

Plattsburgh, New York

Building & Zoning Dept. 41 City Hall Place Plattsburgh, New York 12901 Ph: 518-563-7707

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Plattsburgh

| | USE | CLASS | AREA S B VARIANCE | | X ECIAL USE | _SUP PERMIT | | |
|------------------------|---|---|--|-------------------------------|-----------------------|---------------------------------|-----------------------------|--|
| May | 20, 2022 | ob.io. | | Same | 20 | | | |
| Date: | | Appeal No.: Special | | | | | | |
| | n is hereby made to the perty use as herein de | he Zoning Board of Appe scribed. | als pursuant to the | City of Plattsburg | gh Zoning (| | Use Permit variance to | |
| Applicant: | _ | Azur Datacenter LLC | | | | | | |
| Applicant's | Address: | 94 Main Mill St | | | | | | |
| Approving a reduced. | | Plattsburgh, NY 12901 | | | | | | |
| Telephone N | No.: | | | | | | _ | |
| Parcel Identification: | | Imperial Industrial Park - Tax Map Parcel # 221.14-2-1.1 | | | | | | |
| Location of Request: | | Building E, Suites 101 and 121 | | | | | | |
| Property Ov | vner: | Mainmill St. Investm | ents, LLC | | | | | |
| Request Des | scription: | To convert vacant su | uites 101 and 121 | (5,000 s.f. each | h) into a co | ombined high | density/crypto | |
| currency da | tacenter/server farn | n utilizing immersion co | oling technology. | | | | | |
| Zoning Dist | rict: | I (Industrial) | | | | | | |
| Section App | pealed: | Development will be in accordance with Section 360-31 Special Use Permits | | | | | | |
| Previous Ap | ppeal: N | o.: N/A | Date: | N/A | | | | |
| Identify Appl | licant's Right to Appl | y for Variance: | | | | | | |
| Ownership: | | _Long Term Lease: | X | _Contract To I | Purchase: | | | |
| Other (Pleas | se Explain): | | | | | | | |
| 13 0 | copies of existing an | nces must be accompand proposed site plan plan plan proposed floor plan. | lus original applic | cation. | | | | |
| provided the | ey are directly relation the spirit and in | may impose reasonablated to and incidental ntent of the zoning law on the neighborhood of | to the proposed v, and shall be in or community. | d use of the proposed for the | roperty. purpose o | Such condition of minimizing | ons shall be any adverse | |
| * / Ly | Name (A partitional) | | * See | chached acknowled | - law wo | oding. | ACEUICAINCE | |
| Signature (| Dwner/Applicant) | MANAGELA | | Notary Publi | C | | | |
| Print First a | nd Last Name | 1. 11.21. | | | | | | |

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

| validity of that document. | | |
|---|--|--|
| State of California County of San Luc obispo |) | |
| On May 18, 2022 | hefore me | K.L. DiSanti-Barnabei, Notary Public |
| 011 110,000 | bolore me, | (insert name and title of the officer) |
| subscribed to the within instrume his/her/their authorized capacity(i | f satisfactory evi nt and acknowle ies), and that by | idence to be the person(s) whose name(s) is/are edged to me that he/she/they executed the same in his/her/their signature(s) on the instrument the person(s) acted, executed the instrument. |
| I certify under PENALTY OF PEF paragraph is true and correct. | RJURY under the | e laws of the State of California that the foregoing |
| WITNESS my hand and official s | eal. | K. L. DISANTI-BARNABEI Notary Public - California San Luis Obispo County Commission # 2391874 My Comm. Expires Feb 23, 2026 |
| Signature 1 DSent | BL | (Seal) |



NARRATIVE SUPPLEMENT to SPECIAL USE PERMIT APPLICATION and SEQR FULL ENVIRONMENTAL ASSESSEMENT FORM

AES Project # 5096a

APPLICANT:

Azur Datacenter LLC

PROJECT:

Combined Crypto Mining & High Performance/High Density Server Farm

LOCATION:

Imperial Industrial Park
Building E – Suites 101 and 121
City of Plattsburgh, NY

PREPARED BY: AES Northeast Scott B. Allen, LS

May 20, 2021

CONTACTS

Applicant: Azur Datacenters, LLC

Emmanuel Vannier

Emmanuel.vannier@greendatacenters.fr

Consultant: AES Northeast

Scott B. Allen, LS 12 City Hall Place

Plattsburgh, NY 12901

scottallen@aesnortheas.com

(518) 561-1598

ABBREVIATIONS USED

FEAF Full Environmental Assessment Form

IIP Imperial Industrial Park
NYSPA New York Power Authority

PMLD Plattsburgh Municipal Lighting Department

SEQR State Environmental Quality Review

SUP Special Use Permit

LIST OF APPENDICES

Appendix 1 General Location Map

Appendix 2 Blow-Up 1 of Project Location

Appendix 3 Blow-Up 2 of Project Location

Appendix 4 Floor Plan Showing Project Location
Appendix 5 Azur Datacenter Company Information

Appendix 6 Immersion Cooling Fluid Data Sheet

Appendix 7 Local Law P-7 of 2018

Appendix 8 Cooling Tower

1. Introduction

1.1. This document provides supplemental information for the SUP Application required by the Zoning Ordinance of the City of Plattsburgh § 360-25F. and §360-31. This document also provides supplemental information for the SEQR FEAF prepared for the proposed action. The SUP Application is scheduled to be heard at the June 21, 2022 City of Plattsburgh Zoning Board meeting.

2. Background

2.1. Azur Datacenter has been developing and operating high density datacenters since 2010 and now operates three (3) state of the art datacenters in France. More information about the company and the latest technology that will be applied here in Plattsburgh (immersion cooling) can be found in Appendix 5. This process consists of placing electronic components directly into a non-conductive fluid (oil), thereby allowing heat to be transferred directly from the components to the heat transfer fluid. See Appendix 6 for the Immersion Cooling Fluid Data Sheet. This innovative technology vastly reduces the environmental footprint of datacenters. Here in the IIP, Azur will develop a combination crypto mining and high-density computing facility in two leased areas of Building E (suites 101 and 121, each approximately 5,000 SF). See Appendices 1 through 4 for location.

Suite 101 will serve as a "Legacy Area" and will operate as a traditional data center space. A raised floor will be installed in suite 101 with twelve in-room cooling units. Suite 121 will serve as an "Immersion Cooling Area" housing high power density data equipment that is immersed in an oil bath for cooling. This area will consist of 36 tanks for immersed server racks. Each tank will contain approximately 1,000 liters (264+/-gallons) of immersion cooling fluid.

One, three cell induced draft cooling tower (see Appendix 8) will be installed on the exterior of the building above the abandoned railroad siding between the north side of Building E and the south side of Building X. The cooling tower will be installed atop a grade mounted steel frame structure to allow clearance for rail cars should the rail siding ever be used again. This location is well hidden from public views. The cooling tower unit is approximately 18' tall (not including the supporting steel frame structure). The cooling tower unit will contain a water/glycol mixture that is pumped thru a heat exchanger. The primary side of the cooling tower unit is water/glycol. The secondary side is oil pumped through each oil tank. Concreate curbs will be installed around the

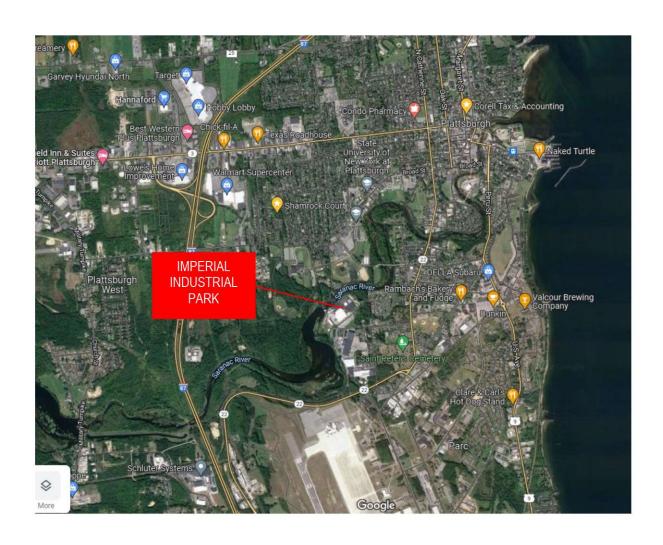
immersion cooling tanks for spill containment. The total connected power to the datacenter will reach 4 MW in year 4 of operation.

3. Power Supply

3.1. The site is currently served by PMLD, which is supplied and regulated by NYPA. PMLD feeds power to its own substation at 101 Main Mill Street, just south of the project site. In an email dated August 15, 2019, PMLD Manager Bill Treacy stated that an additional 6.1 MW were available to the IIP. Since that time, a then dormant transformer at IIP has been reactivated which serves a load of approximately 2 MW. That leaves 4MW for the Azur Datacenter project. Azur Datacenter will be subject to the terms of City of Plattsburgh Local Law P-7 of the Year 2018 which is attached hereto as Appendix 7 (which Local Law P-7-2018 has been incorporated into the City Zoning Ordinance as § 360-25F) and subject to the terms of all PMLD regulations.

Azur Datacenter's use of immersion cooling and cooling tower technology will greatly reduce the environmental impact of the facility when compared to earlier crypto/ high density facilities.

APPENDIX 1 GENERAL LOCATION MAP



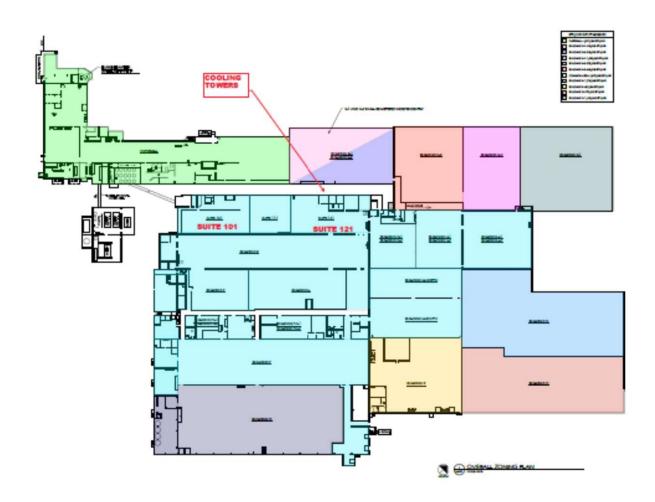
APPENDIX 2 BLOW-UP 1 OF PROJECT LOCATION



APPENDIX 3 BLOW-UP 2 OF PROJECT LOATION



APPENDIX 4 FLOOR PLAN SHOWING PROJECT LOCATION



APPENDIX 5 AZUR DATA CENTER COMPANY INFORMATION

AZUR DATACENTER in Plattsburgh



Imperial Industrial Park, 94 Main Mill Street, Plattsburgh, NY

1) Background of the company.

AZUR DATACENTER has been incorporated in 2010, in France.

The company main activity is to buy existing oldfashioned datacenters from large corporate, renew & upgrade them to higher and newest standard, and run them on a daily basis for small to large size customers. This business is known as « Neutral Colocation service provider ».

Right now, the company owns 3 facilities (2 near Paris, and a third one in Sophia Antipolis, kind of french Silicon Valley). Total combined square feets in excess of 100,000.

Datacenter in Sophia Antipolis (approx 5000~SF in a 170,000~SF office building) : 4.8MW supply from the grid



Datacenter in Nanterre (approx 36,000~SF in a 650,000~SF office building) : 6.0~MW supply from the grid



Datacenter in Croissy-Beaubourg (fully leased 39,000 SF building) : 6.4 MW supply from the grid















2) Innovation in new generation Cooling technology:

The company is a Cooling expert, and masters several advanced « liquid cooling » technologies.

a) Direct Liquid Cooling

In Nanterre facility, we designed and installed 500kW of « Direct Liquid Cooling » servers (cooling media is plain water, that flows into the servers...), for a major french bank.

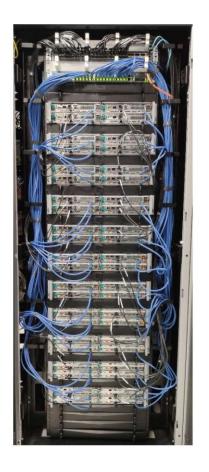


Pumps and Plate Heat Exchangers « behind the scene »



The bank HPC Cluster: 44,000 xeon cores – 450 kW - in only ten racks!





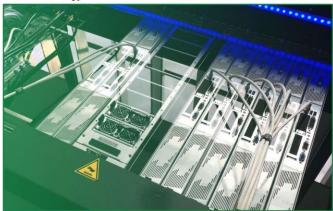
Rack rear view (with water hoses)

Rack front view (44 servers - 4 cpu / server)

Note : the wasted Heat from this HPC cluster will be reused to heat the complete 650,000SF building in Winter 2022 \bigcirc

b) Immersion Cooling

This technology is awesome: servers are immersed in a kind of huge frier, in dielectric oil.



21 inch « OCP » servers (used for 3D renderring)



Bitmain BTC miners

This technology is compatible with almost any server/hardware. Just remove the fans from an off-the-shelf server and dip them in oil!

The company has designed its own tanks, that do not require any mechanical cooling up to 100kW. The tanks only need to be connected to a Cooling Tower, or a Dry Cooler.

Moreover, this technology is completly silent: it is very impressive.

As you can see, AZUR DATACENTER is an expert in datacenter design and disruptive cooling technologies. The company has its own senior engineers, manufacturing skills with contractors and several technicians, onsite (and in real life) testing facility to design the best products for real datacenter users/customers.

The campany now wants to expand in the US for several reasons...

3) Azur Datacenter plans to enter the US market : multiple axis

Local Manufacturing:

- a) AZUR DATACENTER wants to manufacture « Immersion Cooling tanks » in the USA, for US and Canada.
- b) AZUR DATACENTER wants to assemble « Mobile Datacenter in a container » using these Immersion Cooling tanks (10 tanks = 1MW of HPC in a 40ft shipping container).
- c) AZUR DATACENTER need a « service center » for maintenance purpose of US/Canada customers. This workshop will be able to test equipments before shipping and also repair them...

State-of-the-art high performance datacenter:

d) AZUR DATACENTER want to build a super-green « HPC & CryptoMining » datacenter. This datacenter will span on approx 10,000SF in Imperial Industrial Park, in two Suites.

One of them will be a « legacy air-cooled » room, to accomodate network, backup and storage equipments. These equipments, using legagcy hard drive and many optical fibers links are not adapted to Immersion Cooling.

Cooling will be done using CRAC (Computer Room Air Conditionner), located inside the room. There are no opening or air exchange with the outside => no noise.

The other room will be fitted with 36 state-of-the-art Immersion Cooling tanks, for HPC (High Performance Computing) and Crypto-Mining. These equipments are perfect for heavy computation need that require strong electrical supply and ultra-efficient cooling.

It will be a real life, large scale showroom for this new technology.

Cooling will be done using Immersion Cooling tanks, located inside the room. There are no opening or air exchange with the outside => no noise.

The only outside element, needed to evacuate the heat will be Cooling Towers.

These kind of equipment, manufactured by BAC or SPX Marley are not noisy.

Heat reuse applications:

e) AZUR DATACENTER intend to install a « Heat Reuse » solution in Imperial Industrial Park, to reuse the server heat for the office part of the building. Unfortunately, this old factory uses a steam based heating system, not really able to draw benefit from the relatively low temperature of the servers...

- f) AZUR DATACENTER intend to look for other sites in Plattsburgh area to show the various use case of Server Heat Reuse (from large residential buildings to commercial or even industrial facilities).
- g) In France, AZUR DATACENTER works in partnership with energy transition leader Engie (158,505 people worldwide with revenues of €60.6 billion) to heat public swimming pools, large collective dwellings, hospitals...) thanks to computers wasted heat reuse. https://en.wikipedia.org/wiki/Engie

The Immersion Cooling tanks are installed in the heat beneficiary facility, and becomes a « Digital Boiler ».

4) IIP many key advantages for AZUR DATACENTER installation

Emmanuel VANNIER knows Plattsburgh and IIP quite well, since he designed a Crypto-Mining farm for XBTO in 2018, in the same building. He met Doug and Greg Brienza from TES at this time, and reconnect with them in 2021.

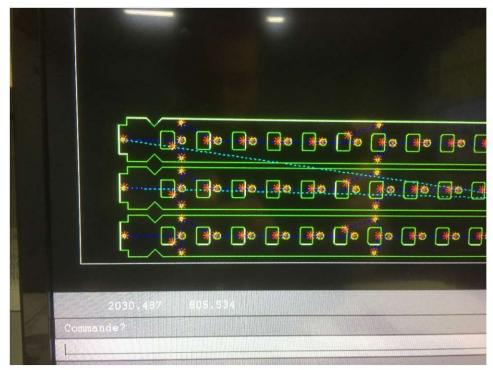
AZUR DATACENTER will take benefits of the « all-in-one-place » in IIP :

- Former industrial buildings, suitable for steal workshop, equipment storage, onsite testing in real conditions thanks to futur closeby datacenter
- Cheap and abundant renewable electricity coming from multiple dams in the area
- Existing 12470 Volt feed in the campus
- Exiting optical fiber Internet backbones already feeding the campus
- Easy access by road. Not too far from Boston port...
- Easy to reach from Paris (either via Montreal airport or New-York City airports) for our employees
- Relatively easy to hire skilled people in the area, in the field of metal working, electrotechnic, computer science...
- Strong confidence with several key people (campus manager, contractors, technicians etc)

We intend to create approx 10 fulltime jobs during construction (12 month) and minimum 3 to 5 afterwards.

Last point : the climate is very cold, and wasted heat reuse really makes sense in this area!

5) Photo Gallery of Immersion Cooling tanks R&D and manufacturing



CAD design



Laser cutting



APEPNDIX 5
Metal sheet ready to be folded



TIG welding



Powder coating



Tank fully painted











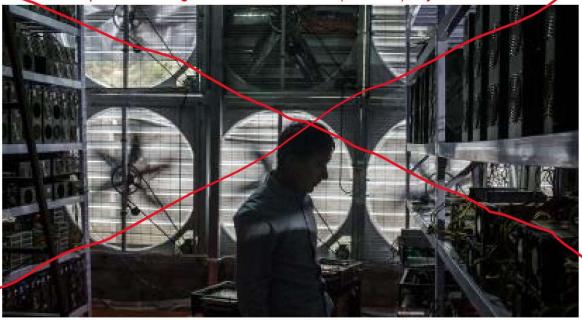
Premanufactured stainless steel piping and fittings





36 immersion cooling tanks installation in progress in Azur Datacenter near Paris : 3.6 MW of high efficiency, safe and silent computing in approx 3000 SF.

The Chinese poor air cooling we do not want to see (and hear) anymore :



Liu, 29, stands in front of a wall of cooling fans where he houses and operates mining machines

APPENDIX 6 IMMERSION COOLING FLUID DATA SHEET



Technical Data Sheet

Shell Immersion Cooling Fluid S5 X

Shell Immersion Cooling Fluid S5 X is a stabilized hydrocarbon fluid based on Shell Gas-to-Liquid Technology (GTL)

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- · Shell Immersion Cooling Fluid S5 X is a dielectric fluid with · Liquid cooling of data servers. specially selected additives, which is virtually free from impurities. Shell Immersion Cooling Fluid S5 X has been designed for optimized data servers liquid cooling solutions demonstrating high cooling efficiency, excellent flow behavior and outstanding thermodynamics properties.
- . The GTL base oil meets the purity requirements of the EU and US Pharmacopeia, does not irritate skin and eyes, is non-halogenated, food grade and free from allergens. The fluid also doesn't present ozone depletion potential and is inherently biodegradable.

Main Applications

Specifications, Approvals & Recommendations

Advice on applications not covered here may be obtained from your Shell representative.

Typical Physical Characteristics

| Properties | | Method | Shell Immersion Cooling Fluid S6 X +30 | |
|--------------------------|-------|-------------------|--|-------|
| Colour (Safbolt) | | ASTM D156 | | |
| Densit f | @15°C | kg/m ³ | ISO 12185 | 806 |
| Flash Point | | °C | EN ISO 2592 | 200 |
| Pour Point | | °C | ISO 3016 | -36 |
| Kinematic Viscosit | @40°C | mm³/s | ISO 3104 | 9.8 |
| Total Sulphur Content | | mg/kg | ASTM D5185 | <1 |
| Neutralisation Value | | mg KOH/g | IEC 62021-1 | <0.01 |
| Breakdown Voltage | | kV | IEC 60156 | 42 |
| D.C. Resistivity | @60°C | T Ohm m | ASTM E 1269 | 9.9 |
| Specific Heat | @40°C | J/kg*K | ASTM E 1269 | 2 274 |
| Thermal Conductivity | @40°C | W/m*K | ASTM D 7896 | 0.142 |
| Relative Permitivity | | | IEC 60247 | 2.02 |
| Fire Point (COC) | | °C | ASTM D92 | 220 |
| Autoignition temperature | | °C | ASTM D669 | 365 |

These characteristics are typical of the research product, variations in these characteristics may occur.

Health, Safety & Environment

· Health and Safety

Shell Immersion Cooling Fluid S5 X is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

The GTL base oil meets the purity requirements of the EU and US Pharmacopeia, does not irritate skin and eyes, is non-halogenated, food grade and free from allergens. The fluid also doesn't present ozone depletion potential and is inherently biodegradable.

Guidance on Health and Safety is available on the appropriate Safety Data Sheet, which can be obtained from your Shell representative.

· Protect the Environment

Take used oil to an authorised collection point

APPENDIX 7 LOCAL LAW P-7 OF 2018

LOCAL LAW P-7 OF 2018

Introduced by Councilor McFarlin on October 11, 2018 at a Regular Meeting of the Common Council.

Public Hearing to be held on Thursday, October 25, 2018 at 5:01 pm in the Common Council Chambers, 41 City Hall Place, Plattsburgh, NY 12901.

Providing Zoning Regulations for Commercial Cryptocurrency Mining Operations in the City of Plattsburgh.

A local law adding Subsection F to Section 270-24 of the City Code of the City of Plattsburgh and amending Schedule I, Schedule of Permitted Uses Part B of Chapter 270 the City Code of the City of Plattsburgh.

Be it enacted by the Common Council of the City of Plattsburgh as follows:

Section 270-24(F) of the City Code of the City of Plattsburgh will be entitled "Cryptocurrency Mining Operations" and will read as follows:

Section 270-24(F) Cryptocurrency Mining Operations.

(1) Definitions:

"Cryptocurrency" is defined herein as a digital currency in which encryption techniques are used to regulate the generation of units of currency and verify the transfer of funds, operating independently of a central bank.

"Commercial Cryptocurrency Mining" is defined herein is the commercial process by which cryptocurrency transactions are verified and added to the public ledger, known as the block chain, and also the means through which new units of cryptocurrencies are released, through the use of server farms employing data processing equipment. For purposes of this section, any equipment which requires a High Density Load Service, or any Server Farm, will constitute a commercial cryptocurrency mining operation.

"Server Farm" is defined herein as three or more interconnected computers housed together in a single facility whose primary function is to perform cryptocurrency mining or associated data processing.

"High Density Load Service" is defined herein as the provision of electrical service where the requested load density has, for any monthly billing period, either an average power demand in excess of 300 kilowatts, OR an average power density in excess of 250 kilowatt-hours per year per square foot, equivalent to 35.064 square feet per kilowatt, at 100% load factor. Square footage is defined as leased or owned boundaries of floor space devoted to the operating data processing equipment, and

excludes space for offices, storage, shipping and receiving, or any other space that is not electronic processing.

(2) Fire Safety.

- (a) Fire Suppression. An active clean agent fire protection system must be provided and maintained in good working order within any structure which contains a Commercial Cryptocurrency Mining Operation. High sensitivity smoke detectors shall be installed and operational in order to activate this clean agent fire suppression system.
- (b) There shall be an emergency electricity termination switch installed outside of any containment structure which contains a Commercial Cryptocurrency Mining Operation.
- (c) Containment Space. The equipment used in any Commercial Cryptocurrency Mining Operation shall be housed in an individually metered, electrically grounded and metal-encased structure with a fire rating designed to resist an internal electrical fire for at least 30 minutes. The containment space shall contain baffles that will automatically close in the event of fire independent of a possible electric system failure.
- (d) All building requirements required by this section, including but not limited to heat transfer apparatuses, fire detection/suppression systems, or containment structures shall be designed by a New York State licensed engineer and in accordance with all applicable codes and standards.

(3) Heat.

- (a) The ambient temperature inside of a containment space which houses a Commercial Cryptocurrency Mining Operation shall not exceed 120 degrees Fahrenheit at any time. No person shall be permitted to regularly inspect and work within the containment area which houses a Commercial Cryptocurrency Mining Operation if the ambient the temperature within the containment area exceeds 90 degrees Fahrenheit.
- (b) Any Commercial Cryptocurrency Mining Operation shall ensure that no more than 20% of the heat dissipated by the mining activity shall be released directly to the outside when the average daily temperature is less than 40 degrees Fahrenheit.

(4) Nuisance Abatement.

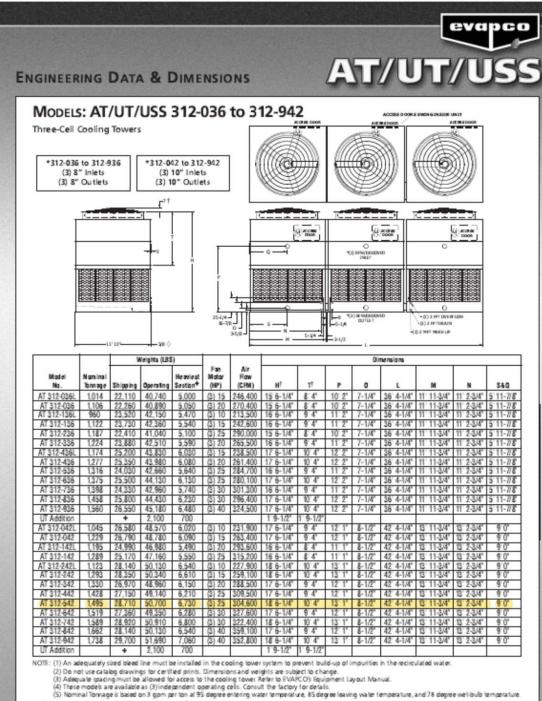
(a) No Commercial Cryptocurrency Mining Operation may cause adverse or detrimental effects to adjoining leasees, owners, or residents that diminish the quality of life or increase the costs of serving their business or maintaining their homes. (b) No Commercial Cryptocurrency Mining Operation shall produce a noise level exceeding ninety decibels (90 dB) from a distance of twenty-five feet from the exterior of the containment structure.

(5) Special Use Permit

A Special Use Permit, pursuant to Section 270 of the City Code, is required for any new Commercial Cryptocurrency Mining Operation, and any expansion of any pre-existing Commercial Cryptocurrency Mining Operation, in order to ensure conformance with this section.

- (6) Schedule I, Schedule of Permitted Uses Part B of Chapter 270 the City Code of the City of Plattsburgh will be amended include "Commercial Cryptocurrency Mining" to the "Uses Requiring Special Permit" section of the "Industrial" Zoning District.
- (7) Effective Date; Applicability.
- A. This local law shall take effect immediately upon filing in the office of the New York State Secretary of State.
- B. This section shall apply to all building permit or zoning applications pending at the time it becomes effective, unless the reviewing Council or Board shall determine that its application would be impracticable or unjust in the particular circumstances.

APPENDIX 8 COOLING TOWER



- Outlet connection extends 3/8" beyond bottom flange.
- Heaviert section is upper section.
 Height does not include fan guard. Consult factory for whether or not fan guard ships mounted.
 Please consult the factory for additional information regarding shipping and section weight changes.