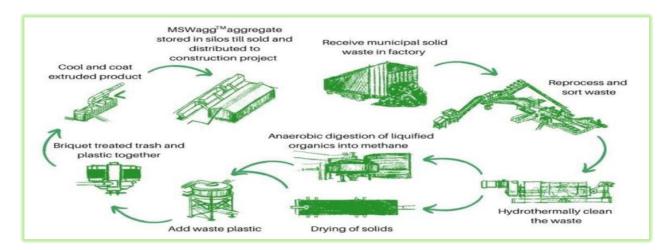
State of Wisconsin Department of Natural Resources

To Whom It May Concern:

This cover letter is submitted by Louis Structures LLC, the owner/operator of a recycling process, to request Initial Site Inspection at the former Kraft Cheese property located at 322 Cold Storage Road in Plymouth, Wisconsin. Our proposed solid waste processing facility design and operation are summarized in the following diagram.



Louis Structures owns a patented methodology that transforms household trash (MSW) into a manufactured aggregate called MSWagg[™], suitable for replacing virgin coarse aggregate (gravel) in various construction applications. Today there are four methods to address MSW: source reduction, recycling, incineration, or landfill. Source reduction and recycling will continue to increase their contributions to the overall solution to MSW accumulation; however, MSW not addressed by those methods has historically not been cost-effective to utilize due to the organics and contamination present. According to IEA Bioenergy, landfilling waste produces approximately 154 pounds of methane per ton or a 100-yr global warming potential of 4312 pounds of CO₂/ton. We understand landfills range from 30-55% biodegradable and contribute 16% of global methane emissions annually. Our MSWagg[™] process will produce an estimated 56lbs of CO₂/ton of organic matter, divert useful plastics to efficient recycling. With optimization, LS's process could potentially become a carbon-neutral process.

Technical feasibility: Louis Structures' technical methodology removes or sequesters all chemicals of concern and contaminants in MSW. Processing MSW into an aggregate that meets EPA and DOT standards is achieved by solubilization, suspension, dewatering, dilution, encapsulation, and sequestration. Stringent regulatory requirements are required to meet beneficial reuse acceptance of MSWagg in the construction industry. MSWagg has a shear strength of 44 degrees, and negligible long-term degradation values in dry versus in wet conditions. Louis Structures recently submitted an EPA contract application with UW-Oshkosh and Rohde Brothers /PAWL Group engineering (Plymouth, WI), which will further characterize MSWagg's process and product for uses in multiple industries.

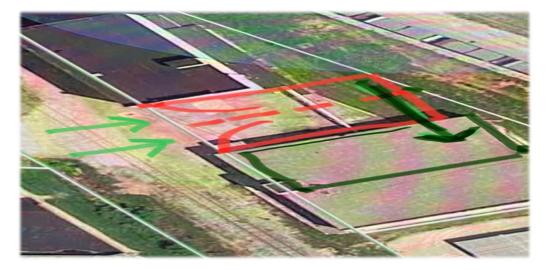
Louis Structures has commercial potential in three areas: 1) Receiving MSW from disposal companies that would ordinarily dump the MSW in landfills. 2) Recovering recyclables from the MSW and selling them to commodities buyers. 3) Selling residual MSW converted to MSWagg[™] to construction and road contractors as an environmentally friendly alternative to virgin aggregate.

Glacier Storage, current owners of 322 Cold Storage Road property with buildings A & B have agreed that their facility could be a site suitable to demonstrate our process at a pilot scale, using material from area industrial waste producers and potentially house a longer-term larger processing program for area municipal solid waste feeds.

The second (taller) building has five floors. Floors 2-5 also have 2 bays with an elevator used for storing cheese pallets. Each of these smaller bays could perhaps store 50 pallets each weighing 1,000lbs approximately. So essentially, the storage is 8 bays which I guestimate could store 800 pallets or 400 tons of hydrothermally processed, dried, feedstock material. The lower level has concrete floors and could conceivably be used for the conveyor process also. On one end is more of a barn shape with taller ceilings which could be used as a repair shop. Material conveyor belts and equipment would run from one building to the other, initially all on the main floor level, connected together with an added roof structure adjoining the two existing buildings.

The main plan is to put a pole barn in-between the two buildings with two 32' x 24' garage doors, so that semis could back in, the door could shut, and then they could dump their loads entirely enclosed inside of the barn before leaving emptied of trash. See second green arrow drawing below superimposed on the first aerial photo.





A skid-loaded pretreatment system for water effluent from our hydrothermal system is planned and an air quality compliant system will be installed. The entire process will be conducted indoors and should pose no imposition to the surrounding property owners.

As we move forward, we anticipate calculating the maximum theoretical emissions (MTE) for the facility:

Air Quality Permit Application stating:

- Data of discharge air flow rates, contaminate concentrations, or emission rates.
- Stack parameters including stack diameter, stack height, and stack exhaust flow rate;
- Facility information including contact information for the responsible official.
- Process flow diagram
- Manufacturer, model numbers, and design capacities of each emission source

Water Quality Permit Application stating:

- Wastewater discharge flow rates and pollutants
- BOD and COD concentrations needed to complete the wastewater permitting

Please process our Chapter NR502 application. We are eager to get started with a pilot facility. We've been working up to this moment in time for over 5 years now. Please also see the included DNR recommendation we recently received delineating our potential pilot work with area landfills in need of drainage aggregate (up to 40,000 tons per year or more) in landfill cells that are newly being constructed in 2023 and beyond.

Regards,

Benjamin Louis Horvat



Save Print	Clear Dat	a																		
Box 7921, Madison WI 53707-7921			Ini	Chapter NR 502 Non-Landfill Solid Waste Facility Initial Site Inspection (ISI) Application																
Notice: Under <u>NR 502.04</u> Site Inspection (ISI) to the for an ISI request. Persor Wisconsin's Open Record	Department of Natural information collect	ural Res cted wil	sources before esta Il be used for admin	facilitie	s lis	sted in S	Section II ding a so	of this for lid waste	facility. Th	nis form c	bmit a rec	quest for a	n Initial							
Instructions: The appli 1. A cover letter request 2. A completed copy of 3. All pertinent attachme	<u>ing the ISI along w</u> this form.	ith a b	rief description of t	<u>wing to</u> the pro	o re	<u>quest a</u> sed soli	n Initial S d waste	<u>Site Inspe</u> facility de	ection: esign and	<u>l operatic</u>	on.									
Send two copies of the a Regional Office where ye	pplication packet ((cover	letter, completed for						Waste P	Program S	Superviso	or at the I	ONR's							
Section I - Facility In	formation												1.0							
Applicant Last Name First Name						MI Title L Founder / CEO														
Horvat Benjamin Phone Number (with area code) Mobile Phone (with area code)						Email Address														
262-721-7207 Same						enjan	nin@lo	ouisstru												
Company/Municipality Name Louis Structures LLC					Facility Location (Street Address, Fire lane #) 322 Cold Storage Rd. Plymouth, WI 53073															
County	Legal	gal Description of Property																		
County City OTown OVillage Leg Plymouth of						¼ of _	¼ (of Section	on	_ , T	N,	R	_©W							
Present Land Use on the Agriculture	he Property: (sele	ect all	that apply)	tial		Other (s	specify):													
Has the local governme							,		Waste	facility?	OYe	s ONo								
Will the proposed facilit	-						es ON			,										
Section II - Proposed							y)													
+	Storage, <u>NR 502.</u>	05	CLess than 50 to	ons/da	ay S	Storage	, <u>NR 50</u>	<u>2.05(3)(</u>		Outside	Process	ing, <u>NR</u>	502.08							
Group B: OTransfer,	NR 502.07		OLess than 50 to	on/day	/ Tr	ransfer,	NR 502	2.07(2r)												
	mpt Compost <u>NR</u>					100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100														
Group D: OLess that	n 20,000 cy Yard ing, NR 502.12(6	Resid	uals OLes	ss tha	n 5 Co	,000 cy	Source	-Separa 502.12(7	ted Com	postable	Э									
	or, <u>NR 502.09</u>	,				up G:		dburning		2.11										
Group F: OAir Curta	in Destructor, NR	502.1	.0	0	Gro	up H:	OMun	icipal So	lid Wast	e Combi	ustor, NF	R 502.13								
No Group: Solid Waste	Facilities that can	not be	located in a flood	plain,	but	are not	subject	to other												
Sinside St	orage, <u>NR 502.05</u>	<u>5(4)(b)</u>	Inside Infect	tious V	Vas	ste Stor	age, <u>NR</u>	526.09	Mnsio	de Proce	ssing, <u>NF</u>	<u> 502.08</u>	<u>3)(b)</u>							
	e Facilities that a mercial Soil Borr							•		NR 502	04(2)(a) ick on the		o select							
Section III - Location	al Criteria (Circ	le the	appropriate res	spons	ses	corres	spondir	ng to the	facility											
Will the proposed facility be located:						A	В	C	D	E	1. E. 1	G	; H							
1. outside a designated	floodplain?			1	1	Y / N	Y / N	Y / N	Y / N	Y / N		Y / N	Y / N							
2. at least 250 ft. from a				2	-	Y / N	Y / N	-		Y / N		Y / N	Y / N							
3. at least 1,200 ft. from any public water supply wells?4. at least 5 ft. from seasonal high groundwater table?					-	Y / N	Y / N			Y / N	Y / N	Y / N	Y / N							
				4	-	NA	NA		Y / N	NA	NA	NA	NA							
5. at least 250 ft. from navigable lakes, ponds or flowage?						Y / N NA	Y / N NA	NA Y/N	Y/N NA	NA NA	Y / N NA	Y / N NA	NA NA							
6. at least 500 ft. from navigable lakes, ponds or flowage?7. at least 250 ft. from navigable rivers and streams?					-	Y/N	Y/N			NA	Y / N	Y / N	NA							
8. at least 100 ft., from property line?				7	+	NA	Y / N	NA NA	Y / N	NA	Y/N	Y/N	NA							
If no, describe Screening used: 9. at least 250 ft., from property line?					+					*										
If no, describe Screening used:						Y / N	NA	Y/N	NA	NA	NA	NA	NA NA							
consent to the DNR? 11. at least 1,000 ft. from highway or parks without screening?					0	NA Y/N	NA Y/N	NA Y/N	NA Y/N	NA Y/N	Y / N Y / N	Y / N Y / N	NA							
If no, describe Screening used:					1	NA	NA	NA	NA	NA	NA	Y / N	NA							
13. Will putrescible waste be accepted? If Yes, will the facility be:					-	Y / N	Y / N			Y / N	NA	NA	Y/N							
14. at least 10,000 ft. from any turbojet airport runways?					_	Y / N	Y / N	Y / N	V / N	Y/N	NA	NA	Y / N							
15. at least 5,000 ft				1	_		Y/N						Y / N							
15. at least 5,000 ft	. from any piston	airport	runways?	1	5	Y/N	Y/N	Y/N	Y / N	Y / N	NA	NA	Y /							

Section III - Leasting Original Original the engraphic	toroon	-		0.550	cn	ondi		+	201				~ *•		aha				
Section III – Locational Criteria (Circle the appropriat 16. operated in a manner to not create a substantial bin hazard?		16	Y	/ N	_	/ N					/ N	-	Y /	_	1	IA	NA	Y / N	
Section IV – Performance Standards (ss. NR 502 04(1) and	(2)(b)	6 W	/is. /	Ad	m. C	ode)	S	ele	ct	the	e a	pp	rop	oriat	e res	sponse	Э.	
Will the proposed solid waste activity cause:																	\bigcirc		
1. a detrimental effect on any surface water?																Υ/			
2. an impact on any wetlands? (If the facility will impac	ct a wet	land,	ch. I	NR 1	103	appl	ies.)									Υ/	\mathbb{R}		
3. a detrimental effect on groundwater quality?																Υ/	\mathbb{N}		
a detrimental impact on groundwater quality or a ch.	. NR 14	0 grou	undv	wate	r q	uality	star	nda	rd t	to I	be e	ex	cee	deo	d?	Υ/	(\mathbb{N})		
5. a significant adverse impact on critical habitat areas'	?															Υ/	(\mathbb{N})		
6. concentration of explosive gases which exceed 25% structures, soils or air beyond the facility property bour	ndary?	lower	ехр	olosiv	vel	imit f	or su	ICh	ga	se	s in					Υ/	A		
Section V – Attachments (s. NR 502 04(2) Wis. Adm.																			
The following supporting documents are provided with this			•																
 A regional map or aerial image with 1" = 500' minimum sidentified. This document should have markings outlining boundary, surface waters, floodplains, public parks, roa labeled. 	ing a $\frac{1}{4}$	mile r	adiu	us ar	ou	nd the	e pro	ppc	sec	t fa	cili	ty.	Th	e p	ropo	sed	facility	property	
A site plan that shows the layout of the proposed site wou document would have markings outlining the limits of the drainage patterns and control structures within the prop	he prop																		
 Documentation that you believe supports and justifies the or "yes" in Section IV (select the appropriate box): a. Not Applicable OYes: Section III Locational Critical Criticae					-		·				-					in S	Section	III above	
b. Mot Applicable OYes: Section IV Performance	Standa	rds (q	ues	tions	5 #1	L-6) e	xem	pti	on r	eq	ues	st(s) a	tta	chec	ł			
Section VI – Applicant Certification	8 (9) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1				-														
I certify that, to the best of my knowledge, the information prequirements in ch. NR 502, Wis. Adm. Code:	provideo	d here	ein is	s acc	cura	ate ar	nd wa	as	pre	pa	red	in	CO	mp	liand	ce wi	th all a	pplicable	
Authorized Representative (Print) Title													Telephone Number						
Benjamin Louis Horvat Fou	/ CE	0											262-721-7207						
Applicant Mailing Address				City										St	ate	ZIP	Code	-	
1505 S.12th Street				Sheboygan										V	VI .		530	81	
Signature	Date S	igned		Email Address															
Remain Howest	8-20	1-22	1	benjamin @ Louiss									S	tructures.co					
For	Depar								-		~	<u> </u>			0			2700	
Assigned Staff Name			te Received				Response Date						Assigned FID #						
Date OYes ONo WDNR Bureau of E habitat areas or Sta	Endange ate or lo	ered F cal na	Reso	ource al are	es l eas	Vatura on th	a <i>l He</i> ne pr	erit rop	age ose	e In ed	iver faci	nto	ory i /?	de	ntifie	ed no	critica		
Date OYes ONo WDNR Bureau of Facilities and Lands <i>Historical and Archaeological Site Maps</i> identified no historical, scientific, or archeological areas on the proposed facility?											no								
ISI Date	ce reviev	w of s	ubm	nittals	s a	nd da	itaba	ase	s o	nly									

Preliminary Opinion based upon department review of submitted information:

- OThe facility, as proposed, appears to meet all the applicable performance and location standards.
- The facility, as proposed, has some conflicts with performance and location standards. Sufficient information has been provided to demonstrate, circumstances which warrant exemptions from those standards.
- O The facility, as proposed, does not appear to meet applicable performance and location standards. Insufficient information has been provided issue exemptions from those standards. If the project is pursued, the applicant will need to address these issues.

Plan of Operation Status for this facility:

The facility type identified in Section II does not require department approval of a Plan of Operation Report.

OA Plan of Operation has been submitted and reviewed. A Plan of Operation Approval is part of the ISI response.

A submitted Plan of Operation Report has not provided adequate information for the department to issue a decision at this time. Additional information will need to be submitted prior to the Department issuing a determination.

A Plan of Operation Report has not been submitted. To pursue this proposal a plan of operation must be submitted as specified in applicable sections of ch. NR 502, Wis. Adm. Code.

State of Wisconsin DEPARTMENT OF NATURAL RESOURCES Madison Headquarters 101 South Webster St., P.O. Box 7921 Madison, WI 53707-7921

Page Tony Evers, Governör Preston D. Cole, Secretary Telephone 608-266-2621 Toll Free 1-888-936-7463 TTY Access via relay - 711



June 28, 2022

National Science Foundation 2415 Eisenhower Avenue Alexandria, Virginia 22314

Subject: Grant Request, MSWagg Lightweight Aggregate

Dear Grant Application Reviewer:

The Waste and Materials Management Program of the Wisconsin Department of Natural Resources understands that the National Science Foundation will be considering an application by Louis Structures to fund work with landfill owners and engineers to evaluate their product, MSWagg, for use as a drainage layer above the liner of solid waste landfills. The company contends that this material has the potential to fill a need for landfills, while utilizing solid wastes to meet that need.

As state solid waste regulators, we recognize the value of continued practical research into new landfill technology such as the materials used as a part of the lining system for solid waste landfills. Every landfill requires over 1,500 cubic yards of drainage material per acre of liner, and it is one of the most expensive components of landfill construction. These materials need to function essentially indefinitely. Of particular interest in this case is the compatibility of MSWagg with leachate, which is the liquid that percolates through the wastes in the landfill. The qualities of leachate, such as pH, vary over time in a landfill and these qualities could chemically interact with the drainage materials and affect them. Research on this topic could prove helpful to the regulatory community should this technology be proposed for use at full scale.

Funding from the National Science Foundation would enable Louis Structures to work with representatives of the solid waste industry, as well state regulators, to evaluate MSWagg for its use as a drainage layer and address questions such as its compatibility with landfill leachate.

Sincerely,

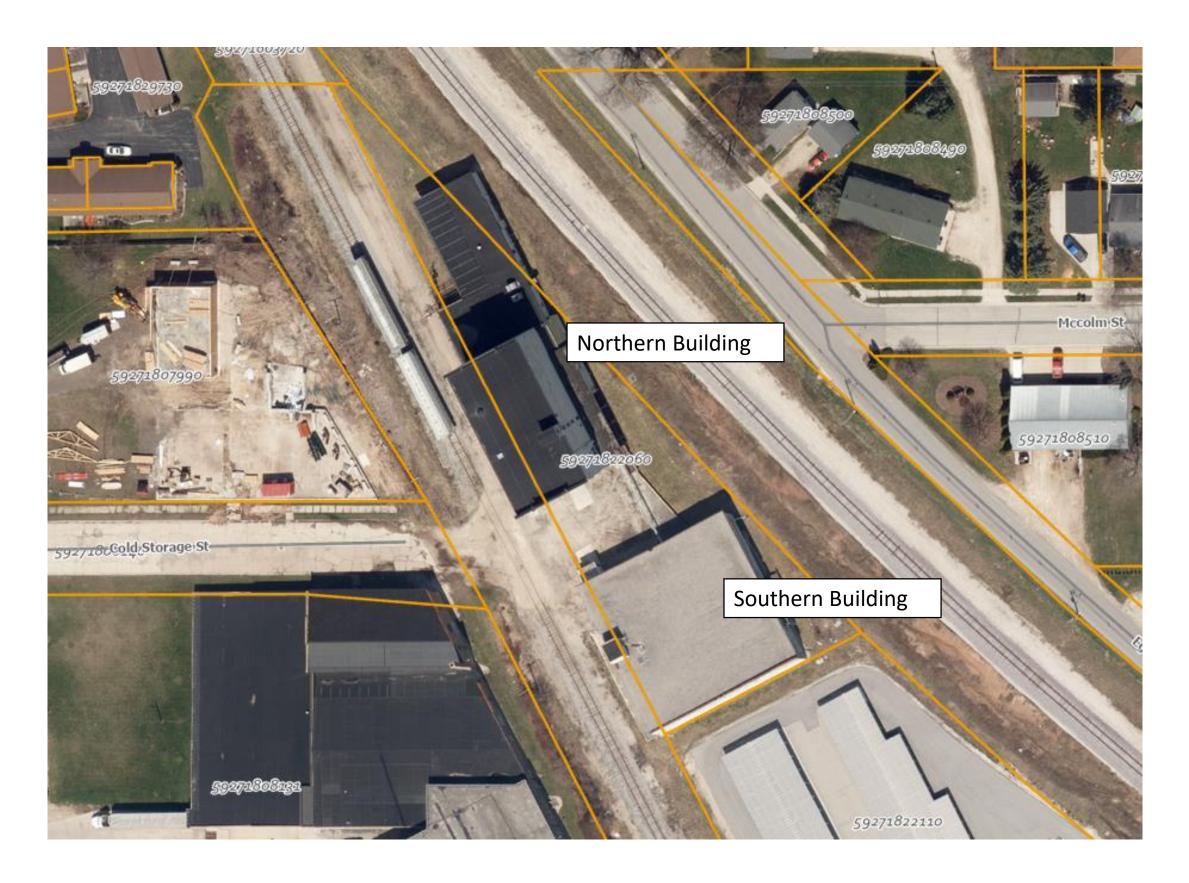
Brad Wolbert, Director Waste and Materials Management Program Wisconsin Department of Natural Resources

dnr.wi.gov wisconsin.gov

Naturally WISCONSIN



322 Cold Storage Very Rough Floor Plan



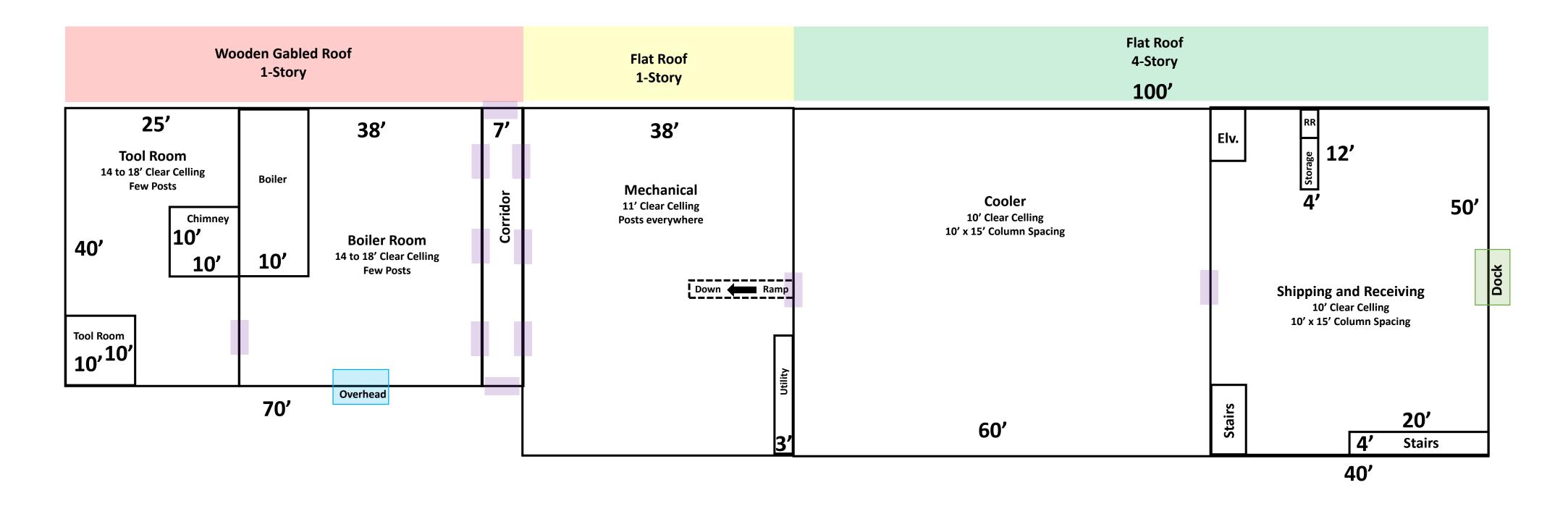
Northern Building



4 Stories | 24,800 SF

- 1st Floor | 9,800 SF
- Floors 2 thru 4 | 5,000 SF

Northern Building 1st Floor



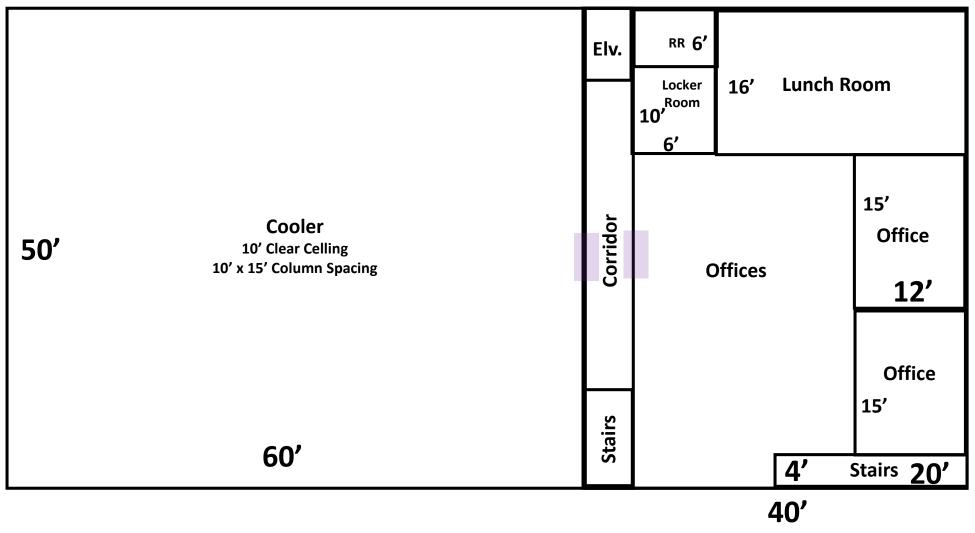
- Drawn Approximately to Scale
- General doors between sections are 7' high, 4 or 5' across



Northern Building

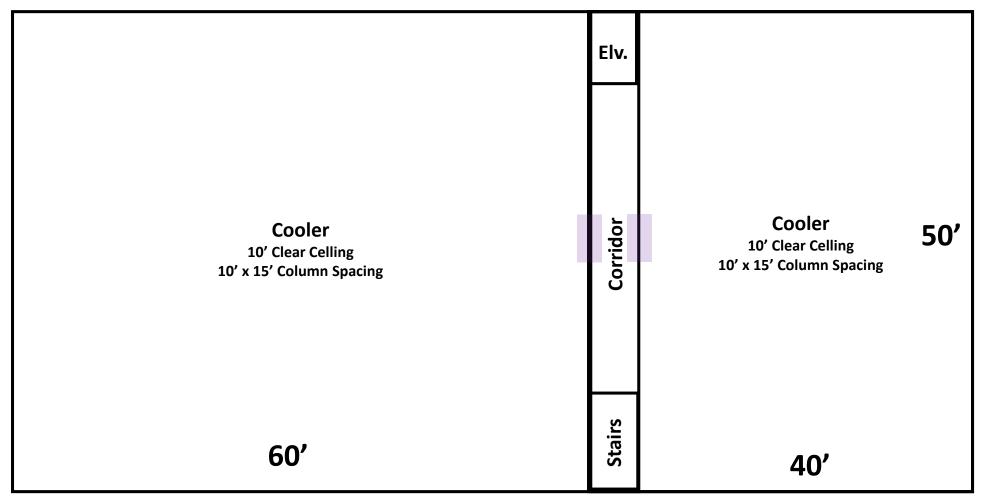
2nd Floor

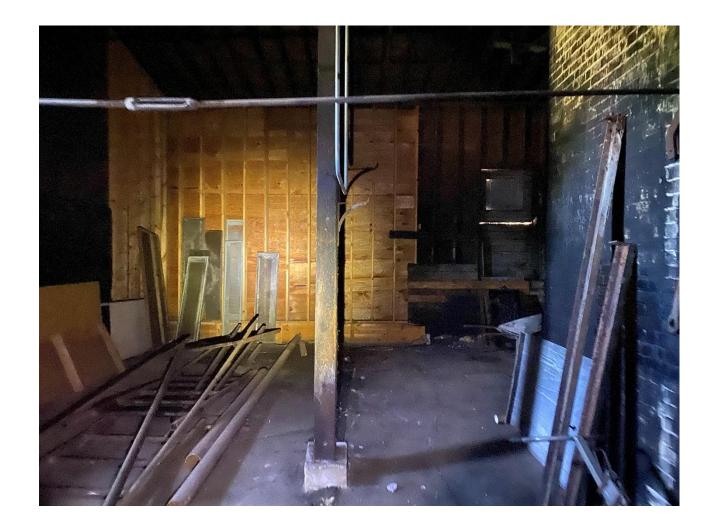
100'



3rd & 4th Floors

100'

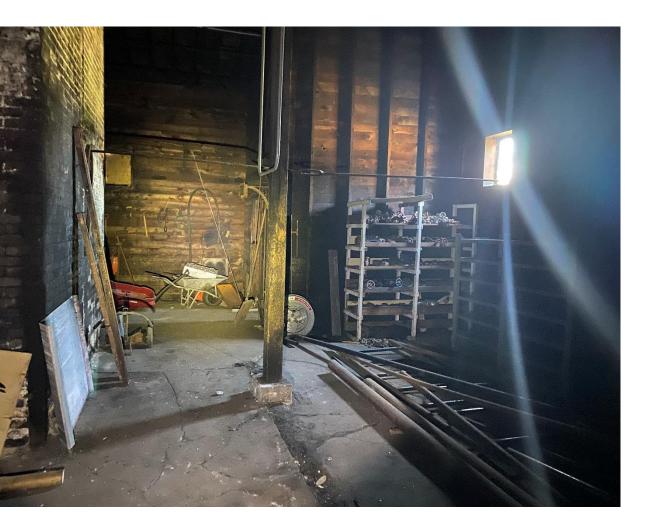


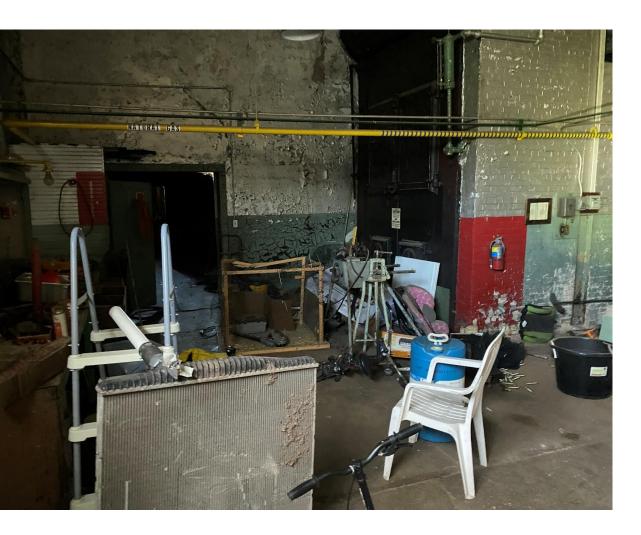


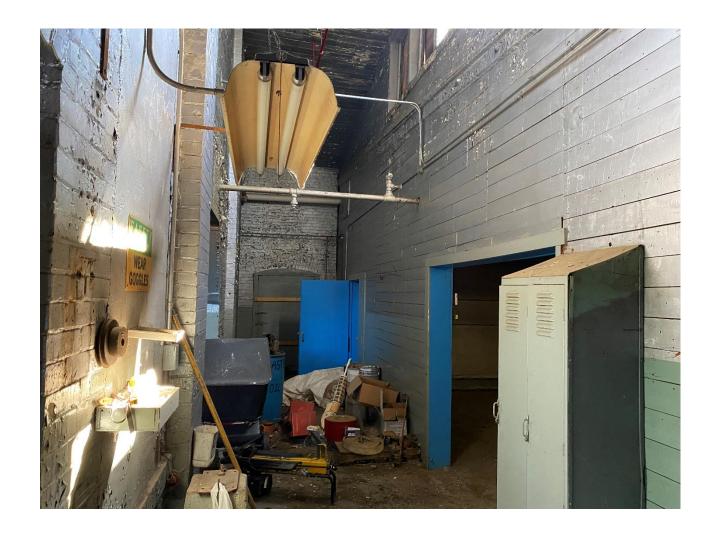
Tool Room 14 to 18' Clear Celling Few Posts



Boiler Room 14 to 18' Clear Celling Few Posts



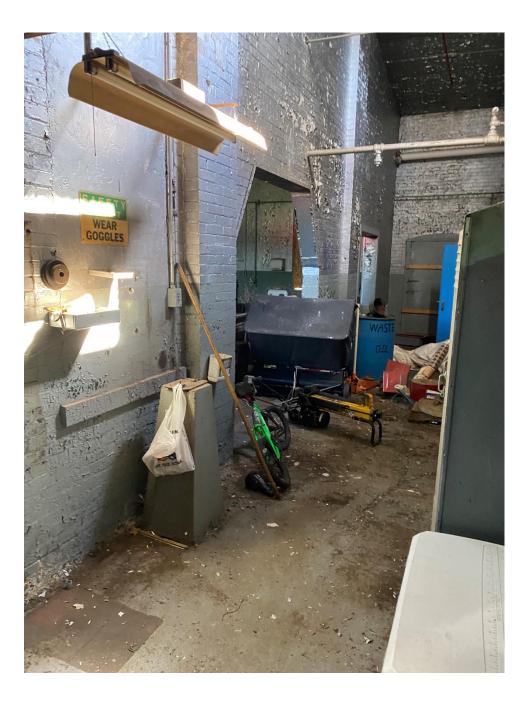




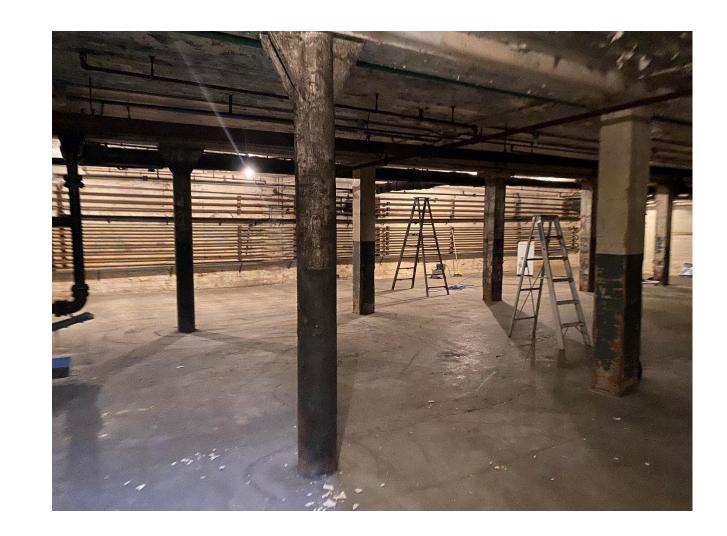
Corridor



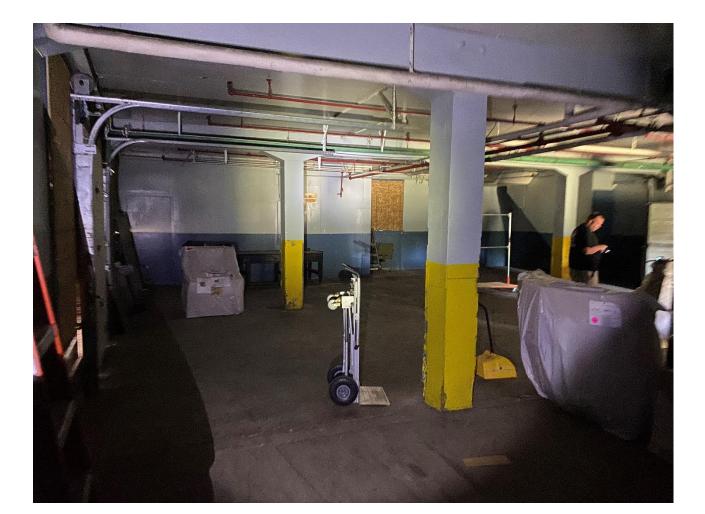
Mechanical 11' Clear Celling Posts everywhere



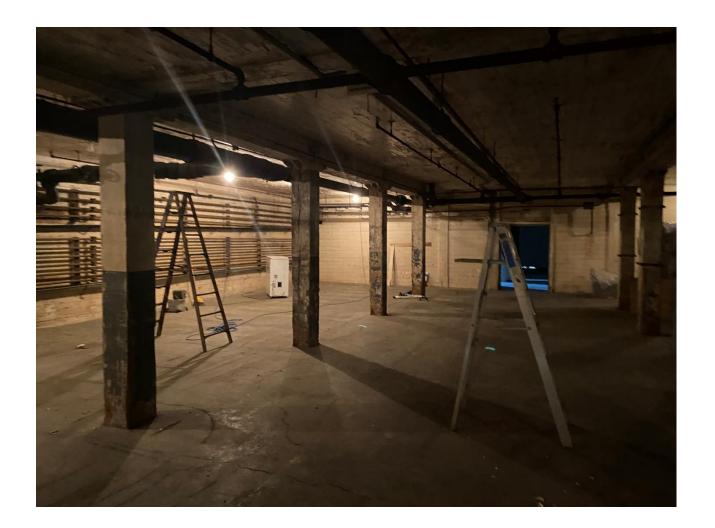


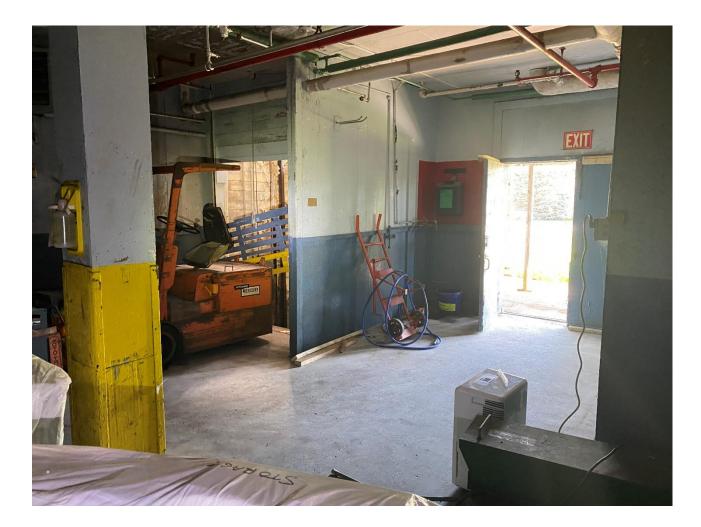


Cooler 10' Clear Celling 10' x 15' Column Spacing



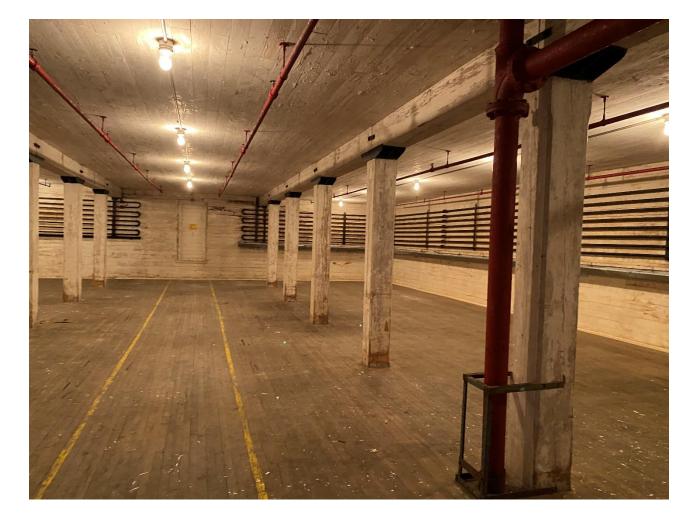
Shipping and Receiving 10' Clear Celling 10' x 15' Column Spacing





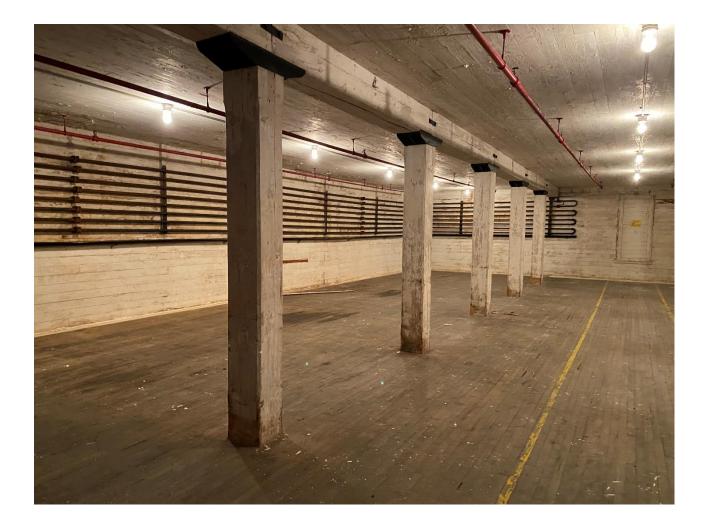


Offices



Cooler 10' Clear Celling 10' x 15' Column Spacing





Southern Building

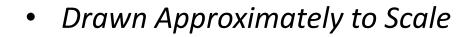


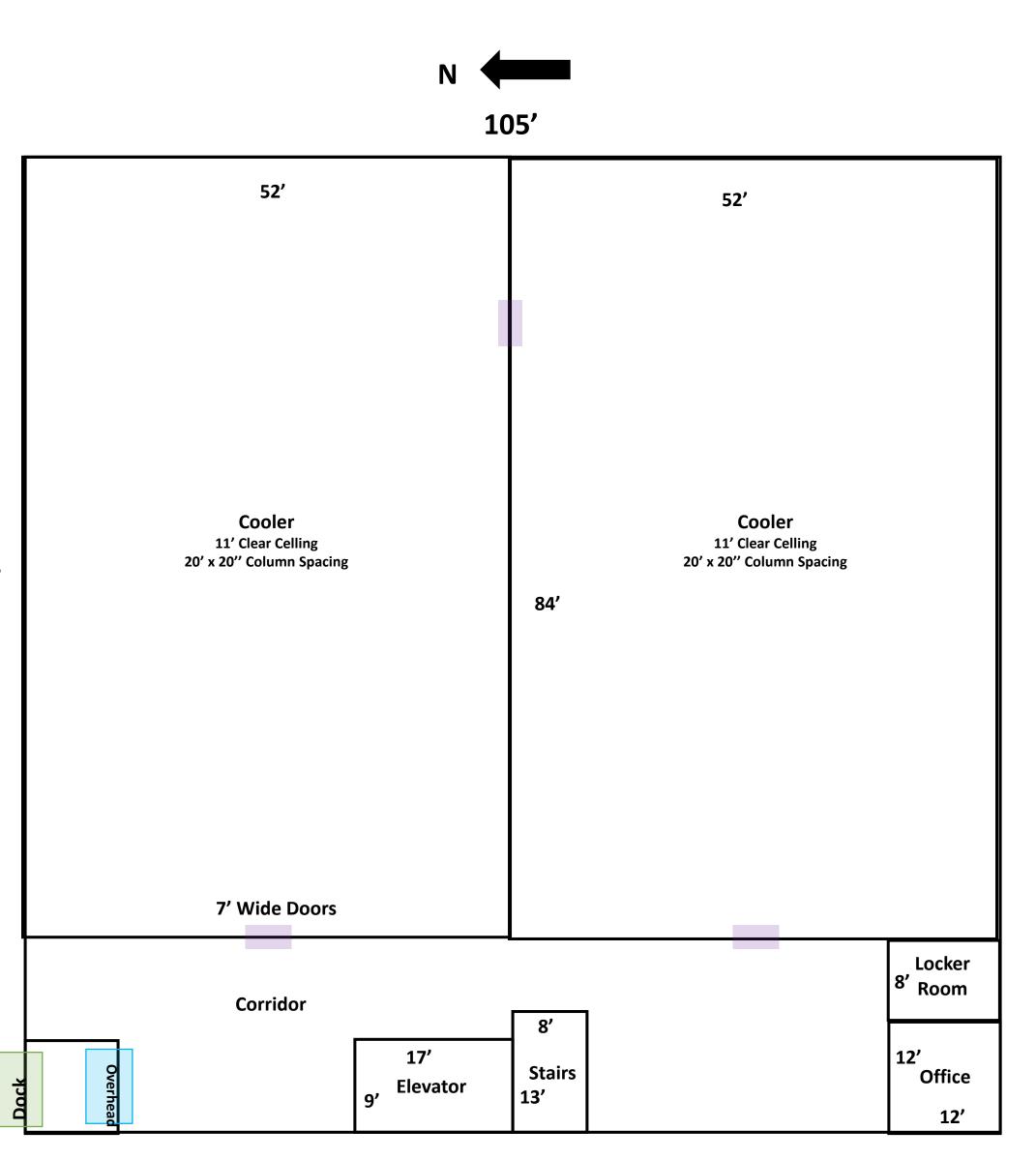
2 Stories + Full Lower Level | 33,075 SF

• LL thru 2nd Floor | 11,025 Each

Southern Building 1st Floor

105'









Corridor

Cooler 11' Clear Celling 20' x 20'' Column Spacing

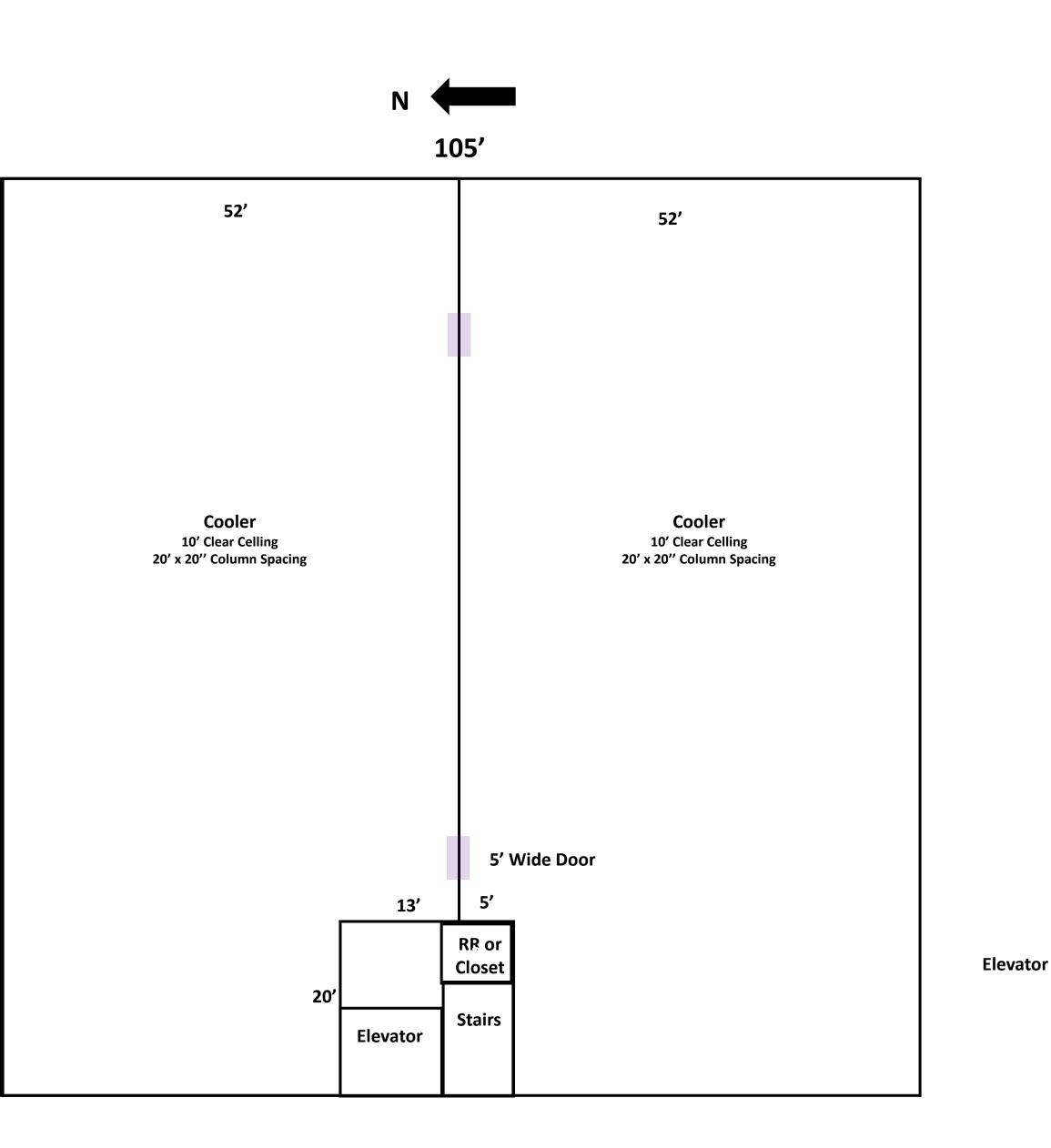




Southern Building 2nd Floor & Lower Level

105'

- Drawn Approximately to Scale
- 2nd floor is a restroom, Lower Level is a Closet





Cooler 10' Clear Celling 20' x 20" Column Spacing



