOD HAZARD AREA (SFHA), ZONE AE PER EFFECTIVE 2015 FLOOD INSURANCE RATE MAP(FIRM). THIS IS TO CONFIRM THAT THE PROPOSED INSTALLATION IS IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN APPENDIX Q OF THE NYC BUILDING CODE.

### **NYC ENERGY CODE COMPLIANCE:**

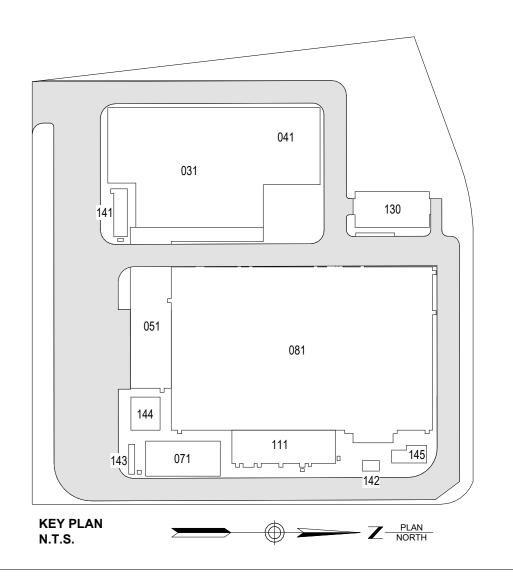
STATEMENT: TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE. PROPOSED WORK MEETS THE GUIDELINES AND INSTRUCTIONS OUTLINED IN THE 2020 NYC ECC CHAPTER 4.







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19910 W. 161st STREET **OLATHE, KS. 66062** 



25 Mohawk Avenue **Sparta, NJ 07871** 

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REV	DESCRIPTION	DRW BY	CHK BY	DATE



Woodcliff Lake, NJ 07677

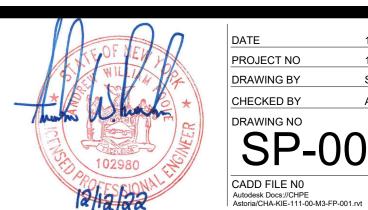
**@**Hitachi Energy 901 Main Campus Drive Raleigh, North Carolina 27606



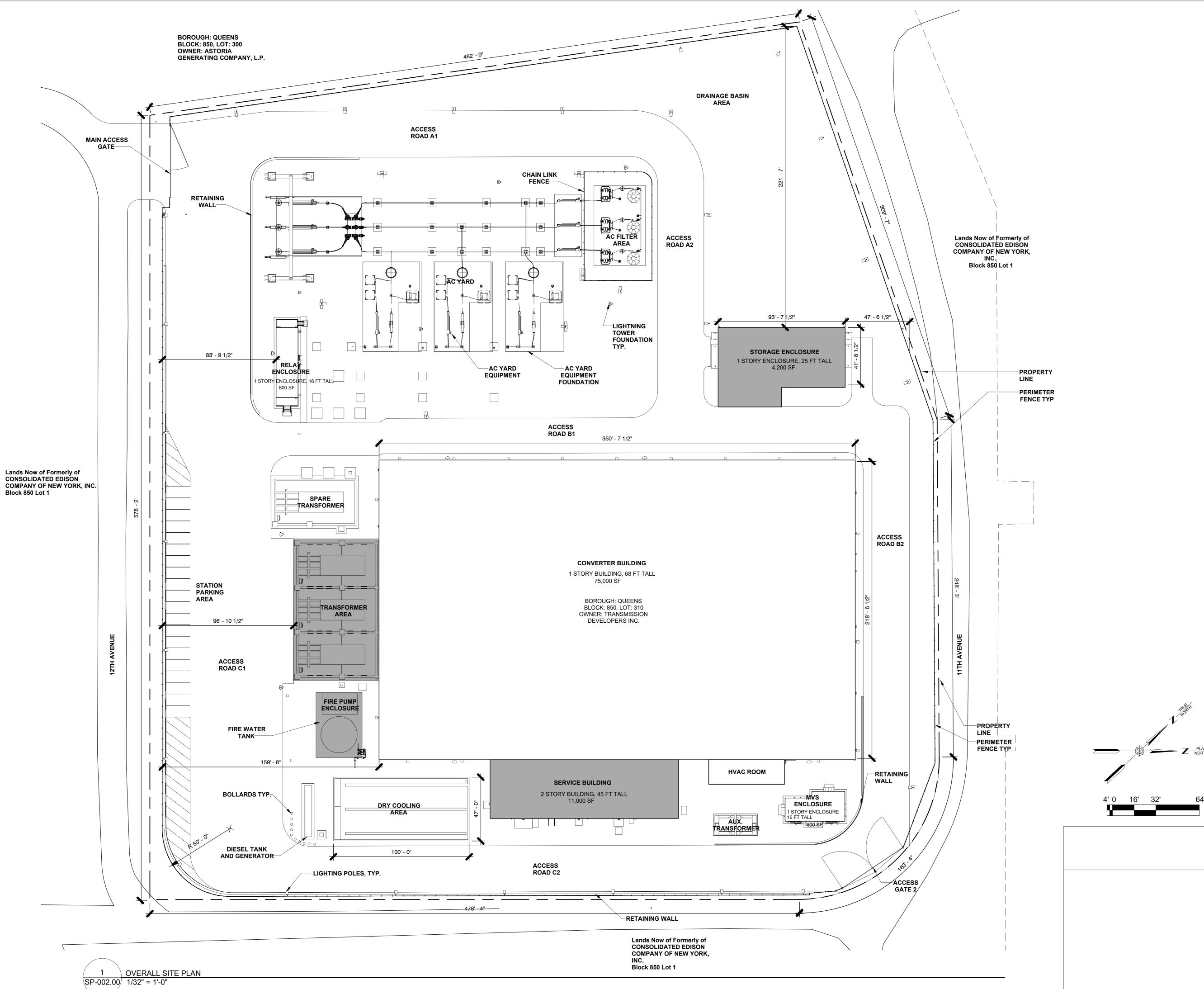
### **Astoria HVDC Converter Station**

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

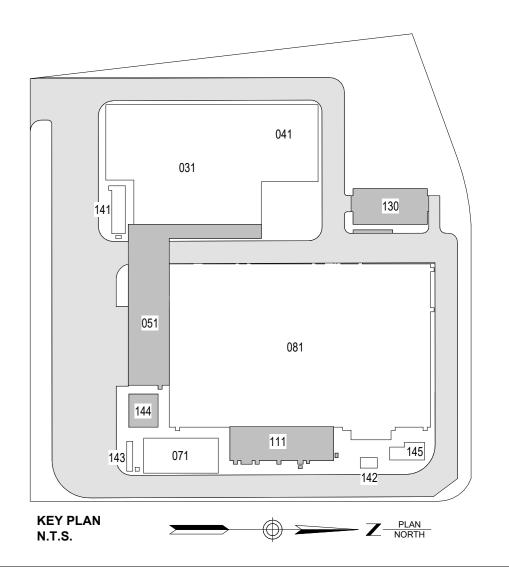
**COVER SHEET** 



S. BRINKMEYER



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PROJECT



# Astoria HVDC Converter Station

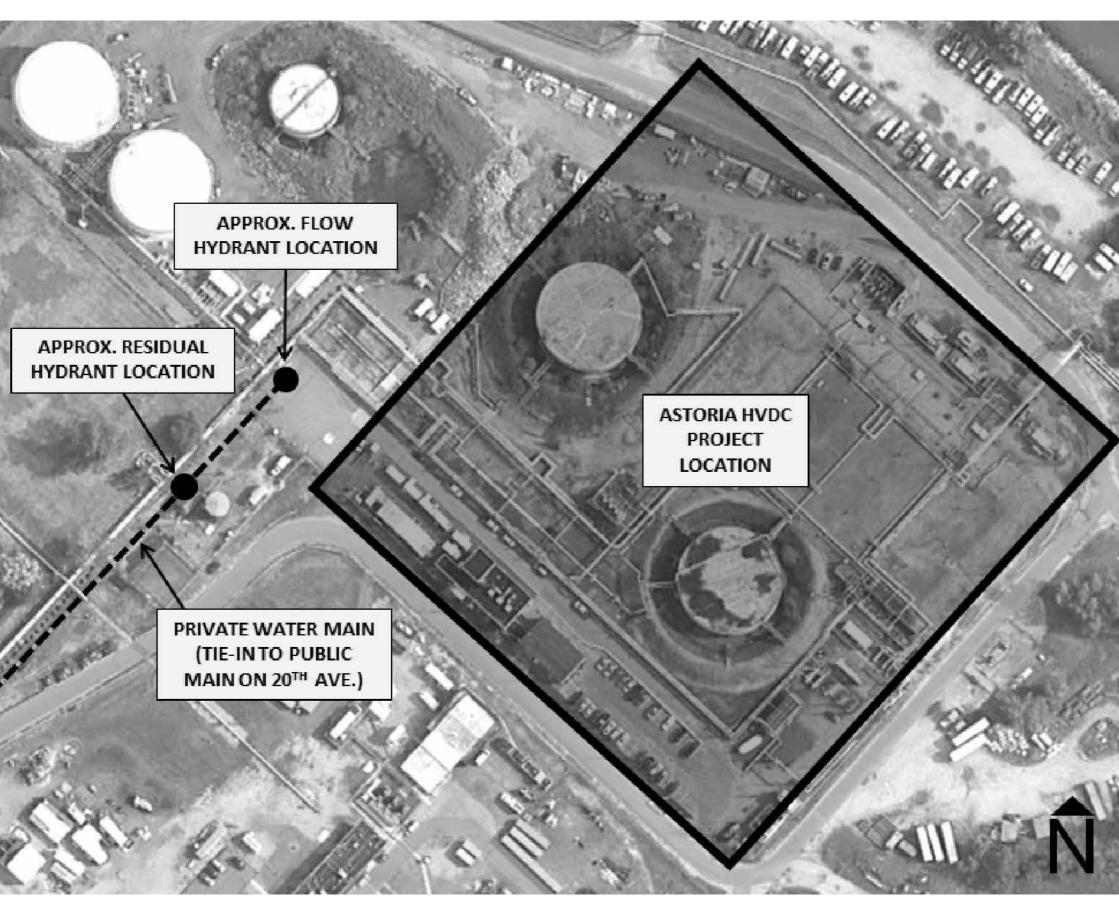
31-45 20<sup>th</sup> Avenue, Astoria, Queens NY 11105 Block #850 - Lot #310 - BIN #4624437

**OVERALL SITE PLAN** 



R
7
J

CADD FILE NO
Autodesk Docs://CHPE
Astoria/CHA-KIE-111-00-M3-FP-001.rvt



FIRE HYDRANT FLOW TEST LOCATION MAP

#### **FIRE SUPPRESSION GENERAL NOTES:**

- SYSTEM DESCRIPTION: A DOUBLE-INTERLOCK PREACTION AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED WITHIN THE SERVICE BUILDING AS INDICATED ON THESE PLANS.
- A WET-PIPE AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED WITHIN THE STORAGE ENCLOSURES AS INDICATED ON THESE PLANS. A DELUGE AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED WITHIN
- THE CONVERTER TRANSFORMER BAYS AS INDICATED ON THESE PLANS. A FIRE PUMP ENCLOSURE CONTAINING A DIESEL FIRE PUMP TO SUPPLY ALL WATER-BASED FIRE SUPPRESSION ON SITE SHALL BE PROVIDED AS INDICATED ON THESE PLANS. THIS ENCLOSURE SHALL ALSO BE PROVIDED A WET-PIPE AUTOMATIC SPRINKLER SYSTEM AS INDICATED.

ALL ELECTRICAL EQUIPMENT AND METALLIC COMPONENTS SHALL BE BONDED AND GROUNDED ACCORDING TO NEW YORK CITY ELECTRICAL CODE ARTICLE 250, HITACHI GROUNDING GUIDELINES, SPECIFICATIONS, AND DETAILS.

- THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW ONE POTENTIAL METHOD OF CODE COMPLIANCE BASED UPON DESIGNED CONDITIONS. THE WORK THAT IS INDICATED ON THESE DRAWINGS ARE AN OVERVIEW OF THE PROJECT, INTENDED TO ESTABLISH THE SCOPE OF THE PROJECT MINIMUM REQUIREMENTS AS WELL AS THE CONTRACTOR'S RESPONSIBILITIES. DETERMINE THE FINAL QUANTITY AND LOCATION OF EQUIPMENT IN ACCORDANCE WITH THE SPECIFICATIONS, CONTRACT DRAWINGS, AND MANUFACTURER'S WRITTEN RECOMMENDATIONS TO BE COMPLIANT WITH APPLICABLE CODES AND STANDARDS.
- THE DESIGN AND INSTALLATION OF THE FIRE SUPPRESSION SYSTEM MUST BE IN ACCORDANCE WITH, BUT NOT LIMITED TO NYC BUILDING CODE (2022), NYC FIRE CODE (2022), NFPA 10 (2013), NFPA 13 (2016), NFPA 15 (2017), NFPA 20 (2016), NFPA 22 (2013), NFPA 24 (2013), NFPA 72 (2016), NFPA 850 (2010), NFPA 2001 (2015), NYC ELECTRICAL CODE (2011), AND ALL LOCAL AMENDMENTS. PER CONTRACT REQUIREMENTS, WHERE THE 2022 EDITION OF NFPA 10, 2022 EDITION OF NFPA 13, AND THE 2020 EDITION OF NFPA 850 HAVE MORE STRINGENT REQUIREMENTS THAN THE EDITIONS REFERENCED BY THE NYC CODES THESE LATEST EDITIONS
- PRIOR TO BEGINNING CONSTRUCTION, VERIFY DIMENSIONS, MEASUREMENTS, LOCATIONS OF UTILITIES, AND EQUIPMENT, AND OTHER EXISTING CONDITIONS WHICH MAY AFFECT CONSTRUCTION. IN THE EVENT OF DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITIONS, CONTACT THE ENGINEER OF RECORD (EOR) IMMEDIATELY.
- REFER TO PROJECT SPECIFICATIONS FOR ANY QUALIFICATIONS, SUBMITTAL, PRODUCT DATA, INSTALLATION, TESTING AND DOCUMENTATION CRITERIA. ALL SHOP DRAWING SUBMITTALS MUST BE SIGNED AND SEALED BY A NEW
- YORK LICENSED FIRE PROTECTION ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH PERMITTING AND CONSTRUCTION.
- COORDINATE LOCATIONS OF FIRE PROTECTION COMPONENTS SUCH AS PIPING, ALARMS, DRAINS, SPRINKLERS, AND TEST POINTS, WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS. AVOID OBSTRUCTIONS TO SPRINKLER DISCHARGE DURING INSTALLATION. DO NOT INSTALL SPRINKLER PIPING BELOW EQUIPMENT OR WITHIN CLEARANCE SPACES FOR MECHANICAL AND ELECTRICAL EQUIPMENT. INSTALL SPRINKLERS UNDER OBSTRUCTIONS IN ACCORDANCE WITH NFPA 13.
- ALL SPRINKLER PIPING AND VALVE HANDLES SHALL BE PAINTED PER THE NYC
- HANGERS AND SEISMIC BRACING MUST BE PROVIDED IN ACCORDANCE WITH NFPA 13. THE FACILITY IS CATEGORIZED AS SEISMIC DESIGN CATEGORY "C". IDENTIFY VALVES (DRAINS, INSPECTOR'S TEST, CONTROL) AS REQUIRED BY
- NFPA 13. PENETRATION OF FIRE RESISTANCE RATED CONSTRUCTION MUST BE SEALED TO MAINTAIN THE REQUIRED FIRE RESISTANCE RATING TO ORIGINAL
- **SPECIFICATIONS** PROVIDE CLEARANCE AROUND PIPING EXTENDING THROUGH WALLS AND
- FLOORS IN ACCORDANCE WITH NFPA 13. PROVIDE INSPECTOR'S TEST VALVES NO MORE THAN 7 FT ABOVE THE FINISHED
- PROVIDE A LISTED RELIEF VALVE IN ACCORDANCE WITH NFPA 13 ON EACH WET PIPE SPRINKLER SYSTEM.
- PROVIDE AIR VENTS IN ACCORDANCE WITH NFPA 13.
- NO SPRINKLER PIPING IS PERMITTED TO BE INSTALLED PASSING THROUGH STAIRS, ELECTRICAL OR TELECOMMUNICATION ROOMS OR OVER ELECTRICAL PANELS/CONTROLLERS/EQUIPMENT, EQUIPMENT, PIPING, DUCTWORK, MACHINERY, ETC THAT DOES NOT SERVE THE STAIRS, ELECTRICAL OR TELECOMMUNICATIONS ROOM MUST NOT BE INSTALLED ABOVE, BELOW (I.E. IN OR UNDER SLAB) OR ENTER OR PASS THRU THIS SPACE. ONLY DEDICATED BRANCH SPRINKLER PIPING WILL BE ALLOWED WITHIN EACH OF THE SPACES INDICATED ABOVE OR SIDEWALL SPRINKLER HEADS MUST BE USED. COORDINATE THE LOCATION OF ALL PIPING WITH ELECTRICAL OR EQUIPMENT AND OTHER TRADES AND ADJUST AS NECESSARY. AIR CLEARANCE TO ELECTRICAL EQUIPMENT SHALL BE RESPECTED.
- LOCATE DRAINS IN ACCORDANCE WITH NFPA 13. DRAINS AND TEST CONNECTIONS MUST DISCHARGE TO THE EXTERIOR OF THE BUILDING ONTO A SPLASH BLOCK OR PAVEMENT, AND MUST NOT DISCHARGE ACROSS PATHS OF
- CENTER PENDENT SPRINKLERS IN CEILING TILES WHERE SUSPENDED CEILINGS ARE PROVIDED.
- REFERENCE CIVIL DRAWINGS INCLUDED IN SEPARATE PERMIT SUBMITTAL FOR FIRE WATER UNDERGROUND PIPING AND FIRE HYDRANTS.
- FLEXIBLE SPRINKLER ASSEMBLIES MUST BE USED WHERE PENDENT SPRINKLERS ARE INSTALLED IN SUSPENDED CEILINGS.
- ALL METALLIC PARTS SHALL BE GROUNDED. MAGNETIC FERROUS MATERIALS SHALL NOT ENTER OR RUN THROUGH THE CONVERTER HALLS. ALL EQUIPMENT IN THE CONVERTER BUILDING AND SERVICE BUILDING SHALL COMPLY WITH EMI (ELECTROMAGNETIC INTERFERENCE) REQUIREMENTS, INCLUDING OPENINGS
- FOR CABLES WHICH SHALL RUN THROUGH EMC ROXTEC GLANDS. WATER SUPPLY DATA:
- WATER PURVEYOR: EASTERN GENERATION
- LOCATION: SEE MAP DATE: 9/13/2022
- BY: WALTER T. GORMAN CONSULTING ENGINEERS STATIC: 59 PSI
- RESIDUAL: 42 PSI
- FLOW: 653 GPM

**FIRE PUMP GENERAL NOTES:** THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW ONE POTENTIAL METHOD OF CODE COMPLIANCE BASED UPON DESIGNED CONDITIONS. FIRE PUMP ENCLOSURE MUST BE A PRE-FABRICATED FIRE PUMP ENCLOSURE. THE WORK THAT IS INDICATED ON THESE DRAWINGS ARE AN OVERVIEW OF THE PROJECT, INTENDED TO ESTABLISH THE SCOPE OF THE PROJECT MINIMUM REQUIREMENTS AS WELL AS THE CONTRACTOR'S RESPONSIBILITIES. DETERMINE THE FINAL QUANTITY AND LOCATION OF EQUIPMENT IN ACCORDANCE WITH THE SPECIFICATIONS, CONTRACT DRAWINGS, AND MANUFACTURER'S WRITTEN RECOMMENDATIONS TO BE COMPLIANT WITH APPLICABLE CODES AND STANDARDS. PROVIDE ADDITIONAL EQUIPMENT WHEN REQUIRED FOR A FULLY FUNCTIONING FIRE SUPPRESSION SYSTEM.

- MONITOR PUMP WITH THE FACILITY FIRE ALARM SYSTEM IN ACCORDANCE WITH NFPA 20, INCLUDING BUT NOT LIMITED TO PUMP RUN, DIESEL FIRE PUMP MONITORING POINTS, LOW PUMP ROOM TEMPERATURE, AND VALVE
- SUPERVISORY SWITCHES. SIZE FIRE PUMP PIPING, INCLUDING INLET, OUTLET, AND TEST HEADER IN

#### ACCORDANCE WITH NFPA 20. WATER STORAGE TANK GENERAL NOTES:

- FIRE WATER STORAGE TANKS MUST BE MONITORED IN ACCORDANCE WITH
- NFPA 22 AND NFPA 72. FIRE WATER STORAGE TANK IS PROVIDED WITH BOOSTER PUMP FOR AUTOMATIC REFILL CAPABLE OF REFILLING THE REQUIRED FIRE WATER VOLUME (2 HOUR SUPPLY OF 180,000 GALLONS) WITHIN 8 HOURS PER NFPA 22.
- BOOSTER PUMP IS INCLUDED IN SEPARATE MECHANICAL PERMIT SUBMITTAL. FIRE WATER STORAGE TANK IS PROTECTED AGAINST FREEZING IN ACCORDANCE WITH NFPA 22. SEE SEPARATE MECHANICAL PERMIT SUBMITTAL FOR ADDITIONAL INFORMATION. TANK HEATING SHALL BE MONITORED BY THE
- FIRE ALARM CONTROL PANEL WITHIN THE FIRE PUMP ENCLOSURE. FIRE PUMP RELIEF VALVES AND FLOW METERS MUST DISCHARGE BACK TO THE TANK IN ACCORDANCE WITH NFPA 20.
- OUTDOOR, ABOVE GROUND FIRE WATER PIPING IS PROTECTED AGAINST FREEZING. SEE SEPARATE ELECTRICAL AND MECHANICAL PERMIT SUBMITTALS FOR ADDITIONAL INFORMATION. HEAT TRACING SHALL BE MONITORED BY THE

FIRE ALARM CONTROL PANEL WITHIN THE FIRE PUMP ENCLOSURE.

	FIRE SUPPRESSION LEGEND
	SPRINKLER RISER
$ \diamondsuit $	DELUGE RISER
484	TEST HEADER - WALL MOUNT
90	FIRE DEPARTMENT CONNECTION - SIAMESE
NS	NON-SPRINKLERED SPACE
0	UPRIGHT SPRINKLER
•	PENDENT SPRINKLER

DRY SIDEWALL SPRINKLER

HYDRAULIC CALCULATION NODE

SPOT ELEVATION - HEIGHT ABOVE FINSIHED FLOOR

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Α	INTERIM SUBMISSION	SAB	AWP	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE



Woodcliff Lake, NJ 07677

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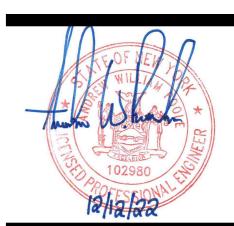
**PROJECT** 



### **Astoria HVDC Converter Station**

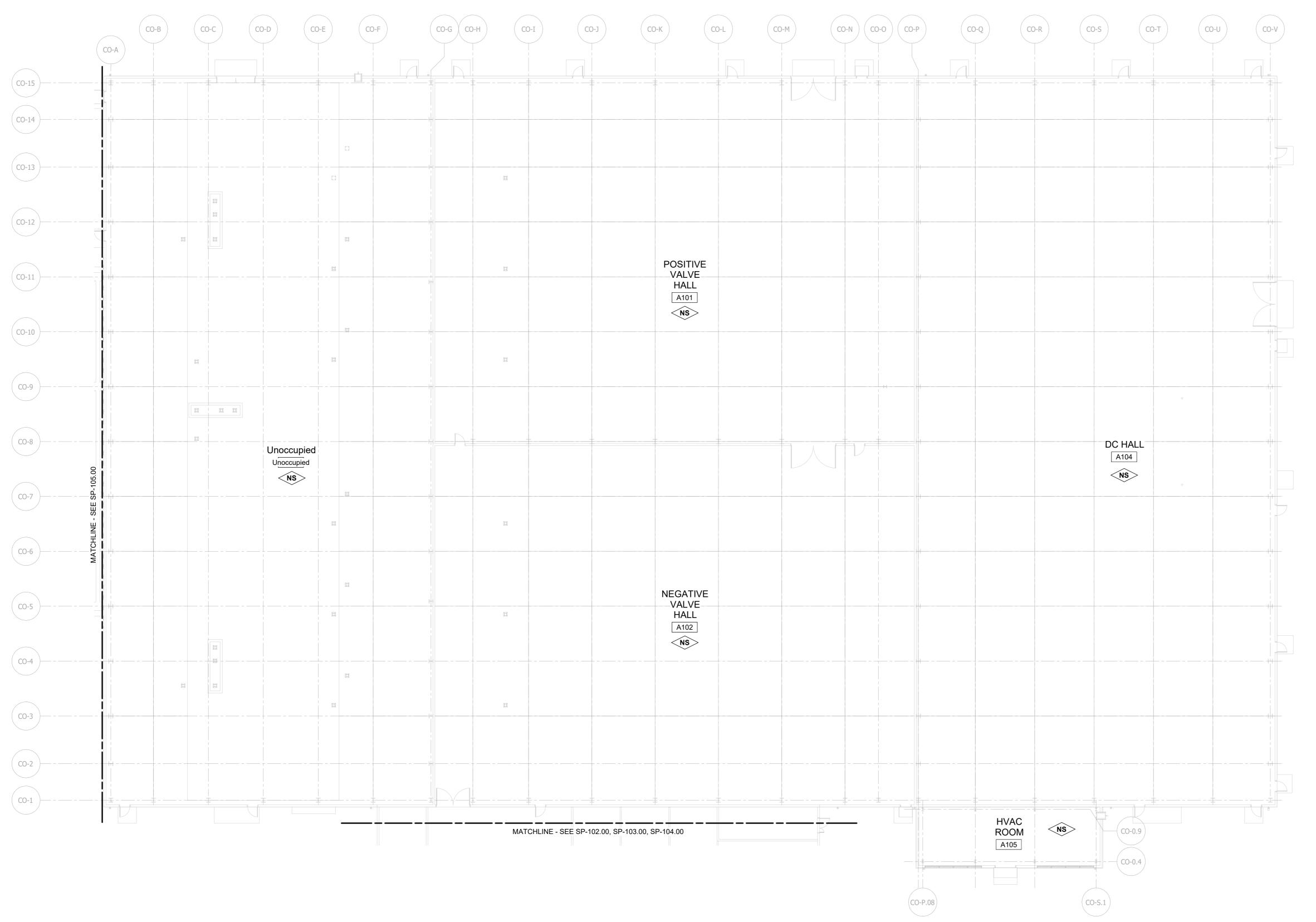
31-45 20th Avenue, Astoria, Queens NY 11105 Block #850 - Lot #310 - BIN #4624437

FIRE SUPPRESSION **GENERAL NOTES AND LEGEND** 



12/12/2022 PROJECT NO 105121 DRAWING BY S. BRINKMEYER CHECKED BY A. POOLE DRAWING NO

CADD FILE NO Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt



B FINAL SUBMISSION
A INTERIM SUBMISSION
REV DESCRIPTION

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

AWP SAB 12/12/2022 AWP SAB 09/13/2022 DRW BY CHK BY DATE

130

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PROJECT CHPE

Champlain Hudson
Power Express

Astoria HVDC Converter Station

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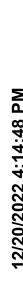
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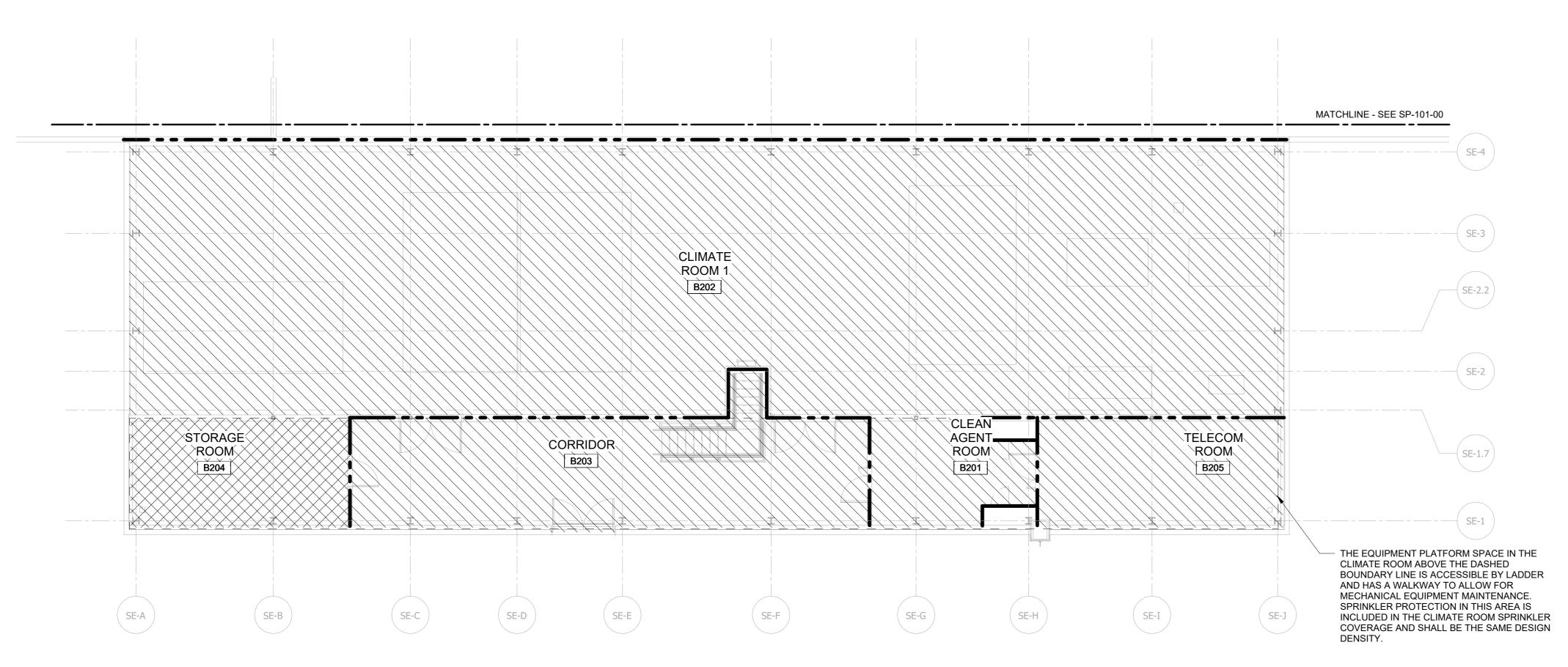
CONVERTER BUILDING -FIRE SUPPRESSION PLAN



1 FIRE SUPPRESSION PLAN SP-101.00 1/16" = 1'-0"



1 FIRE SUPPRESSION HAZARD CLASSIFICATION PLAN - FIRST FLOOR SP-102.00 1/8" = 1'-0"



RATED WALL LEGEND

2 HOUR FIRE BARRIER

NOTE: RATED WALLS ARE REFERENCED FROM ARCHITECTURAL PLANS. INCLUDED IN SEPARATE PERMIT SUBMITTAL.

#### HAZARD CLASSIFICATION HATCH LEGEND

DOUBLE-INTERLOCK PREACTION SYSTEM
ORDINARY HAZARD GROUP 1
(0.15 GPM/FT2 OVER 2535 FT2)

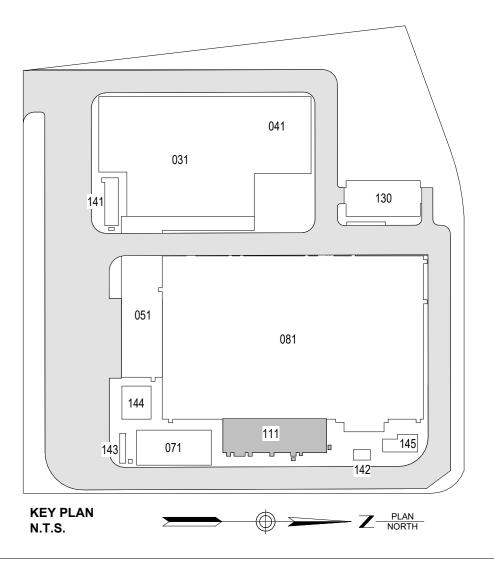
DOUBLE-INTERLOCK PREACTION SYSTEM
ORDINARY HAZARD GROUP 2
(0.20 GPM/FT2 OVER 1950 FT2)

DOUBLE-INTERLOCK PREACTION SYSTEM
(0.30 GPM/FT2 OVER ROOM AREA)

#### **KEYNOTES**

1 PROIVDE FREEZE PROTECTION FOR ALL EXPOSED PIPING SUBJECT TO FREEZING IN ACCORDANCE WITH NFPA 20 AND NFPA 13. EACH PIPE SHALL BE ON ITS OWN HEAT TRACING CIRCUIT AND INCLUDE ASSOCIATED TANK VALVE(S). REFER TO MECHANICAL DRAWINGS INCLUDED IN SEPARATE PERMIT SUBMITTAL.

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12/12/2022

A. POOLE

S. BRINKMEYER

ROJECT



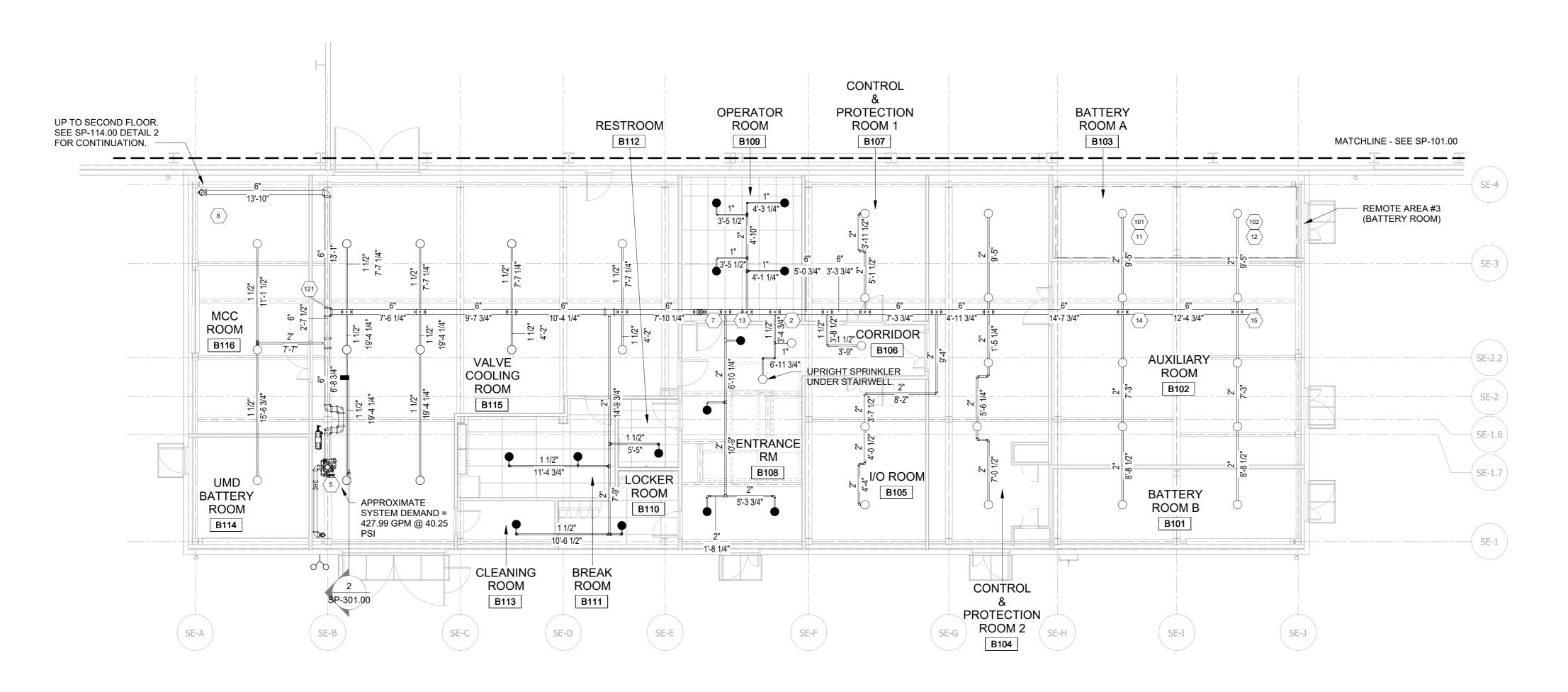
# Astoria HVDC Converter Station

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SERVICE BUILDING - FIRE SUPPRESSION HAZARD CLASSIFICATION PLAN



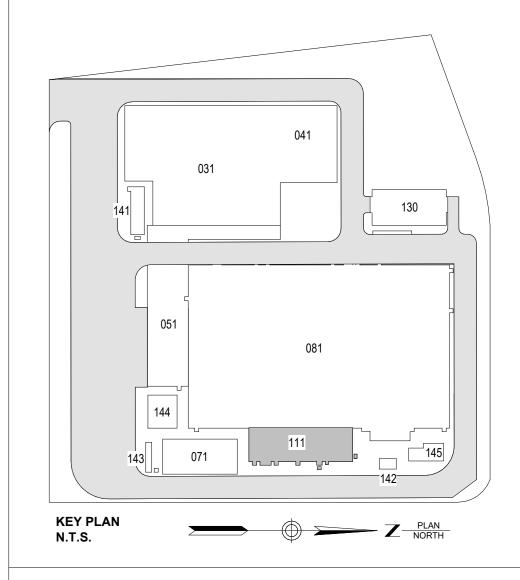
2 FIRE SUPPRESSION HAZARD CLASSIFICATION PLAN - SECOND FLOOR SP-102.00 1/8" = 1'-0"



1 FIRE SUPPRESSION PLAN - FIRST FLOOR SP-103.00 1/8" = 1'-0"



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12/12/2022

105121 C. HOLDMEYER

A. POOLE

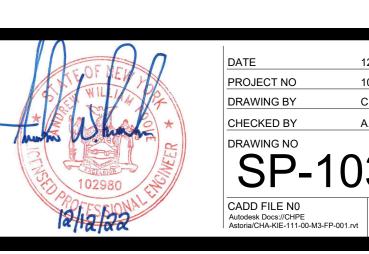
PROJECT

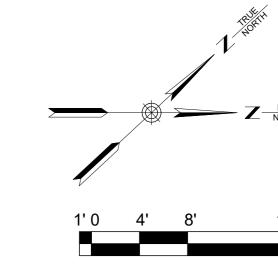


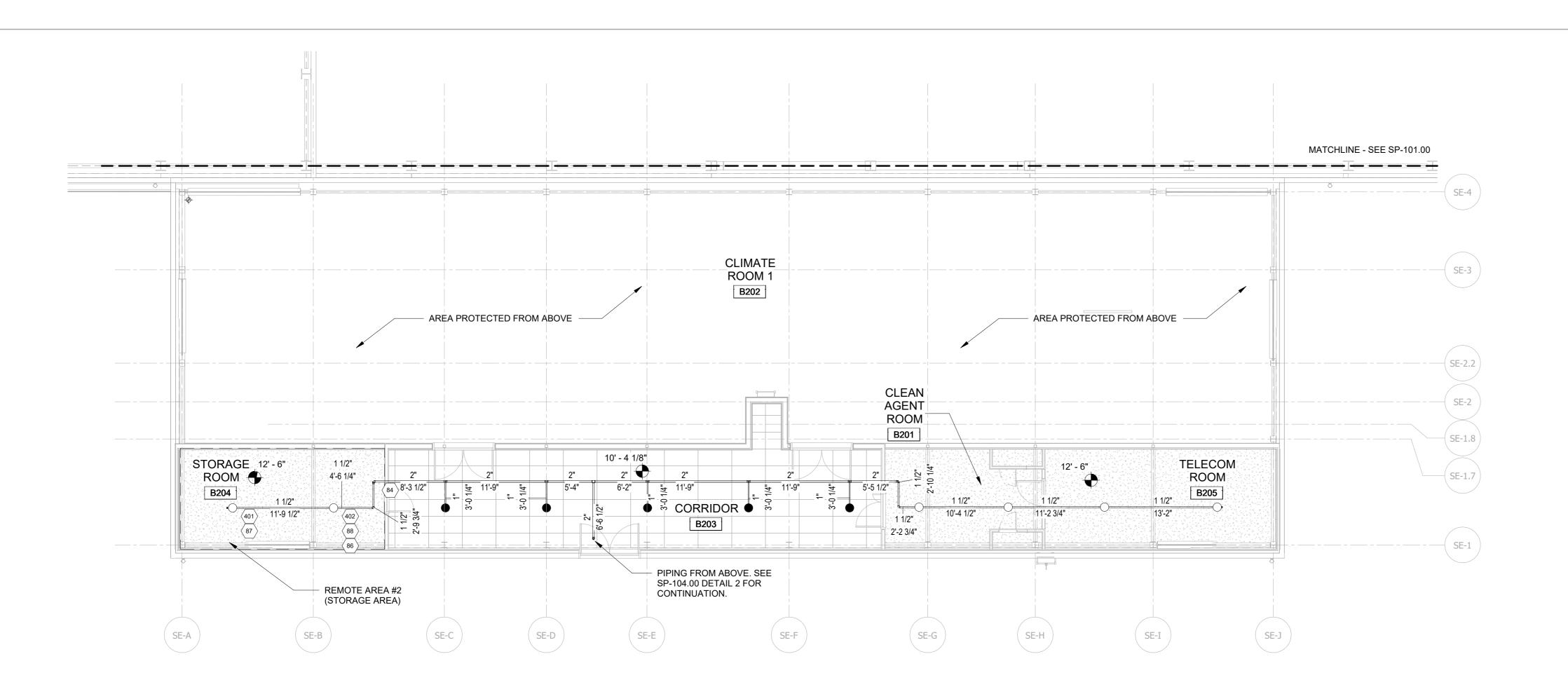
Astoria HVDC
Converter Station
45 20th Avenue Astoria Queens NV 111

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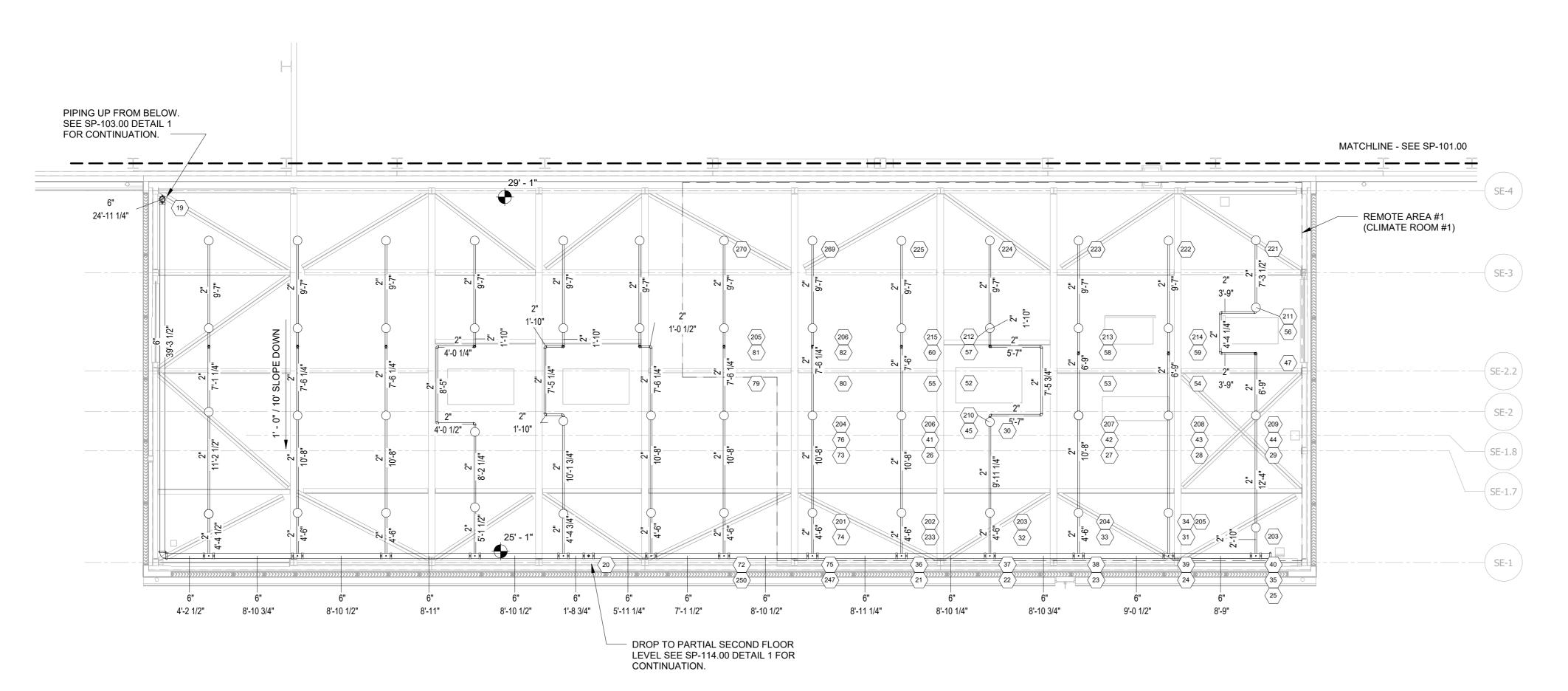
SERVICE BUILDING - FIRE SUPPRESSION PLAN





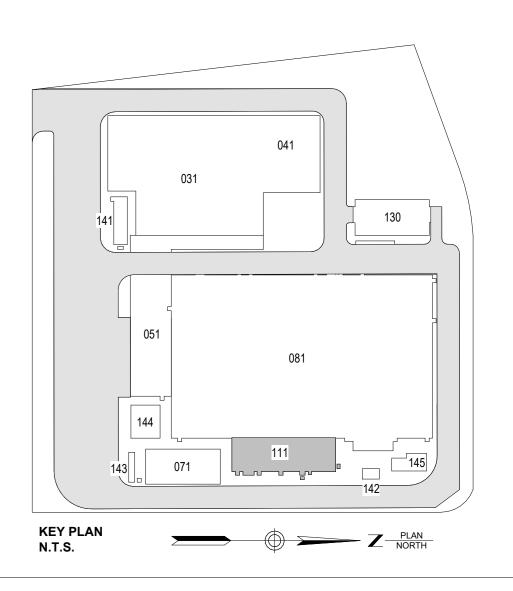


FIRE SUPPRESSION PLAN - SECOND FLOOR



FIRE SUPPRESSION PLAN - SECOND FLOOR RCP SP-104.00 1/8" = 1'-0"

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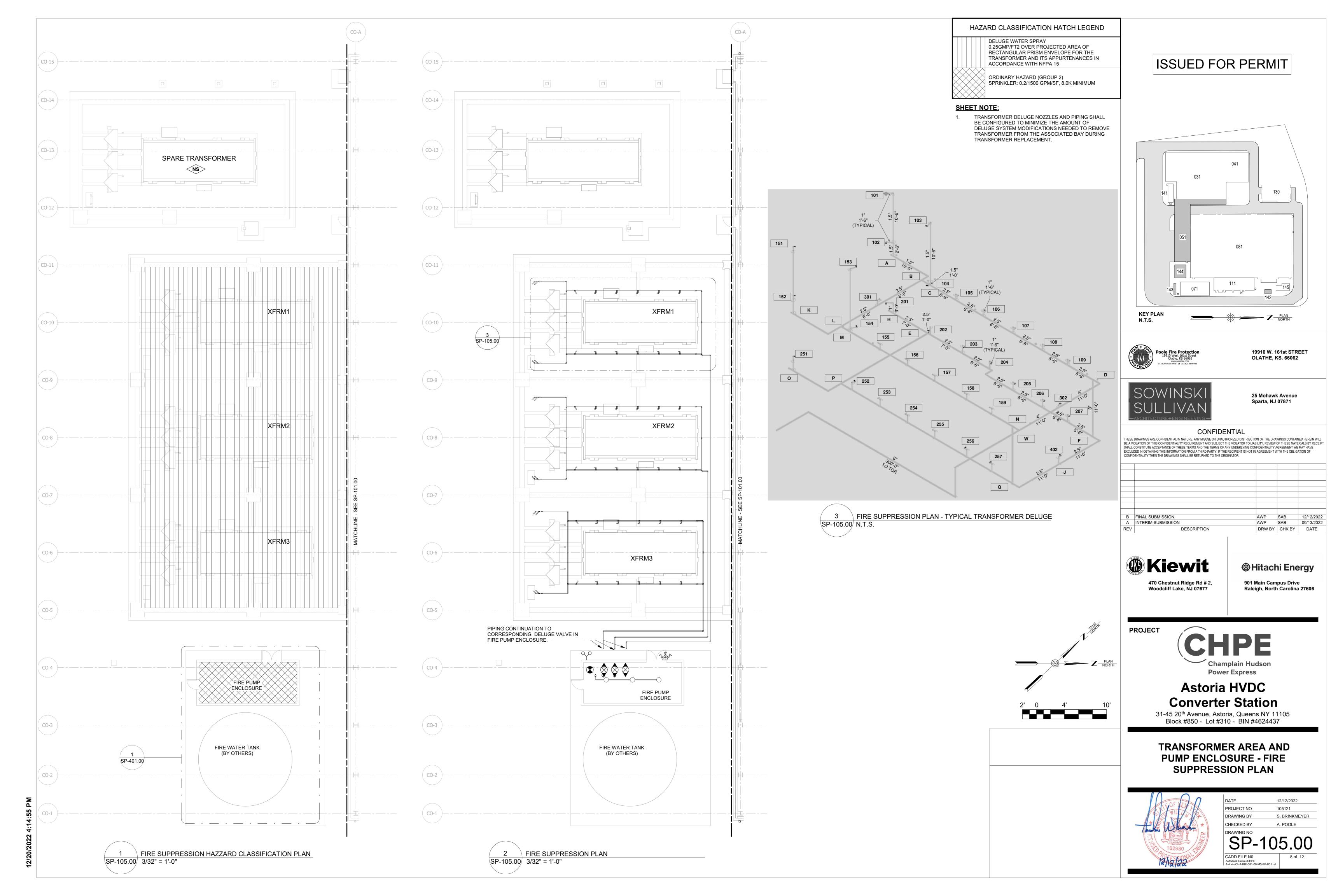
31-45 20th Avenue, Astoria, Queens NY 11105 Block #850 - Lot #310 - BIN #4624437

**SERVICE BUILDING - FIRE** 

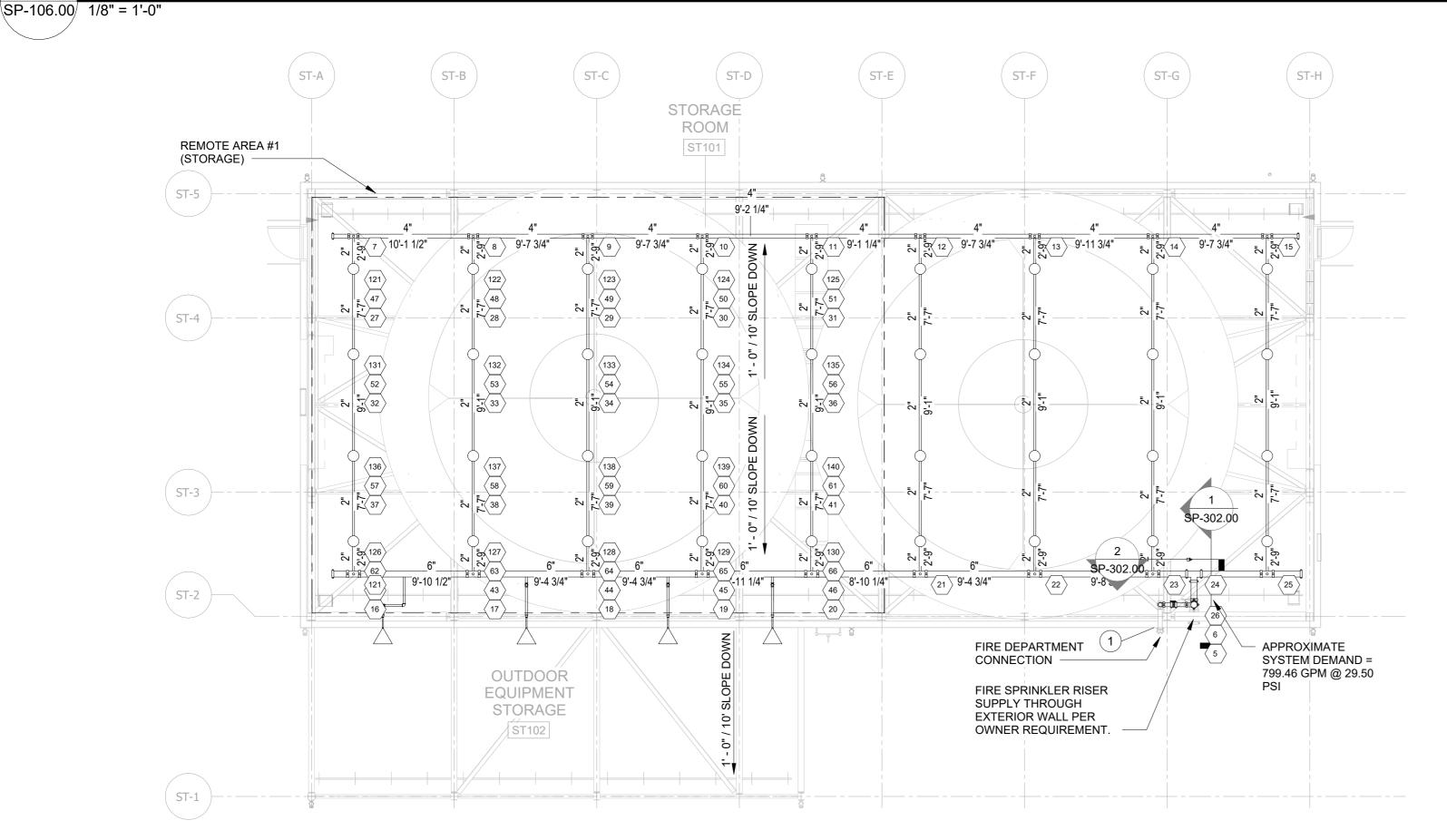
**SUPPRESSION PLAN** 



12/12/2022 PROJECT NO 105121 C. HOLDMEYER CHECKED BY A. POOLE Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt



FIRE SUPPRESSION HAZARD CLASSIFICATION PLAN



FIRE SUPPRESSION PLAN SP-106.00 1/8" = 1'-0"

#### INDOOR HIGH-PILED RACK STORAGE:

**OVERALL RACK DIMENSIONS:** RACK #1: 78' L x 10' D x 18' H; RACK #2: 78'

#### AISLE DIMENSIONS: 16'-0"

FLUE DIMENSIONS: TRANSVERSE: MIN 6", LONGITUDINAL: N/A (RACKS ARE NOT BACK-TO-BACK RACK STORAGE)

#### **NUMBER OF TIERS PER RACK:** 3

PILE VOLUME: 28,080 CUBIC FEET (EVENLY SPLIT BETWEEN TWO

#### USABLE STORAGE HEIGHT: 18'-0"

COMMODITY CLEARANCE: 5.3' TO 6.4' BETWEEN TOP OF STORAGE AND SPRINKLER DEFLECTOR (MINIMUM DISTANCE OF 18" EXCEEDED PER NFPA 13 SECTION 8.5.6.1)

COMMODITIY CLASSIFICATION: CLASS I-IV, SPRINKLER DENSITY BASED ON CLASS IV.

#### BANDED OR ENCAPSULATED COMMODITIES: BANDED: YES; ENCAPSULATED: NO

FIRE DEPARTMENT ACCESS DOORS: NOT REQUIRED OR PROVIDED PER NYCFC TABLE 3206.2, OPTION 1

#### FIRE EXTINGUISHING SYSTEM: WET-PIPE AUTOMATIC SPRINKLER

PROTECTION - 0.41 GPM/SF OVER 2,000 SF PER NFPA 13 TABLE 16.2.1.3.2, FIGURE 16.2.1.3.2(D) CURVE "A", AND NFPA 13 FIGURE 16.2.1.3.4.1 DESIGN DENSITY REDUCTION FOR 18' STORAGE HEIGHT. - HIGH TEMPERATURE SPRINKLERS PROVIDED PER NFPA 13 FIGURE

6.2.1.3.2(D) CURVE "A". FIRE DETECTION SYSTEM: NOT REQUIRED PER NYCFC TABLE 3206.2, OPTION 1. COMPLETE SPOT-TYPE HEAT DETECTION COVERAGE

#### PROVIDED AT ROOF DECK. DETECTION MONITORED BY FIRE ALARM PANEL WITHIN STORAGE ENCLOSURE, AND NETWORKED TO MAIN FIRE ALARM PANEL IN THE SERVICE BUILDING. SEE FIRE ALARM DRAWINGS INCLUDED IN SEPARATE PERMIT SUBMITTAL.

SUPPRESSION CONTROL VALVES: OVERHEAD SPRINKLER VALVE LOCATED AT MAIN RISER. IN-RACK SPRINKLERS NOT PROVIDED.

#### **SMOKE REMOVAL:** SMOKE AND HEAT VENTS NOT REQUIRED OR PROVIDED PER NYCFC TABLE 3206.2, OPTION 1. POST-FIRE SMOKE PURGE PROVIDED PER NYCBC SECTION 917.

DRAFT CURTAINS: NOT REQUIRED OR PROVIDED PER NYCFC TABLE 3206.2, OPTION 1

OTHER: PROTECTION OF IDLE WOOD PALLETS IN ACCORDANCE WITH NFPA 13 SECTION 12.12.1.2(4) AND NOT STORED ON RACKS. PROTECTION OF IDLE PLASTIC PALLETS IN ACCORDANCE WITH NFPA 13 SECTION 12.12.2.2.4.3.

#### OUTDOOR HIGH-PILED SOLID PILE STORAGE:

OVERALL RACK DIMENSIONS: NOT APPLICABLE. SOLID PILE STORAGE

AISLE DIMENSIONS: NOT APPLICABLE. SOLID PILE STORAGE ONLY.

FLUE DIMENSIONS: NOT APPLICABLE. SOLID PILE STORAGE ONLY.

NUMBER OF TIERS PER RACK: NOT APPLICABLE. SOLID PILE STORAGE

**PILE VOLUME:** 10,800 CF (45' L X 15' D X 16' H)

#### **USABLE STORAGE HEIGHT:** 16'-0"

COMMODITY CLEARANCE: 1'-6" BETWEEN TOP OF STORAGE AND SPRINKLER DEFLECTOR (MINIMUM DISTANCE OF 18" MET PER NFPA 13

COMMODITIY CLASSIFICATION: CLASS I-IV, SPRINKLER DENSITY BASED ON CLASS IV.

BANDED OR ENCAPSULATED COMMODITIES: BANDED: YES;

#### ENCAPSULATED: NO FIRE DEPARTMENT ACCESS DOORS: NOT APPLICABLE

FIRE EXTINGUISHING SYSTEM: DRY SIDEWALL AUTOMATIC SPRINKLER

- 0.29 GPM/SF OVER 2,000 SF PER NFPA 13 FIGURE 14.2.4.1, AND FIGURE 14.2.4.3 DESIGN DENSITY REDUCTION FOR 16' STORAGE

- HIGH TEMPERATURE SPRINKLERS PROVIDED PER NFPA 13 FIGURE 14.2.4.1

FIRE DETECTION SYSTEM: NOT REQUIRED PER NYCFC TABLE 3206.2, OPTION 1. NO DETECTION PROVIDED.

SUPPRESSION CONTROL VALVES: OVERHEAD SPRINKLER VALVE

**SMOKE REMOVAL: NOT APPLICABLE** 

LOCATED AT MAIN RISER.

**DRAFT CURTAINS: NOT APPLICABLE** 

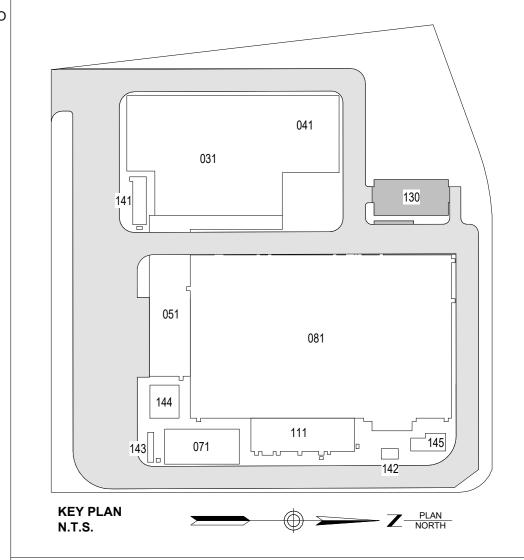
#### HAZARD CLASSIFICATION HATCH LEGEND

STORAGE - AUTOMATIC WET-PIPE (0.42 GPM/FT2 OVER 2000FT2) HIGH TEMPERATURE SPRINKLERS STORAGE - DRY SIDEWALL SPRINKLERS ORDINARY HAZARD GROUP 2 (0.29 GPM/FT2 OVER 2000FT2) INTERMEDIATE TEMPERATURE SPRINKLERS

#### **KEYNOTES**

1 PROVIDE FREEZE PROTECTION FOR ALL EXPOSED PIPING SUBJECT TO FREEZING IN ACCORDANCE WITH NFPA 20 AND NFPA 13. EACH PIPE SHALL BE ON ITS OWN HEAT TRACING CIRCUIT AND INCLDUE ASSOCIATED TANK VALVE(S). REFER TO MECHANICAL DRAWINGS INCLUDED IN SEPARATE PERMIT SUBMITTAL.

# **ISSUED FOR PERMIT**





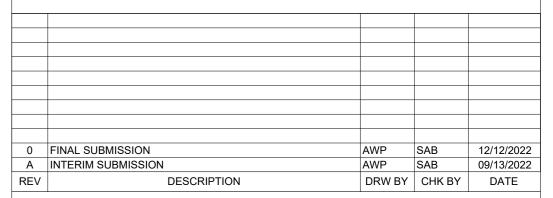
19910 W. 161st STREET OLATHE, KS. 66062



25 Mohawk Avenue **Sparta, NJ 07871** 

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Raleigh, North Carolina 27606

**PROJECT** 



### **Astoria HVDC Converter Station**

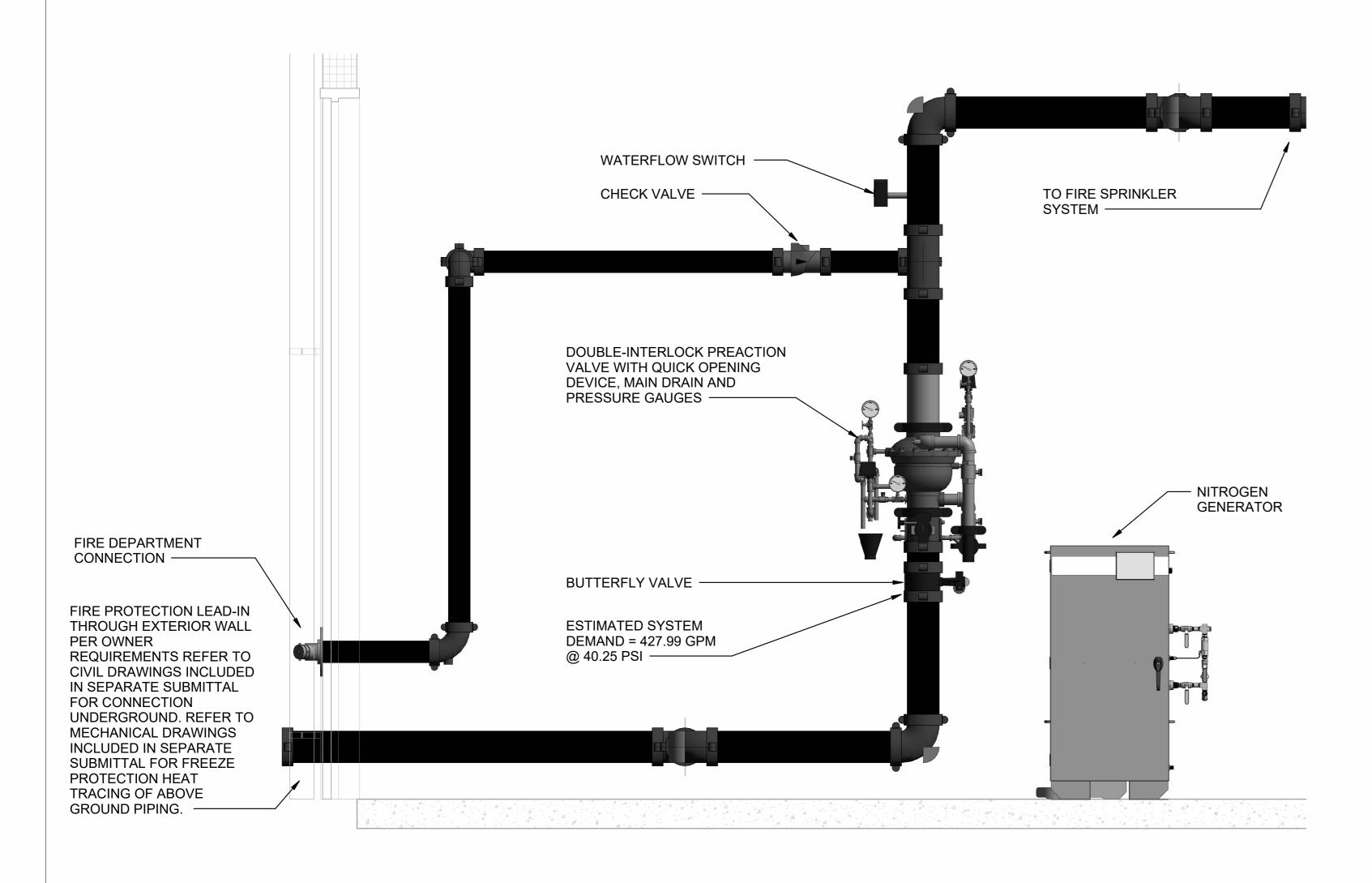
31-45 20th Avenue, Astoria, Queens NY 11105 Block #850 - Lot #310 - BIN #4624437

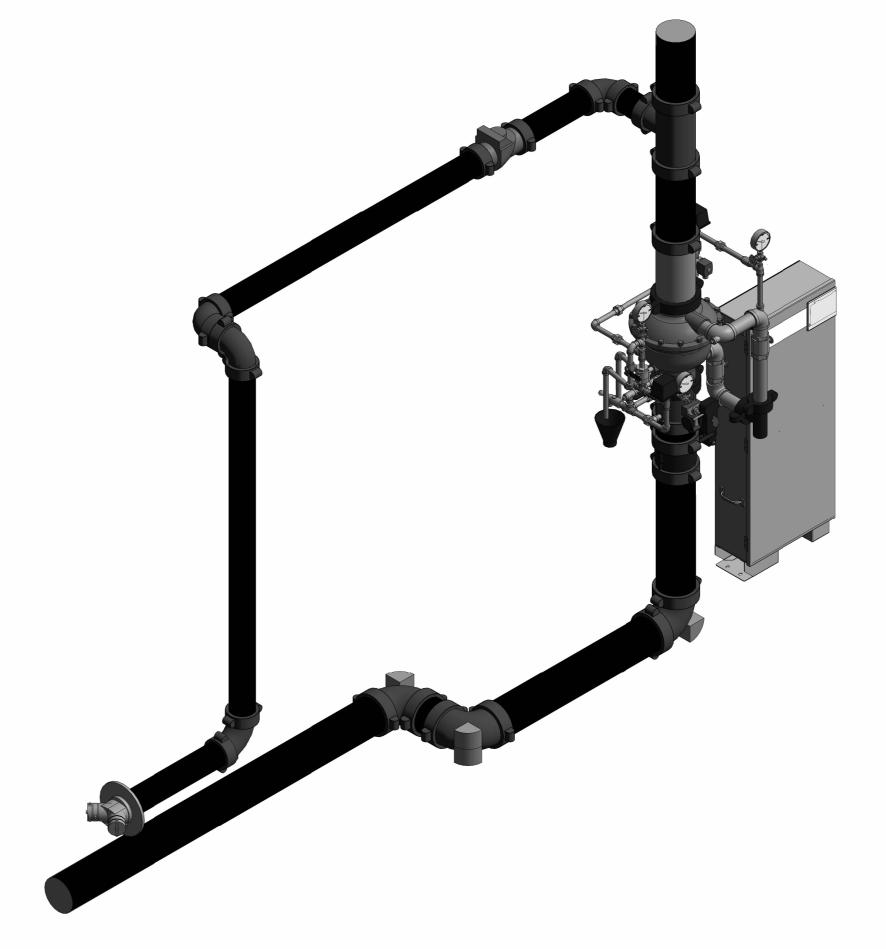
**STORAGE ENCLOSURE -**FIRE SUPPRESSION HAZARD CLASSIFICATION **PLAN** 



12/12/2022 PROJECT NO 105121 DRAWING BY S. BRINKMEYER CHECKED BY A. POOLE DRAWING NO

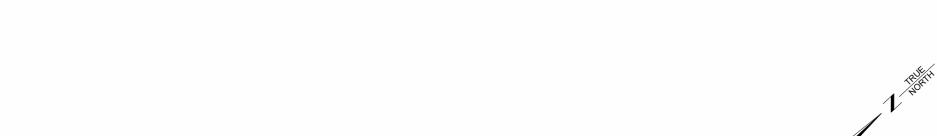
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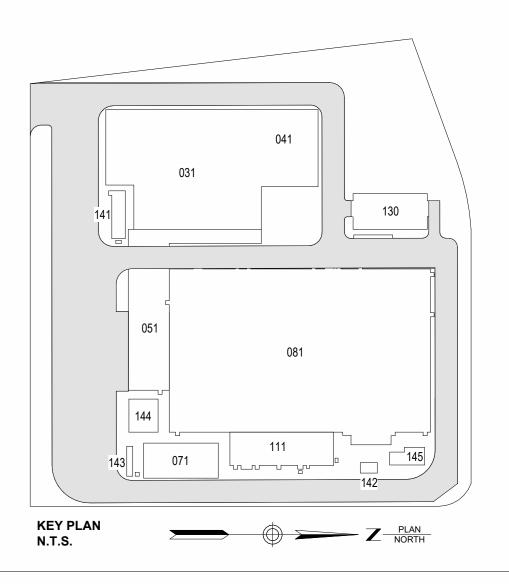


2 SERVICE BUILDING - FIRE SUPPRESSION RISER SECTION SP-301.00 3/4" = 1'-0"











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REV	DESCRIPTION	DRW BY	CHK BY	DATE



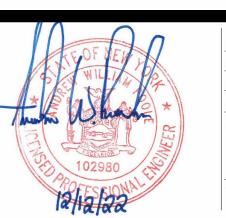
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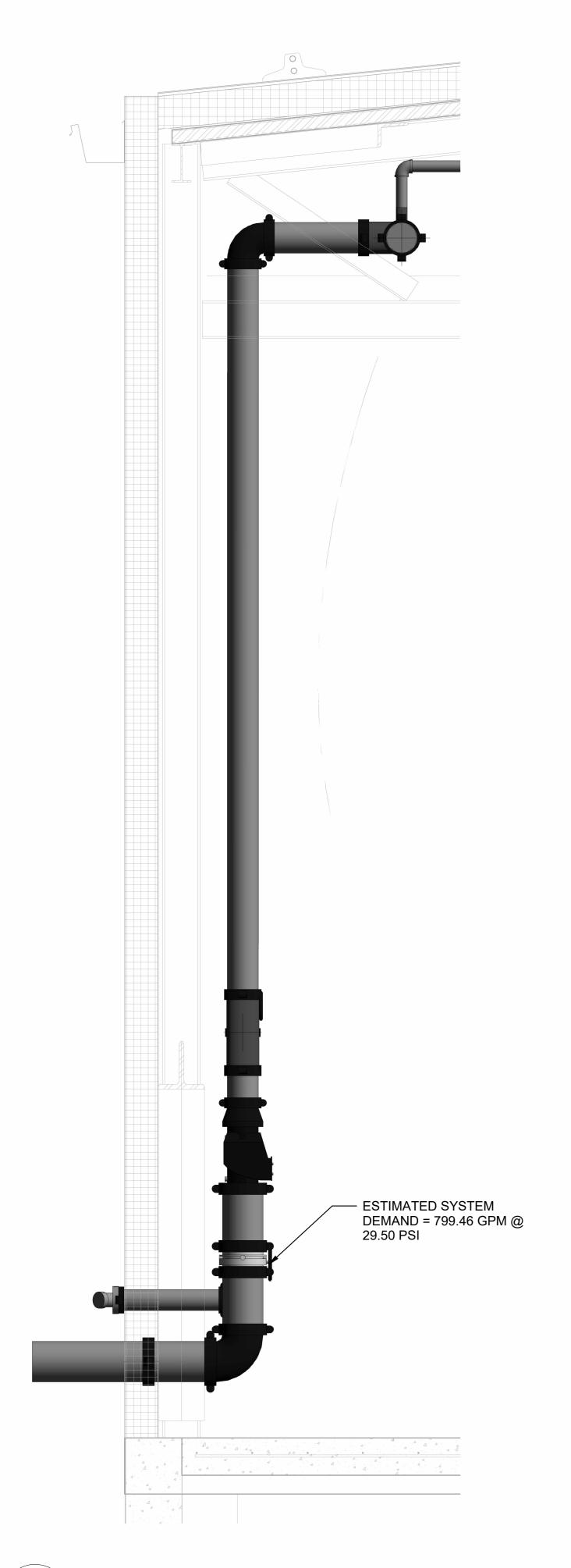
# **Astoria HVDC Converter Station**

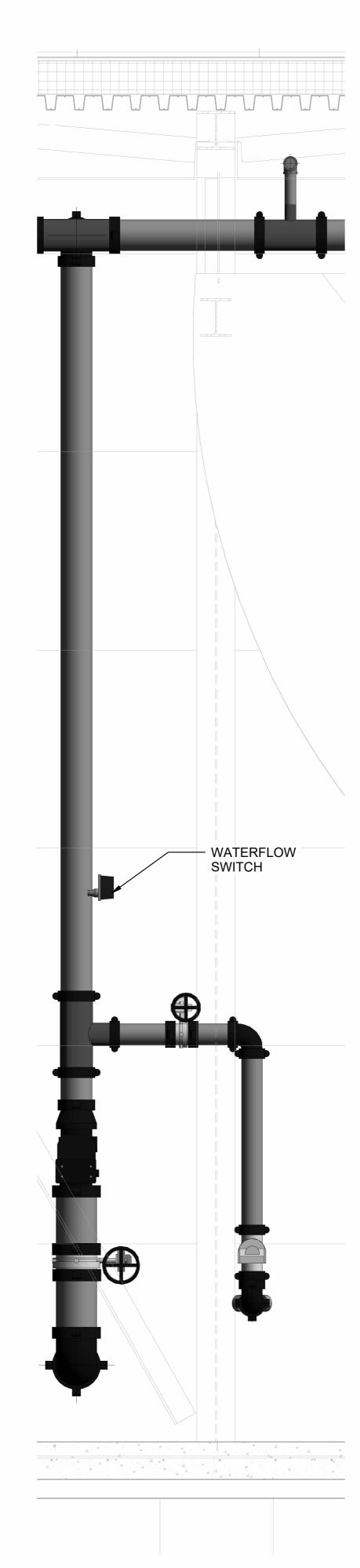
31-45 20th Avenue, Astoria, Queens NY 11105 Block #850 - Lot #310 - BIN #4624437

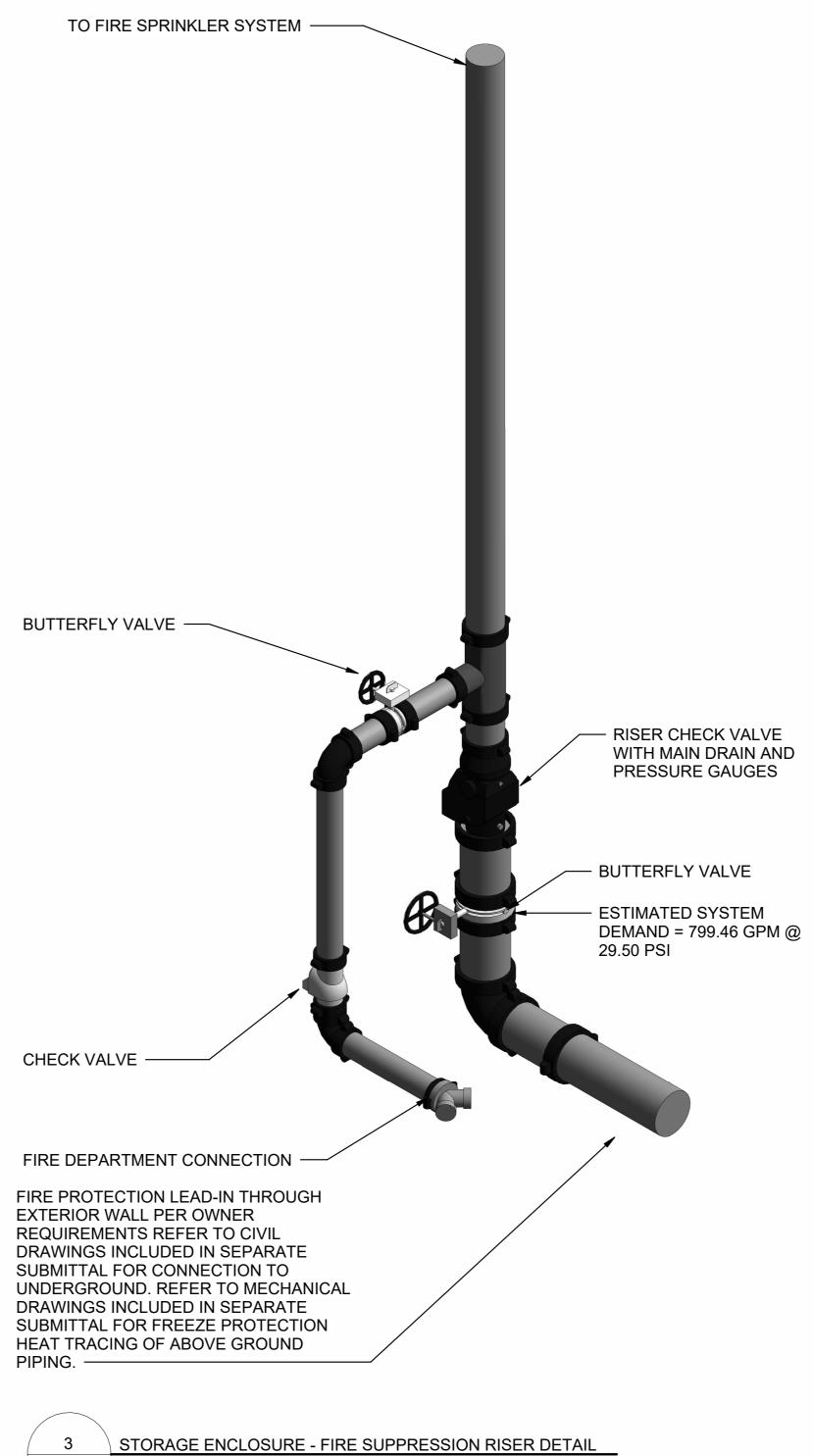
FIRE SUPPRESSION RISER **SECTIONS** 



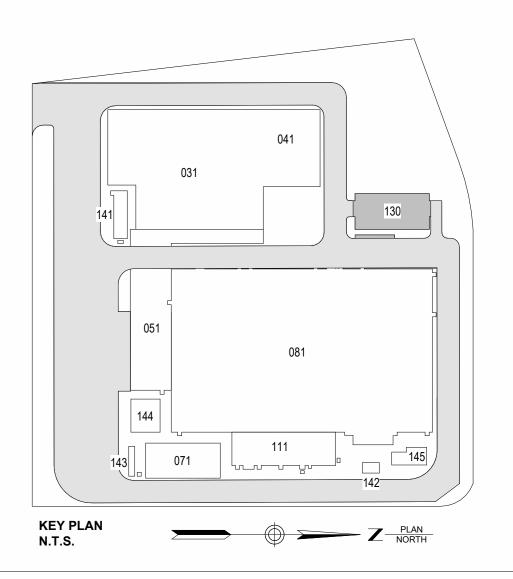
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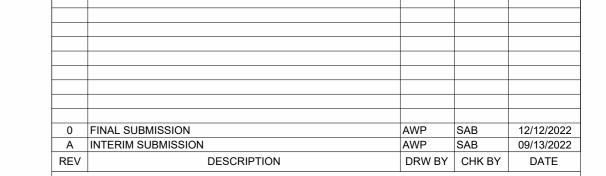
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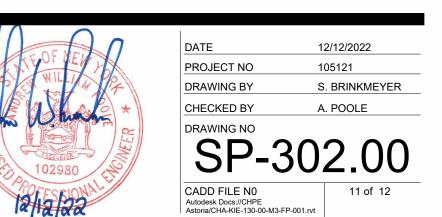


# **Astoria HVDC Converter Station**

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

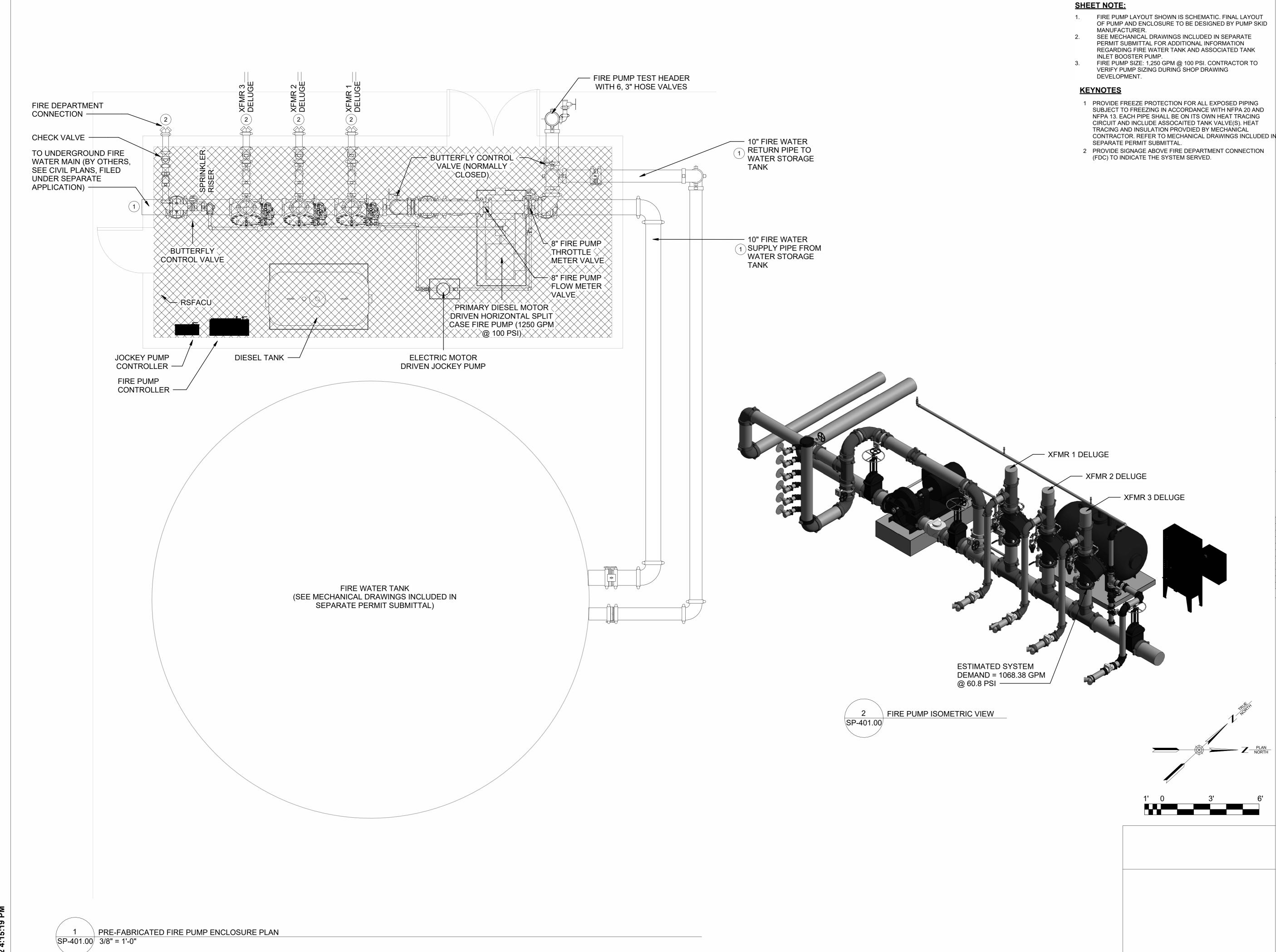
FIRE SUPPRESSION RISER **SECTIONS** 



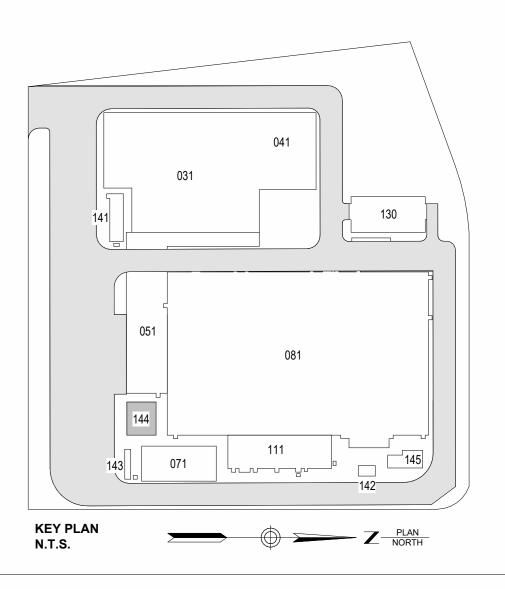


STORAGE ENCLOSURE - FIRE SUPPRESSION RISER SECTION SP-302.00 3/4" = 1'-0"

STORAGE ENCLOSURE - FIRE SUPPRESSION RISER SECTION SP-302.00 3/4" = 1'-0"



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12/12/2022

A. POOLE

105121 S. BRINKMEYER

PROJECT



# Astoria HVDC Converter Station

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

FIRE SUPPRESSION ENLARGED PLANS

