Golden Heart Waste Management

Medical Waste Permit Application

3/20/2025

Medical Waste Treatment Facility Permit Application

Alaska Department of Environmental Conservation
Solid Waste Program

ADEC Office Only:
Facility Name: _____
Authorization #: _____

Instructions:
This application is for a new permit or a permit renewal for a Medical Waste Treatment Facility that is not located within a hospital, laboratory, medical or research institution, or medical office.
In the application, the term **"facility"** refers to all land, structures, other appurtenances, and improvements on land used for treatment, storage, or disposal of solid waste.
If the required information is not applicable, please explain why. Please include all the applicable data for each section regardless if it has been previously submitted.
The permit application must be signed and sealed by a registered engineer to meet the requirements of 18 AAC 60.210(c).
For new facilities or significant changes to an existing facility or process, prepare a draft application with a list of any questions and schedule a meeting with the ADEC Solid Waste Program.

Section 1. Property Information

Facility Name: Golden Heart Waste Management LLC

Facility Address: 3859 Peger Rd

City: Fairbanks, AK | Zip: 99709

Legal Property Description:

Metro Industrial Subdivision Block 4 Lot 1 PAN #140767
Metro Industrial Subdivsion Block 4 Lot 2 PAN #140775

Section:	Township:	Range:	Meridian:

General Property Description:

Vehicle Maintenance Garage

Latitude: 64.80998 | Longitude: -147.77748

Landowner: John Thies | Contact Name: John Thies

Address: 415 Zuckerman Drive | City: Fairbanks | State: AK | Zip: 99712

Email: john@ghwmfairbanks.com | Phone: 907-347-5853

Section 2. Contact Information			
Permit Applicant (Co. or Entity): Golden Heart Waste Management LLC			
Contact Name: Andrew Rossow			
Address: 3859 Peger Rd	City: Fairbanks	State: AK	Zip: 99709
Email: andrew@ghwmfairbanks.com	Phone: 907-455-4496		
Type of Entity: ☐ Government	☑ Corporation	☐ Other:	
State of Incorporation or Registration: Alaska	Alaska Business License Number: 2084917		
IRS Tax ID Number: 83-4295848			
Facility Owner (if different than applicant): JT Investments			
Contact Name: John Thies			
Address: 2131 Sheldon Ave	City: Fairbanks	State: AK	Zip: 99709
Email: john@jtialaska.com	Phone: 907-455-4496		
Facility Operator (if different than applicant):			
Contact Name:			
Address:	City:	State:	Zip:
Email:	Phone:		
Agent/Consultant:			
Contact Name:			
Address:	City:	State:	Zip:
Email:	Phone:		

Section 3. Fees A check or money order for the appropriate fees [listed in 18 AAC 60.700(a) Table E-2] must be submitted with the permit application. If not included, the application will be returned to the applicant.			
1.	Submit payment for the first year's annual fee with the initial application for a facility. No fee is required for permit renewal applications; annual fees will be billed each year.		
2.	You will be billed separately for time spent reviewing waiver requests.		
This application is for a:	☑ New Permit	☐ Permit Renewal	

Section 4. Cover Letter and Certifications Submit a cover letter with the following information and signature.	
1.	A statement indicating you wish to obtain a permit to treat medical waste for disposal.
2.	A brief general description of the location of the treatment facility
3.	A brief description of the treatment method(s) that will be used to treat the medical waste.
4.	A statement that you are aware of all applicable federal and state laws and local ordinances and zoning requirements, and list any other permits or authorizations required.
5.	The applicant must sign the cover letter.
6.	The applicant must submit the following signed statement, which may be added exactly as shown in the box below to the cover letter, or the applicant may sign this sheet and submit it as an attachment to the cover letter.

I certify, under penalty of perjury, that all of the information and exhibits in this cover letter and application are true, accurate, and complete.

Printed Name: John Thies	Title: Owner	
Signature: John Thies	02/04/2025	Date: 02-04-2025

All applications must be signed as follows per 18 AAC 15.030:

- **Corporations:** A principal executive officer, an officer that is no lower than the level of vice president, or a duly authorized representative who is responsible for the overall management of the project or operation.
- **Municipal, state, federal, or other public entity:** A principal executive officer, ranking elected official, or duly authorized employee.
- **Partnerships:** A general partner.
- **Sole proprietorship:** The proprietor.

Section 5. Waste Handling and Processing Information [18 AAC 60.030; 18 AAC 60.210]

1. List the sources and quantities of medical waste you expect to receive at the facility each year:

Quantity ○ Tons ○ Cubic yds. ⊗ Gallons	Source Type (e.g. Hospitals, Veterinary Clinics, Dental Offices, Care Homes, etc.)
120000	Hospital/Clinics/Veterinary offices/Dental Offices/Care Homes
120000	TOTAL

2. List the treatment methods that will be employed based on the type of waste:

Waste type	Treatment
Regulated Medical Waste	Steam Sterilization

3. List the disposal locations used and estimated annual disposal quantities for treated medical waste:

Quantity ○ Tons ○ Cubic yds. ⊗ Gallons	Disposal Location
120000	Fairbanks North Star Borough Landfill
120000	TOTAL

Section 6. Location Information		Please identify the specific attachment page that addresses each requested item
1.	**Property Ownership and Location Information** [18 AAC 60.210]	**Identify Attachment**
	a. Attach a copy of the deed or another legal document that identifies the landowner(s) of the treatment facility.	Attachment 1
	b. If the applicant is not the landowner, attach a written and notarized statement or a copy of any lease agreement signed by the landowner showing that the landowner consents to the treatment facility.	
2.	**Maps** Attach maps and/or aerial photographs as needed to show the following. You may submit maps that show more than one of the required items. For example, one map can show property boundaries and the location of surface water bodies. [18 AAC 60.210; 18 AAC 60.225]	
	a. Location of the treatment facility and property boundaries.	Attachment 2
	b. Location and flow direction of surface water bodies, streams, containment, or diversion structures within 500 feet of the property boundary.	

Section 7. Facility Design A complete set of design drawings must be submitted with the following information, as appropriate. Please ensure the documentation represents the entire facility. [18 AAC 60.210]		
1.	**Facility map(s) which show site conditions, including:** [18 AAC 60.030; 18 AAC 60.210; 18 AAC 60.220; 18 AAC 60.225]	**Identify Attachment**
	a. All existing and planned operational areas.	Attachment 3
	b. Fences, gates, berms, and other access control devices around the facility.	Attcachment 3
	c. Access roads to and within the facility property.	Attachment 3
	d. Storage areas for both untreated and treated medical waste.	Attachment 3
	e. Location of treatment system, processing areas, and all treatment devices	Attachment 3
	f. All roads, ditches, berms, etc. associated with the facility.	Attachment 3
2.	**Floor plans** for: [18 AAC 60.030; 18 AAC 60.210]	
	a. Treatment system(s) and areas. (Note, autoclaves must be on a sealed floor that can be easily sterilized and contain any leaks). If the treatment system is located outside then clearly identify that and the type of ground (soil, gravel, asphalt, etc.) that it is located on.	Attachment 3
	b. Storage areas for both treated and untreated medical waste (note, must be enclosed, lockable, designed to contain any leaks, and have sealed floors that can be easily sterilized). Please include details on the type of substrate that each storage area is located on.	Attachment 3
3.	**Construction detail drawings and cross sections** that show: [18 AAC 60.210; 18 AAC 60.225]	
	a. Storm water drainage structures, culverts and other surface water control devices.	Attachment 3
	b. Any processing or treatment areas used in the treatment of medical waste.	Attachment 3
	c. Any storage areas for untreated and treated medical waste.	Attachment 3
4.	**Design calculations, data, and documentation** must include the following with supporting calculations: [18 AAC 60.030; 18 AAC 60.210]	

	a. An estimate (including calculations) of the maximum inventory of both untreated and treated medical waste that can be stored onsite at the facility at any given time.	Section 7.4A
	b. An estimate (including calculations) of the number of days, based on the average waste acceptance, that can be adequately stored onsite at any given time.	Section 7.4B
	c. Manufacturer specifications and designs for each treatment unit.	Attachment 5,6

Section 8. Operations Plan

The operations plan should be a separate document that provides sufficient detail and information that an operator could use it to perform all necessary tasks for day-to-day operation of the facility.

The operations plan is a flexible document that should be reviewed annually and updated as necessary. The following table represents the minimum requirements which must be included. Additional information should be added, as needed, to ensure the facility operates in compliance with all state and federal regulations. A copy of the operations plan should be kept at the facility and it must include the following information.

Please include a reference page and/or section of the operations plan where each item is addressed.

		page/section
1.	**Access control** [18 AAC 60.010; 18 AAC 60.210; 18 AAC 60.220]	
	a. Access to the facility will be controlled, including gates, fences, berms or other means of preventing access; hours of operation; signage; and other control measures.	Section 8.1
	b. Access and onsite roads for treatment facility will be kept passable and safe for vehicles during operating months.	Section 8.1
2.	**Waste acceptance and handling policy** [18 AAC 60.030; 18 AAC 60.210; 18 AAC 60.240]	
	a. Description of how medical waste arrives and is unloaded at the treatment facility.	Section 8.2a
	b. Description of how untreated medical waste is sorted and stored upon acceptance to prevent leaks and ensure that it will be treated and disposed of in the required timeframe.	Section 8.2b
	c. Waste screening procedures to ensure no prohibited or unacceptable wastes are accepted at the facility.	Section 8.2c
	d. All signage placed at the facility entrance.	section 8.2d
	e. All signage placed on the waste storage and treatment areas. (note: biohazard symbols must be placed on the entrance to all storage and treatment areas)	Attachement 4
	f. Description of packaging and transport for disposal.	Section 8.2f
3.	**Medical Waste Treatment Procedures** [18 AAC 60.010; 18 AAC 60.030; 18 AAC 60.210]	
	a. Sorting procedures when waste arrives at the facility.	Section 8.3a
	b. Identification or labeling procedures for each type of waste.	Section 8.3b
	c. Treatment requirement for each type of waste.	Section 8.3c
	d. **Autoclave –**	
	(1) Include a description and specifications for the treatment of medical waste using an autoclave. This should include step-by-step details from the beginning to the end of the process, including start up procedures, shut down procedures, unloading, and any observations required.	Section 8.3d1
	(2) Describe the visual identification method used to ensure that each item treated meets the pathogen destruction heat standard (e.g. Each bag or box is labeled with autoclave tape).	Section 8.3d1v
	(3) Describe the process used to ensure that each load is maintained at an appropriate temperature, pressure, and time to adequately treat medical waste. Describe how all information will be documented and maintained in the operating record (e.g. use of an autoclave charting mechanism for each load)	Section 8.3d1w
	(4) Provide information on the maximum capacity/throughput of the autoclave. How much waste can be adequately treated at one time?	section8.3d1d
	(5) Provide information on how long each load/cycle takes to complete treatment from loading to unloading.	Sec.8.3d1n,o

	(6) Describe, in detail, the biological testing method used and the frequency of the tests to ensure that the treatment unit is meeting the pathogen destruction standards a) Testing must be performed at least monthly b) Outline detailed procedures for how monthly biological testing will be performed, including how and where the test or test tubes are placed in the autoclave, how tests will be interpreted, etc. The location(s) of the test needs to be within the specific area of the treatment unit that takes the longest time to reach the minimum treatment temperature. The location(s) should also be based on autoclave manufacturer specifications for testing. c) Describe how any failures in testing will be handled d) Identify if biological testing will be performed in house or via an outside laboratory. If an outside laboratory provide the name of the laboratory.	Sec.8.3d1w
	(7) Provide a copy of the manufacturer specifications and operating manual for the autoclave (if available).	Attachment 5 & 6
	(8) Describe how treatment information (such as time, temperature, date, etc) will be recorded and stored. Submit copies of all forms that will be used to record treatment information.	Sec8.3d1s,tu Attachment 7
	e. Incinerator	
	(1) Include a description and specifications for the treatment of medical waste using the incinerator. This should include step-by-step details from the beginning to the end of the process, including start up procedures, shut down procedures, unloading, and any observations required	N/A
	(2) Describe the process used to ensure that each load is incinerated at an appropriate temperature and time in accordance with the regulations to adequately treat medical waste (e.g. use of a temperature and charting mechanism in each chamber for each load)	N/A
	(3) Provide information on the maximum capacity/throughput of the incinerator. How must waste can be adequately treated at one time?	N/A
	(4) Provide information on how long each load/cycle takes to complete treatment from loading to unloading.	N/A
	(5) Provide a copy of the manufacturer specifications and operating manual for the incinerator (if available).	N/A
	(6) Describe how treatment information (such as time, temperature, date, etc) will be recorded and stored. Submit copies of all forms that will be used to record treatment information.	N/A
	f. Other treatment methods	
	(1) Include a description and specification for the treatment of medical waste using the proposed treatment method. This should include step-by-step details from the beginning to the end of the process, including start up procedures, shut down procedures, unloading, and any observations required.	N/A
	(2) Describe the testing or identification method used to ensure that each item is adequately treated.	N/A
	(3) Describe in detail the efficacy of biological testing used and the frequency of the tests to ensure that the treatment unit is adequately treating all medical waste.	N/A
	(4) Provide information on the maximum capacity/throughput of the treatment unit. How must waste can be adequately treated at one time?	N/A

	(5) Provide information on how long each load/cycle takes to complete treatment from loading to unloading.	N/A
	(6) Provide a copy of the manufacturer specifications and operating manual for the treatment unit (if available).	N/A
	(7) Describe how treatment information will be recorded and stored. Submit copies of all forms that will be used to record treatment information.	N/A
	(8) Proof of efficacy for the proposed treatment method must be provided.	N/A
4.	**Medical Waste Storage** [18 AAC 60.010; 18 AAC 60.030; 18 AAC 60.210]	**page/section**
	a. Describe how the facilities used to store medical waste, both treated and untreated, are maintained to control the spread of pathogens.	Section 8.4a
	b. Describe how any leakage from the storage area will be controlled, collected, and disposed of.	Section 8.4b
	c. Describe how waste will be monitored during storage to ensure that any leaks are identified and remediated quickly.	Section 8.4c
	d. Describe how waste, both untreated and treated, will be tracked throughout the storage process to ensure it is treated and disposed of in accordance with the requirements.	Section 8.4d
5.	**Litter, vector, and nuisance control plan** [18 AAC 60.010; 18 AAC 60.230; 18 AAC 60.233; AS 46.06.080]	
	a. Procedures to ensure wildlife and domestic animals do not endanger the public or facility staff, cannot come into contact with the waste, and do not become a nuisance.	Section8.5A
	b. Procedures to control dust, noise, odor, traffic, litter, disease vectors and other effects from facility operations so they do not become a nuisance or hazard outside of the facility boundary.	Section 8.5B
6.	**Corrective action plan** describe the actions for: [18 AAC 60.010; 18 AAC 60.800]	
	a. Addressing any batch that does not pass the pathogen destruction method and is not adequately treated	Section 8.6a
	b. Failed treatment unit test (e.g. biological testing, autoclave tape, failed temperature monitoring, etc).	Section 8.6b
	c. Managing any improper or unauthorized waste.	Section 8.6c
	d. Repairing any damage to the facility or structures.	Section 8.6d
	e. Addressing any violations of regulations or permit conditions.	Section 8.6e
7.	**Operator training** [18 AAC 60.235]	
	a. Identify any training that will be required for an operator working at the treatment facility, including on-the-job training. This training must include annual blood borne pathogen training for each employee in accordance with 29 CFR 1910.1030(g)(2)(ii).	Secti0n8.7a
	b. Identify any training that operators will receive on the appropriate operation and maintenance of each specific treatment equipment based on manufacturers specifications.	Section 8.7b
	c. Describe how that training will be documented and filed in the operating record.	Section 8.7crr
8.	**Recordkeeping** [18 AAC 60.235]	
	a. Describe in detail how each treatment container or batch will be identified and how records associated with each batch will be organized. This must include a description of how waste is tracked throughout the entire process from acceptance to storage, to treatment, to storage prior to disposal, and finally disposal.	Section 8.7a Attachment 7

	b. Include copies of any forms used for tracking batches from delivery to disposal. This includes waste acceptance forms, waste manifests, waste treatment records, etc.	section 8.7b
9.	**Operating record** [18 AAC 60.235]	
	a. The operating record includes all the elements listed in 18 AAC 60.235, as well as any other documentation, such as batch tracking records, pathogen destruction test records, etc. specific to the facility and operation.	Section 8.9a
	b. The plan must state where the operating record will be located.	Section 8.9b
	c. Describe how all original source documents (handwritten, charts, etc) will be kept in the operating record and accessible for review for a minimum of 5 years.	Section 8.9c
10.	**Reporting**	
	a. A statement that an annual report will be submitted to ADEC as required by the permit. The annual report must contain (at a minimum): • Total volume or weight of medical waste received at the facility. • Total volume or weight of medical waste treated at the facility in each permitted treatment process. • Total volume or weight of treated medical waste disposed of at each disposal location. • A discussion of any treatment or test failures, related corrective action, and retreating or testing results. • A discussion of any other operational issues at the facility and the related corrective action.	Section 8.10a
	b. List any other required report submittals.	

Section 9. Monitoring Plan
The monitoring plan should be a separate document and must include sufficient detail to allow a qualified person to complete all monitoring in full compliance with the applicable regulations and permit conditions. It must include the following information.

1.	**Visual monitoring plan** [18 AAC 60.210; 18 AAC 60.800]	**page/section**
	a. Description of the procedures for visual monitoring of the facility. This needs to be specific to each treatment unit and storage area and the procedures used at each.	Section 9a
	b. Checklist or visual monitoring form including all applicable items in 18 AAC 60.800(a)	Attachment

Section 10. Closure Plan and Cost Estimate It is understood that the closure plan submitted with the permit application will be conceptual and may change throughout the active life of the facility. The closure plan **must include** the following information.		
1.	**Description of the closure process** [18 AAC 60.210]	**Section or Attachment**
	a. A description and timeline for the closure and removal of all remaining waste from the treatment and storage facilities.	Section 10.1a
	b. A site plan drawing showing the area once the facilities have been removed.	Section 10.1b
	c. Any expected future use of the site.	Section 10.1c
2.	**Financial information** [18 AAC 60.210; 18 AAC 60.265]	
	a. The total present-day equivalent cost estimate for an independent contractor (do not assume onsite use of any material or machinery) to close the facility, including treatment and disposal of the maximum inventory of waste that may be onsite.	Section 10.2a attachment 9
	b. Demonstration of the mechanism of financial responsibility to cover the cost of closing and removing the facility and disposal of the remaining waste. Proof of financial responsibility may be demonstrated by self-insurance, insurance, or other guarantee approved by ADEC.	Section 10.2b attachment 9

Section 11. Waiver Requests and Justification 18 AAC 60.900 allows ADEC to grant an exemption from any regulation not required by federal law. The applicant will be billed separately for time spent reviewing waiver requests at the rate identified in 18 AAC 60.700(e).	
1.	**Waiver requests must** include the specific regulation for which you are requesting a waiver, and for each requested waiver, a detailed justification that meets the criteria of 18 AAC 60.900 by demonstrating that: [18 AAC 60.210]
	a. The proposed alternative action will provide equal or better environmental protection, reduction in public health risk, and control of nuisance factors than compliance with the identified provision; or
	b. Compliance with the identified provision would cost significantly more than the value of the environmental benefit, public health risk reduction, and nuisance avoidance that could be achieved through that compliance.

Additional information
Attach any additional information necessary to accurately reflect the location, construction, and operations of the facility.

Section 7

Section 7

Section 7.4

A. Estimated maximum inventory of both untreated and treated medical waste that can be stored at the facility. 7740 gallons.
   a. Calculations for number of gallons of medical waste;
   b. Shelving; 3.5 feet deep X 24 feet long X Number of shelves (4)
      1. 3.5 X 24=84 square feet per shelving unit
      2. 84 X 4= 324 total square feet of shelving.
   c. Totes; 1.7 feet X 2 feet X 2.5 feet tall = 3.4 cubic feet = 43gallons
   d. Total number of totes;
      1. Shelving square feet per shelf =84
      2. Tote square feet=3.4
      3. 3.4 / 84=24 totes per layer (2 Layers)
      4. 24 X 2= 48 total totes per shelf
      5. Minus 3 totes per shelf for added space= 45 totes per shelf
      6. Total totes per shelf X Number of shelves= Total available tote storage
      7. 45 X 4= 180 total totes
      8. Total number of gallons possible storage180 X 43 gallons per tote = 7,740 total possible gallons stored

B. Maximum amount of time both treated and untreated waste can be stored at any given time?

Total available untreated storage in gallons = 7740

See above calculations

Total average untreated totes collected weekly= 48

Total gallons of waste each tote=43

48 X 43= 2o64 gallons per week / 7=295 gallons per day average

Untreated waste 7740/295=**26 days of available storage**

Number of days available for untreated storage

3029 gallons in treated roll off container

2064 gallons waste treated a week

Number of gallons treated weekly=2064

Number of possible gallons in treated container= 3029

3029/2064=1.8 weeks=**9.8 days of storage for treated waste.**

Section 8,9,10

Section 8:

A. 8.1 Access Control:

A. The treatment area is restricted to authorized personnel only.
B. Access is secured by two electronic keypad-controlled doors, with signage clearly stating, "No Public Access." Emergency contact information is also displayed.
C. Medical waste is stored securely inside the treatment area, accessible only to trained personnel.
D. Universal "Biohazard" signs are placed at the delivery entrance to the facility along with the facility name and contact numbers.
E. Onsite roads and access routes are maintained to ensure safe and passable conditions during operating hours.

8.2 Waste Acceptance and Handling Policy:

A. Waste is transported packaged in DOT compliant containers to the GHWM facility by company-labeled box truck. The truck is unloaded at the GHWM facility by hand and stored in the untreated area.

B. Waste is sorted by customer and placed into red bags at their facility. Different categories of med waste shall be separated at the point of origin into appropriate DOT compliant labeled containers. Containers ensure that proper sorting has occurred and prevents leakage. Waste is collected at customers facility by GHWM-trained personnel.

C. A visual inspection of bagged waste is completed by GHWM personnel to ensure proper sorting of waste as bags are placed in a secure, DOT-compliant container for transport. Container will be labeled with a bar code indicating date time and location pick up of med waste. Each manifest may have more than one bar code associated with it depending on the number of containers on the manifest.

1. Sorting of medical waste is mandatory and in compliance with state regulations. Non-sorted waste will be rejected and container returned to customer for proper sorting. All incidents shall be logged on the Medical Waste rejection log (see attached) and reported the Medical Waste Manager. The Medical Waste Manager shall contact the customer in regards to any rejected waste.
2. Records of waste collection and transport are tracked via bar code and an online database, ensuring transparency and compliance.
   a. The Medical Waste Manager maintains records of collection, transport, treatment, and disposal of medical waste.
   b. The record includes the date and time of collection, type and quantity of waste collected, and the signature of the authorized person from the healthcare facility.
3. Waste handling follows strict OSHA and Dot standards, with leak-resistant and puncture-proof containers. All GHWM staff shall be trained in the safe handling of medical waste and sharps. Personal protection measures including needle resistant gloves and aprons shall be used.
4. GHWM will only accept regulated medical waste from; medical diagnosis or treatment (human or animal) or biomedical research, classified under UN 3291.
5. GHWM **WILL NOT ACCEPT the following:**
   a. Category A materials (UN 2814 or UN 2900).
   b. Any items that do not fall under the definition of regulated medical waste.

c. Sharps not properly contained in sharps containers.
d. Listed or characteristically hazardous waste.
e. Hazardous chemotherapy waste.
f. Radioactive waste
g. Complete human remains.
h. Any item or material containing mercury or dental amalgam "silver filling"

The customer shall be notified immediately when unacceptable waste is identified and such waste will be rejected by GHWM.

D. *See attachments for signage*
E. *See attachments for signage*
F. Bagged waste is placed in a DOT compliant container. Lids of container are secured. Containers are hand loaded into GHWM company box truck. Rolling door on box truck is secured by locking latch.
G. Waste Handling
   a. All medical waste shall be packaged, contained and located in a manner that prevents and protects the waste from being released at the facility or at any time before ultimate disposal. Upon receiving medical waste at the treatment facility, the bar code will be scanned and marked in storage.
   b. Regulated medical waste will be kept separate from other wastes in the facility and clearly labeled with the universal warning sign or the word "biohazard".
   c. The categories of medical waste shall be separated at the point of origin into appropriate, properly labeled DOT compliant containers.
   d. Containers used to collect, transport, or store medical waste shall be clearly labeled with a biohazard symbol, DOT Transport identification and or with the words "medical waste" or "pathological waste" written in letters at least 1 inch high.
   e. Medical waste shall not be compacted or mixed with other waste materials before decontamination or incineration and disposal.
   f. If decontaminated medical waste is mixed with other solid waste, the container must be clearly labeled to indicate that it contains decontaminated medical waste.
   g. Medical waste stored in the treatment facility shall be stored in such manner that putrefaction will not occur, and infectious agents will not come in contact with the air or individuals.

h. Medical waste shall not be stored outdoors or in any unsecured area but shall be stored in a secured labeled area to prevent access to the waste by unauthorized individuals who are not responsible for disposal.

i. Universal biohazard signs with the facility name and emergency contact number will be placed at the main treatment entrances.

j. Medical waste shall not be stored on the premises of the treatment facility for more than 14 days.

k. Personnel protective measures will be followed when picking up, transporting, sorting, and treating regulated medical waste.

    a. All disposable objects that may cause skin punctures or cuts are placed in rigid, puncture resistant containers.

    b. Protective clothing will be worn by all GHWM employees that handle or transport medical waste including disposable gloves, and eye protection.

l. Should prohibited or unacceptable waste be identified the customer/waste generator will be notified immediately and such waste shall be rejected by GHWM.

m. Medical wastes are placed in red plastic bags that are labeled with a biohazard symbol or with the words "medical waste". The bags are closed and tied shut, and double bagged when there is a possibility of leakage due to the nature of the medical waste.

n. All employees involved with the on-site management of regulated medical waste (i.e., packaging, labeling, storage, or treatment) must be trained in accordance with the requirements of the OSHA Exposure to Bloodborne Pathogens regulations (29 CFR 1910.1030).

o. Medical waste storage containers will have their bar codes scanned for destruction and emptied into an autoclave cart with a disposable autoclave liner. Bar codes will be assigned a batch number which will identify the treatment cycle.

p. After the autoclave treatment cycle is completed, carts will be picked up with a forklift rotator and dumped into a 15 yard roll off with a leak proof sealed door. The treated waste roll off container will be stored inside the treatment facility and be transported to the FNSB solid waste land fill at least once per week. Engineering procedures are in place so no employee will have to handle any untreated or trat waste to reduce the risk of exposure or needle sticks.

q. Every time a vehicle is unloaded, the vehicle and empty waste containers shall be washed property and disinfected inside the facility.

8.3 Medical Waste Treatment Procedures

The purpose of this procedure is to ensure proper disposal of waste from activities conducted by or overseen by Facilities Management staff. In addition, this procedure outlines how to prevent discharges from containers kept at the treatment area, which could cause pollutants to enter storm sewers.

1. Managers and Supervisors are responsible for ensuring their staff's compliance with this procedure.
2. Managers are to train their employees in the proper disposal of waste materials to prevent spills of potential pollutants into the storm sewer system.
3. Personnel must follow the correct procedures in accordance with this SOP.
4. Personnel are responsible for determining the type of waste they need to dispose of and following this procedure to ensure it is disposed of properly.
5. Personnel are also responsible for reporting instances of leakage, missing covers, or misuse of material receptacles to the Medical Waste manager.
6. Waste is visually inspected again at the facility prior to storage and treatment, each container of waste brought to the treatment facility is RIF Scanned via bar code with Z printer/ compliance publishing software and identified by client, type, weight, date time and location of pickup.
7. The waste is checked for proper sorting once again and placed in one of four red bagged lined 100 gallon roll cart containers that are labeled with a bar code sticker.
8. Testing of each load of medical waste that is treated at the treatment area will be verified with autoclave tape. Testing of the autoclave to ensure the required temperatures inside the treatment system are reached. Biological Indicators will be used.
9. The biological indicator tests are used at least monthly and manufactured by Steris Corporation or 3M, these tests are also known as spore tests.
10. The biological indicators are placed in the aluminum autoclave carts in a Ziplock bag and placed inside an envelope with autoclave tape.

11. After the treatment of the waste the biological indicator is placed in an incubator provided by 3M.
12. Test results will show in 8 hours and are interpreted by the color of the indicator. Two colors will either appear black or purple. If the test indicated light purple there are still spores and the waste will be re-treated.

A. Regulated medical waste packaged as outlined in section 8-2,c will be kept separate from other wastes and stored in the" Labeled" untreated medical waste storage section of the building. Medical waste shall not be compacted or mix with other waste before decontamination in the auto clave. Med waste is handled at GHWM's facility by hand from pickup to storage to loaded into the auto clave cart.
B. Containers used to collect, transport, or store medical waste shall be clearly labeled. Labeling includes a bar code indicating type, date, time and location of med waste pick up.
C. Treatment for medical waste will be by auto clave at a minimum temperature of 250 degrees(f) for 30 minutes.
D. Autoclave;
E. N/A
F. N/A

General Operation of the Autoclave Treatment Equipment:

1.The Mark-Costello Co. Medical Waste Steam Sterilizer Operating Procedure

a. Follow procedures as established by the governing regulatory agencies (local, state and or federal) for the collection and separation of biohazardous waste materials.
b. Only properly trained personnel will operate and maintain the sterilizer.
c. Place polypropylene autoclavable cart liner into cart prior to loading biohazardous waste bags into cart.
d. Place red bags into each cart. Maximum per cycle load is two 400 gallon carts. Use automated cart tipper whenever possible to minimize contact with the biohazardous waste bags. If hand-loading is required, operator should be wearing required Personal Protective Equipment.
e. Check pressure gauge above Sterilizer door to confirm that there is no pressure in vessel. Lift Safety Switch at upper right-hand side of Sterilizer door to "UP" position. If any vapor emits from pipe connected to Safety Switch, wait until no vapor is present before proceeding further.
f. Open door by rotating wedge lock ring into un-locked position by using ratchet- operated rack and pinion door locking device.
g. Carefully open Sterilizer door. Use hold-back device to keep door open during loading and unloading.
h. Wearing heavy work gloves, lower fold-down cart ramp to floor in front of Sterilizer.

i. Load filled sterilizer carts into sterilizer by rolling them up the fold-down ramp. Use push pole to ensure that carts are pushed into sterilizer as far as it can go.
j. Inspect the door seal gasket for proper alignment and insertion. Also look for cracks or tears which could allow steam to escape. If any problems fare found, STOP the process and Notify manager by phone or preferred face to face. Autoclave will remain out of service until issues are resolved.
k. Make sure that the door seal is clean and free of any foreign material.
l. Once the last cart is loaded, raise fold-down ramp, close door and rotate wedge lock ring into locked position by using ratchet-operated rack and pinion door locking device.
m. Once door locking ring has fully rotated and wedge locks are in position, engage safety switch by closing the Safety Switch.
n. After locking valves are secure, system may be started by turning key-lock starter key to the right. This automatically starts the processing cycle. Once cycle is set into motion, a red "on" light is visible throughout cycle. An emergency "stop" button is available for use in case of need. If this button is utilized, the system will shut down immediately. The system may be re-energized by again turning the key-lock start but note that cycle restarts from the beginning. (Cycle time may be set by user's preference; however, it must be for a minimum of 30 minutes) Timed portion of cycle starts only when autoclave reaches sterilization temperature.
o. Once sterilization cycle is completed, the unit will shut off automatically and, the sterilizer will release the steam from the vessel automatically. Unit should be allowed to depressurize and cool down. Allow approximately 10-15 minutes.
p. At the end of the exhaust phase, and the pressure gauge reads 0 psi-the cycle will be complete. Open Sterilizer door in accordance with steps 5-8 above and then remove carts from Sterilizer.
q. Carts and sterilized waste will still be hot or warm depending upon the amount of time waited after end of cycle. Use caution and appropriate personal protective equipment (heavy work gloves) in handling carts or waste. All Cycles will be properly documented and recorded and all records shall be available for inspection. Daily records shall be maintained for the waste accepted and treated waste removed from the site. This record shall include the following minimum details:
r. All Cycles will be properly documented and recorded and all records shall be available for inspection.
s. Daily records shall be maintained for the waste accepted and treated waste removed from the site. This record shall include the following minimum details:
t. Waste Accepted: Waste collection Date, Name of the healthcare unit, Waste category as per the Rules, quaintly of waste, Vehicle number and Receiving date. In addition, the name of the Driver and waste generator is recorded via signature.
u. Treated Waste Removed: Date, Treated waste type, Quaintly, Vehicle number and location of disposal. All records are kept on cloud-based software hosted by Compliance Publishing. These records provide tracking through each step of the waste pick up and disposal through the use of UPC codes generated by the software that tracks the generator, transporter, and treatment providers name and signature. This software has generated over 1,000,000 manifests since its development.

v. Testing of each load of medical waste that is treated at the treatment area will be verified with autoclave tape. Each 400 gallon cart will have autoclave taped in placed on the top of the load. .

w. The biological indicator testing will be conducted at least monthly. The Biological Indicators tests are done to ensure the required temperatures inside the auto clave are being reached. The Biological Indicators are manufactured by Steris Corporation or 3M, these tests are also known as spore tests.

a. **All treatment and testing will be recorded on a company form.**

3. **Calibration of the temperature and pressure is outlined in the Mark-Costello Waste Sterilizers instruction manual. Attachment #5.**

8.4 Medical Waste Storage:

A. Untreated medical waste will be stored in a designated, secure location for a maximum of 14 days.
B. Authorized personnel will control access to locked containers in the treatment area.
C. Treated waste will be secured in roll-off containers before transport to the Fairbanks North Star Borough Landfill weekly.
D. The main waste storage room is designed to prevent leakage.
   a. The floor is impermeable and sealed with dry lock concrete sealant.
   b. Containers are monitored daily for leaks, and any spills are contained and treated.

8.5 Litter, Vector, and Nuisance Control:

A. All medical waste is stored inside in designated medical waste storage area. Daily inspection of grounds to ensure that there are no attractants to wildlife, domestic animals that might endanger the public or employees.
B. Waste Containment and Handling:

   a. Medical waste is stored indoors in designated, sealed areas.
   b. Waste containers are inspected for damage or leaks before use.
   c. Parking lot speed limits will be in place to help reduce dust and noise.
   d. Any liter or other nuisance found on the daily inspection of the grounds will be deal with to ensure they do not become a hazard outside of the facility boundary.
   e. Any customer or public complaint will require that a complaint form be filled out. All complaint forms will be turned into the Medical Waste Manager for follow up .Records are stored in Medical Waste Complaint File.

8.6 Corrective Action Plan:

GHWM has adopted the following corrective action plan;

Visual monitoring, corrective action may be required during treatment and storage of medical waste to maintain a safe facility, to prevent impacts to areas outside of the facility or to remain in compliance with governing regulations.

a. Should any batch not pass the pathogen destruction method the batch shall be retreated with a biological "spore test" indicator. The bacterial spore test is used to determine if the sterilization cycle parameters were sufficient to kill the test micro-organisms.
b. Shall the auto clave fail the "spore test" a second spore test will be done. A second spore test failure shall require a qualified GHWM staff member to investigate as to why the cycle parameters were not met. Any needed repairs or adjustments shall made and recorded in the facility operating record. The auto clave shall undergo an annual inspection and calibration by an authorized representative of the manufacture. All repairs and corrections shall be noted in the facility operating record.
c. Any improper or unauthorize waste will be handled according to Section 8.2ca of the operations plan.
d. Any found damages to the facility or structure shall be reported management for repairs.
e. Any violations of regulations or permit conditions shall be addressed immediately and corrected prior to the continuation of operations.

8.7 Operator Training:

a. GHWM staff must complete all required training, including OSHA, BBP, and DOT standards. Employees are trained in equipment operation, waste segregation, infection control, and emergency response. Recurring annually training will occur in all required aspects.
b. GHWM staff will undergo training on the autoclave on site by a factory representative. Recurring training will occur in all required aspects.
c. All training will be documented in GHWM online program.

8.8 Recordkeeping:

a. Daily records are maintained in Compliance Publishing. Compliance Publishing is a computer-based program that tracks medical waste from pick up at the customers of business to r to treatment and disposal. Tracking is completed by bar code and scanner. The program allows for easy record keeping and report writing.

b. Compliance Publishing produces a cradle to grave documentation form. See attachment.

8.9 Operating Record:

A. The operating record includes all the elements listed in 18 AAC 60.235, as well as other documents including batch tracking, pathogen destruction tests specific to Golden Heart Waste Management's facility.
B. The Medical Waste Manager maintains the official operating record at the Medical Waste facility located at 3859 Peger Road Fairbanks, Alaska.
C. All original source documents (handwritten, charts etc. will be scanned into Compliance Publishing and become a part of the operating record. Records shall be kept for 5 years.
D. ADEC will be notified of any violations of the permit.

8.10 Reporting:

8.10 Operating Record:

Records of medical waste treatment quantities are maintained and submitted annually to ADEC. The annual report will contain:

a. Total volume or weight of medical waste received at the facility.
b. Total volume or weight of medical waste treated at the facility in each permitted treatment process (autoclave)
c. Total volume or weight of treated medical waste disposed of at each location. Land fill
d. A discussion of any treatment or test failures, related corrective action and retreating or testing results.
e. A discussion of any other operational issues at the facility and the related corrective action.

Section 9: Monitoring Plan

1. Daily inspections of storage areas and equipment are conducted using a standardized checklist. Check list will include visual inspection of;
   a. All flooring to insure no spillage or leakage has occurred.
   b. All stored containers are correctly place in proper location.
   c. All autoclave carts are cleaned and sanitized.
   d. Treated medical waste dumpsters are clean.
   e. No lose trash is found in the treatment area or other areas of the building or outside on the grounds.

f. Visual inspection of auto clave for potential issues.
g. PPE is available
h. All fire extinguishers are in place.
i. This is a living document and is subject to change as needed.

Section 10:

10.1 Closure Plan and Cost Estimate:

A. In the event of closure, waste will be treated offsite within 24–48 hours.

10.2 Financial Information:

A. The estimated cost for treating 4,128 gallons of waste offsite is $3,550 supported by GHWM's bonding capacities.
B. Letter of financial responsibility attached

Attachment 1

SECTION 6 A

ALASKA

2024-006376-0

Recording District 401 Fairbanks
06/14/2024 10:37 AM Page 1 of 1 CC

ZONING LOT AFFIDAVIT FOR FAIRBANKS NORTH STAR BOROUGH FAIRBANKS RECORDING DISTRICT

STATE OF ALASKA)
) ss.
FOURTH JUDICIAL DISTRICT)

I, John Thies, being first duly sworn, depose and state that:

1. I understand that a zoning lot is necessary because (action that creates need for zoning lot):
   - ☐ Adjacent lot is needed to meet setback or lot size requirements
   - ☑ Structure is on the lot line
   - ☐ Adjacent lot is developed with accessory uses or structures
   - ☐ Other: _____

2. I am the owner of (address) 3859 Peger Road Fairbanks, Alaska.
   Subdivision Metro Industrial Block 4 LOT 1 PAN #140767 is developed with (use of property) Vehicle Maintenance Garage;
   Subdivision Metro Industrial Block 4 LOT 2 PAN # 140775 is developed with (use of property) Vehicle Maintenance Garage.

3. If I am not the owner, I am authorized to represent _____ and have provided the documentation to verify that authority.

4. I wish to use Lots 1 and 2 as a zoning lot in Fairbanks Recording District.

5. I understand that this action encumbers both lots together as one lot.

6. I understand that I will not be able to separate said lots until the necessity for the zone lot is resolved.

7. This document is null and void when zoning regulations have been complied with or when the necessary action has been taken to provide for item # 1.

8. I understand that this document will be returned to the Fairbanks North Star Borough community planning department for approval and recording at the Alaska Department of Natural Resources Recorder's Office and I am responsible for all applicable recording fees.

Approved By: TK

Date Approved: 6/10/24

INVALID WITHOUT CP APPROVAL

Return to: 2131 Sheldon Ave
Fbks AK 99701

John Thies
(Signature, Printed Name and Address of Affiant)

SUBSCRIBED AND SWORN TO BEFORE ME on this 10th day of June, 2024.

Tineke Kezer w/office
Notary Public in and for Alaska
Commission Expires: w/office

TINEKE KEZER NOTARY PUBLIC STATE OF ALASKA

Fairbanks North Star Borough is subject to the Alaska Public Records Act, AS 40.25 et seq. and this document may be subject to public disclosure under state law.

Summary

PAN	Physical Description do not rely on as a legal description	Neighborhood	Fire Service Area
0140767	2025 T/R Assembled Now known as UMB01 BLOCK 4 METRO INDUSTRIAL AIRPARK LOT 1 BLOCK 4 METRO INDUSTRIAL AIRPARK	1030 - Davis-Van Horn	UNIVERSITY FIRE S A
Property Class	**Tax Status**		**Business**
Assembled	Value Transferred.		
Land Area	**Millage Group**	**Millage Rate**	
1 - 76,868 Square Feet	0940 - University Fire Service Area	15.824	
Street Address	**Billing Address**	**Child Properties**	**Parent Properties**
3859 PEGER RD	2131 SHELDON AVE FAIRBANKS, AK 99701-7231	*None*	

Documents

The FNSB provides a link to view the recorded document at the State of Alaska Recorders Office through the Instrument #. Current registered documents not showing may be seen at the State of Alaska Recorders Office Search page. The FNSB has no control over the contents posted on any external web sites and these sites may have separate terms of use and privacy policies. The inclusion of this web link does not imply endorsement by the FNSB of the site, its content, advertisers or sponsors.

Description	Record Date	Book	Page	Instrument
Utility Easement	7/8/2024			2024-007402-0
Warranty Deed	10/5/2021			2021-018890-0
Right-of-Way Plat	5/23/2011			2011-009063-0
Quitclaim Deed	1/10/1997	987	428	1997-000678-0
Corrective Deed	1/10/1997	987	426	
Warranty Deed	1/2/1996	935	229	
Ordinance	7/23/1992			

Assessment History

For questions regarding assessments, contact the FNSB Department of Assessing at 907-459-1428. For information on our exemption programs please visit our website. Or contact our office at 907-459-1428.

Year	Land	Improvement Value	Full Value Total	Exemptions Total	Taxable
2024	$101,466.00	$0.00	$101,466.00	$0.00	$101,466.00
2023	$87,630.00	$0.00	$87,630.00	$0.00	$87,630.00
2022	$87,630.00	$0.00	$87,630.00	$0.00	$87,630.00
2021	$87,630.00	$0.00	$87,630.00	$0.00	$87,630.00
2020	$87,630.00	$0.00	$87,630.00	$0.00	$87,630.00

Tax History

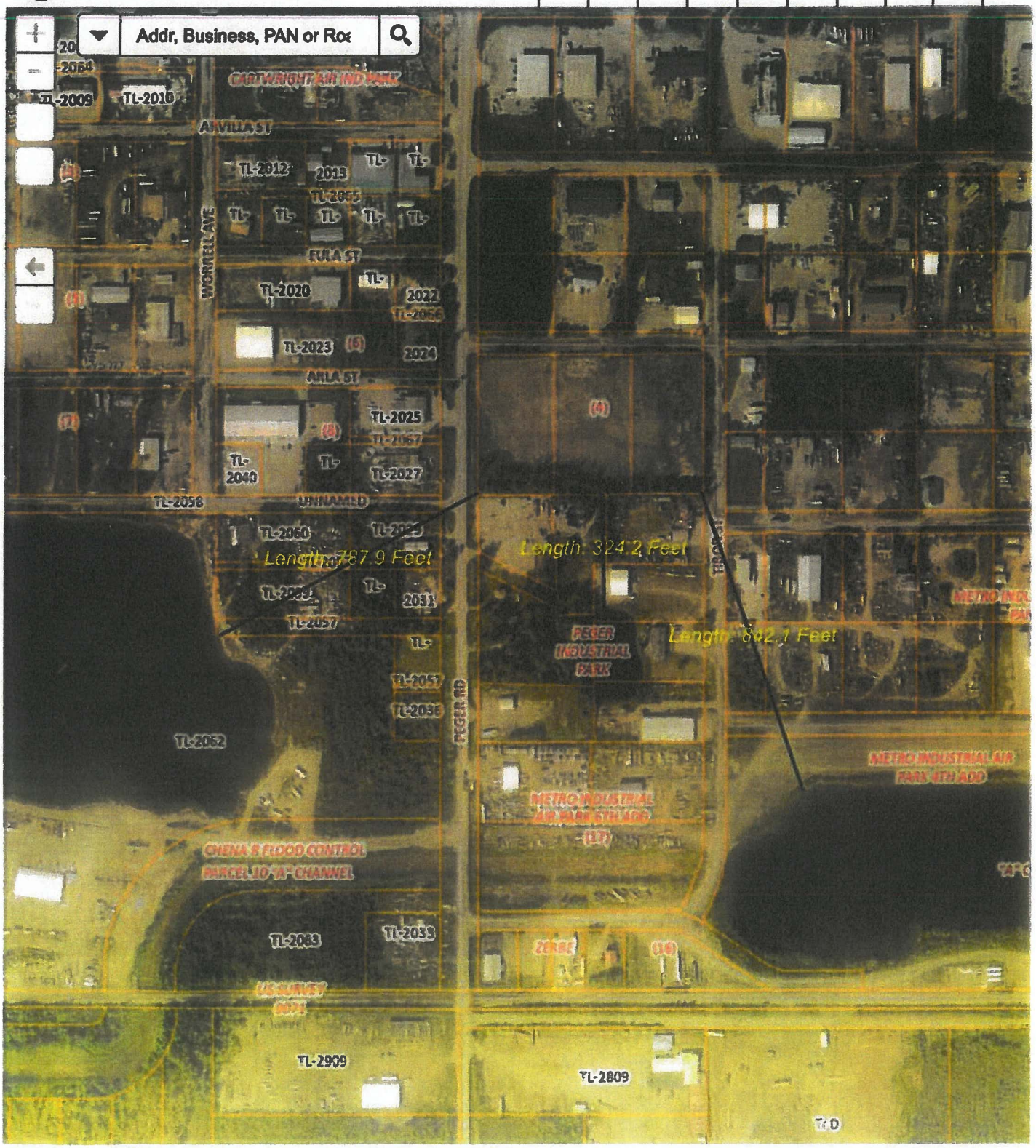
If taxes are delinquent, the payoff date is projected to **1/6/2025**. For payments after this date, please call the FNSB Division of Treasury And Budget at **907-459-1441** for the correct amount. All PRIOR YEAR delinquent payments must be made with guaranteed funds.

Year	Tax Levied	State Exempted	Fees	Total Due	Total Paid	Net Due
2024	$1,605.60	$0.00	$0.00	$1,605.60	$1,605.60	$0.00
2023	$1,368.52	$0.00	$0.00	$1,368.52	$1,368.52	$0.00
2022	$1,522.48	$0.00	$0.00	$1,522.48	$1,522.48	$0.00
2021	$1,659.72	$0.00	$0.00	$1,659.72	$1,659.72	$0.00
2020	$1,672.32	$0.00	$0.00	$1,672.32	$1,672.32	$0.00

production ~ public ~ production ~ 2a41da33-7863-4b92-ba21-582c82bcb910

Attachment 2

FairbanksNorthStar GIS

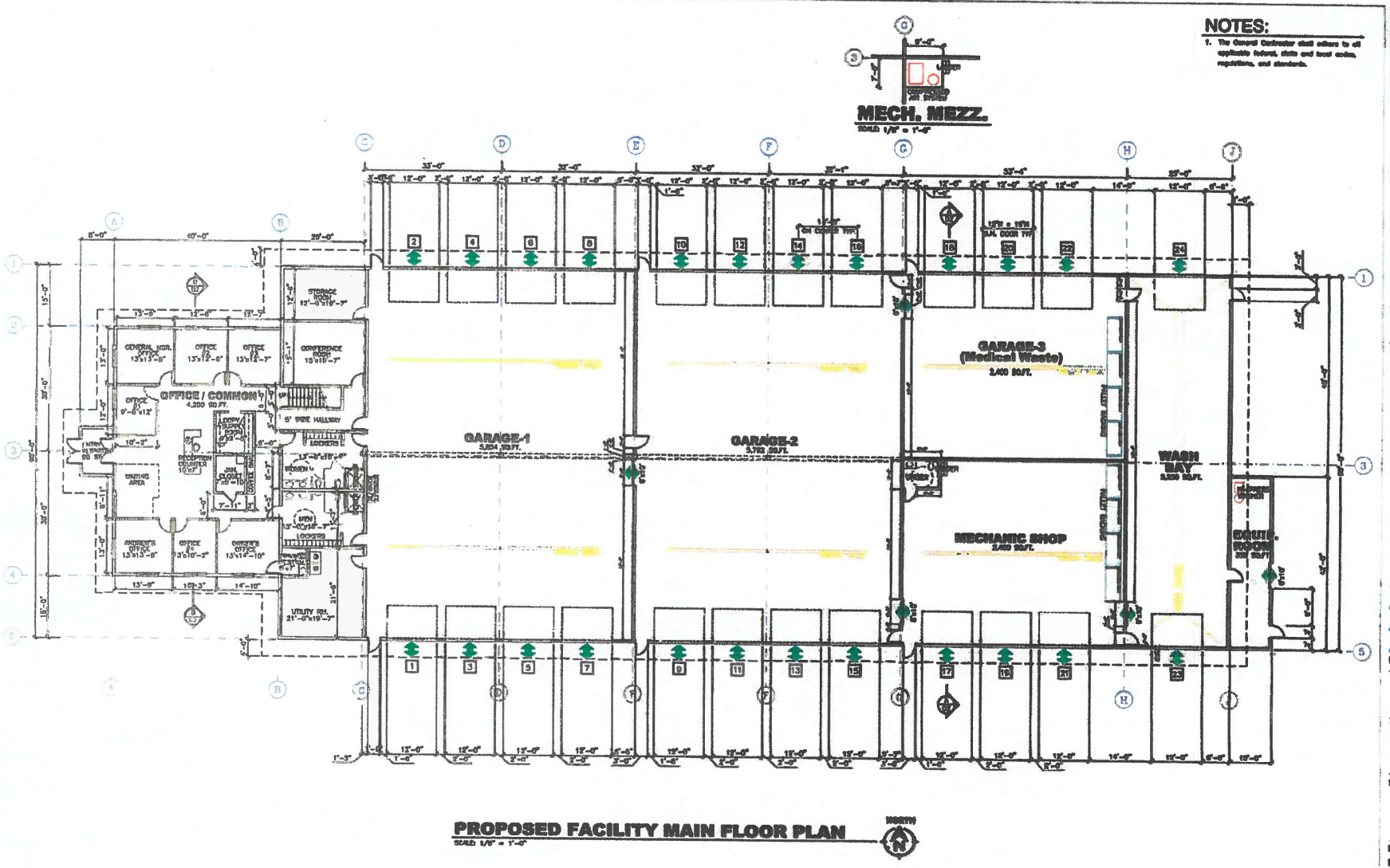


section 6.2 ab

Attachment 2

0 150 300ft

Attachment 3



FACILITY PLANNING SERVICES

9805 NE 116th St., # 7417
Kirkland, WA 98034
206-769-0857

New Facility Master Plan

GOLDEN HEAR WASTE MANAGEMENT

2131 Sheldon Avenue
Fairbanks, AK 99701

Job Number: 23-011

Issued For Review
August 6, 2024

NOT FOR CONSTRUCTION

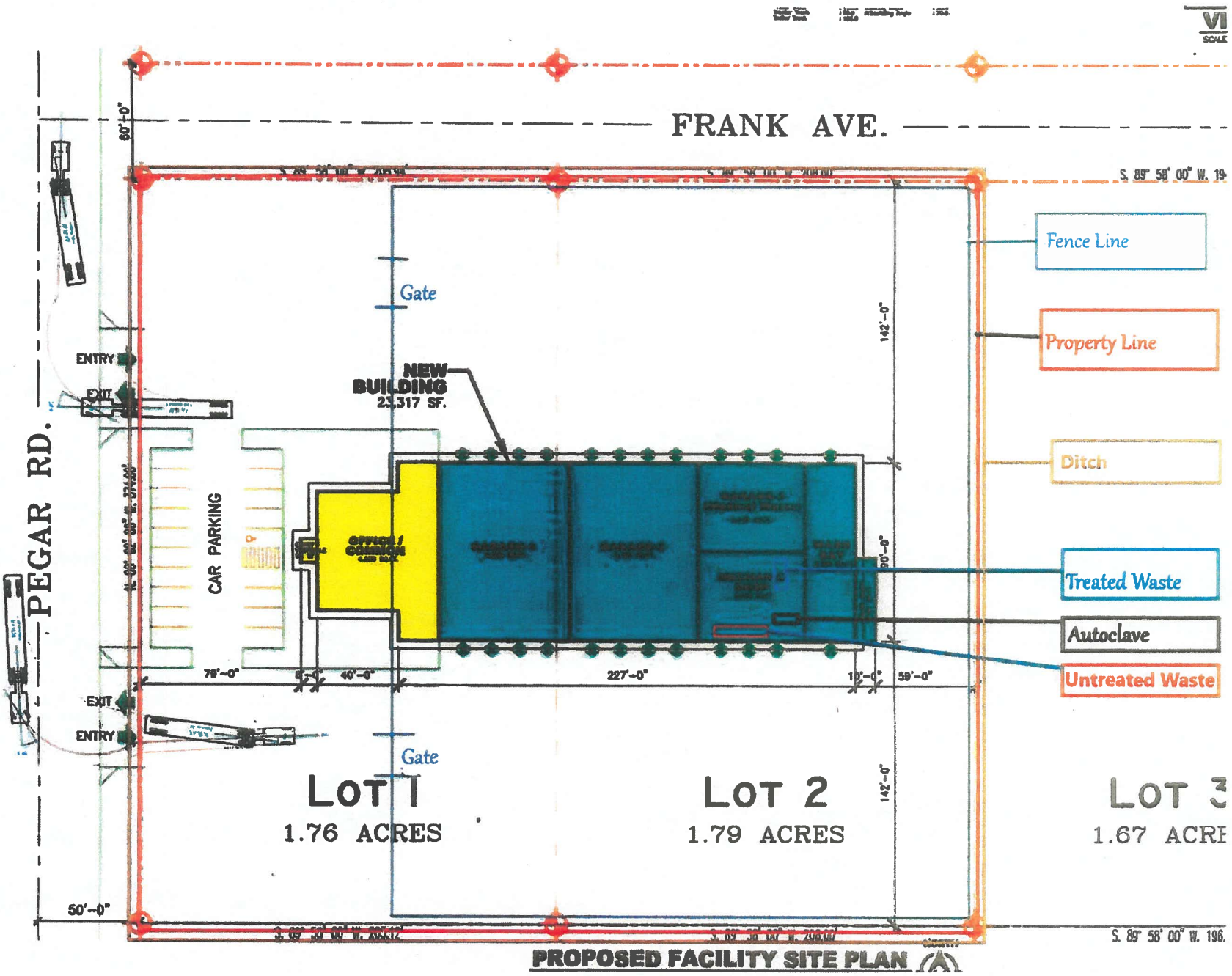
1/8"=1'-0"

PROPOSED BUILDING MAIN FLOOR PLAN

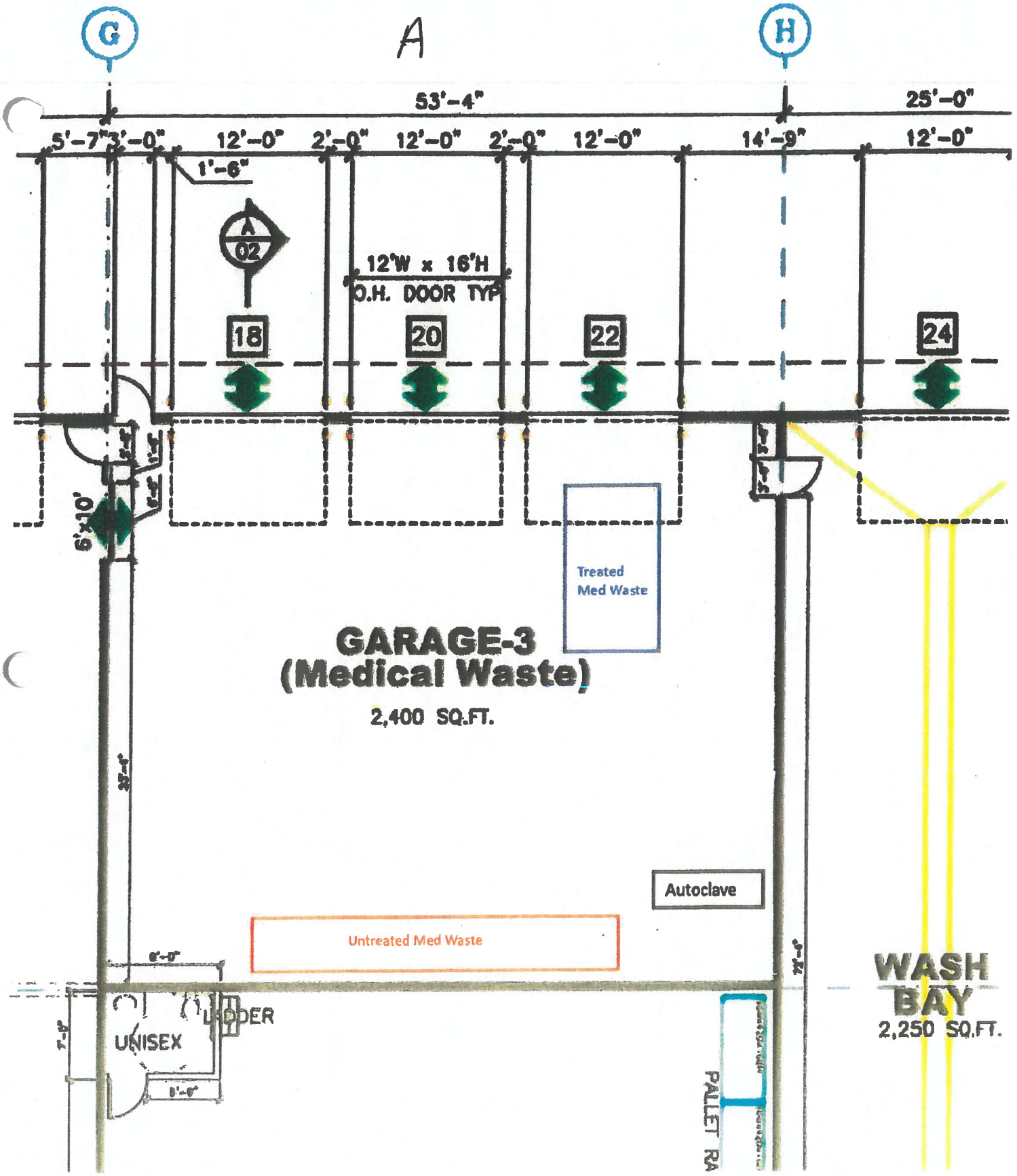
BLDG-01

section 7.1a

Attachment 3



Attachment 3
section 7.1 b c e f
section 7.3 a b c



section 7.1 d

section 7.2 a b

Attachment 3

Technical Information Sheet

BRICKFORM® Poly-Astic

Clear Sealer

PRODUCT DESCRIPTION

Poly-Astic is a two-part, high solids, high build sealer designed for use on concrete or masonry surfaces. Poly-Astic allows for single coat high film thickness in a water clear finish. Poly-Astic provides a very smooth, mirror like finish not attainable with any other product. In addition, Poly-Astic does not yellow or deteriorate under UV rays, it is highly resistant to chemicals and will greatly increase the useful life of any surface it's applied on.

Poly-Astic is a Polyurea sealer made with premium resins, it is non-yellowing and resistant to oil, gasoline, grease, acid, deicing salts, ultra violet rays, wet and dry abrasion, and most household chemicals. Poly-Astic contains unique resins and solvent formulations designed for maximum penetration into the concrete pores providing great adhesion to the surface. It enhances the depth and color of natural surfaces and provides a long lasting protective, mirror like finish that's ideal for decorative concrete surfaces.

Brickform Poly-Astic complies with the FDA US Food Code 6-101.11 for indoor construction materials when applied over flat, un-textured areas. The product, when applied according to the guidelines below, will provide a smooth, durable, non-absorptive, easily cleanable surface that meets the standard set forth in the FDA guideline for food service operations including food preparation areas.

Poly-Astic is a two part Zero VOC sealer. It should not be diluted with xylene, toluene or any solvent. Do not thin. Use straight as it comes.

FEATURES

- Zero VOC, compliant in all states. CA & NY included.
- Non-yellowing.
- Dries water Clear.
- Penetrating.
- Fast drying.
- Enhances color of decorative concrete.
- Reduces alkali/efflorescence attack.
- Resistant to chemicals.
- Prolongs life of surface.
- Freeze thaw resistance exceeds 360 cycles.
- Maintains surface cleanliness.
- Easy to apply
- Prevents mildew and fungi.
- Improves weathering resistance of natural and manufactured brick products.
- 65% Solids Content

SURFACE PREPARATION

BRICKFORM strongly recommends representative jobsite samples. Individuals who will be performing the work should test different sections of the concrete to determine suitability, coverage, and final appearance. New concrete should be cured at least 28 days, prior to application. The application area must be completely clean and dry to the touch. Pressure washing and power scrubbing may be necessary. The recommended surface profile for BRICKFORM sealers is a CSP1 or CSP2. Surface preparation guidelines are written by ICRI and outlined in Guideline No. 03732 *Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.* **Guidelines available at icri.org. See surface preparation videos at www.brickform.com.** Remove all efflorescence, oil, dirt, wax, old paints, sealers, and curing compounds. RINSE THOROUGHLY. Allow the surface to dry at least 24 hours. Soaps and detergents should never be used for cleaning. Dried residue on the surface will prevent the sealer from bonding. If acid is used, a representative area must be tested. Soak the entire surface with water before applying the acid mixture. When the fizzing stops, rinse with clean water. The surface must then be flushed with clean water and neutralized with a pH neutralizer such as BRICKFORM Neutra Clean. Repeat rinsing and neutralizing. Acid residue will prevent the sealer from penetrating. Allow the surface to dry for at least 24 hours prior to application. NOT RECOMMENDED for pre-sealed or dense surfaces, such as glazed tile, marble or granite, dense brick, dense slate, or terrazzo. If in doubt, test the surface by sprinkling with water. If water beads up on the surface, additional cleaning and testing must be done. Do not use where hydrostatic pressure is present.

PRIMING

No primer is necessary.

MIXING

Mix Part-A and Part-B in equal parts by volume. Do not mix more than can be put down in 20 to 30 minutes, less time if it is a hot day.

APPLICATION

Polyastic must be recoated within 4 hours. Do not recoat after 4 hours from the first coat. Apply with a short nap, lint-free, solvent resistant roller cover (1/4" to 3/8") at a rate of 200 to 400 square feet per gallon and no less than 150 square feet per gallon. If a second coat is necessary, apply second coat within 2 to 4 hours, waiting longer than 4 hours may result in delamination and/or uneven finish. Do not apply if ambient temperature is above 85F, at higher temperatures there may be significantly shorter potlife.

LIMITATIONS

- Substrate must be fully dry before application. If not sure of the conditions a moisture test should be performed before sealer application.
- Polyastic must be recoated within 4 hours. Do not recoat after 4 hours from the first coat.
- Substrate must be prepared according to TIS.
- Do not apply at temperatures below 35°F (7°C)
- Do not apply if rain is expected within 6 hours of completed installation.
- Do not apply other coatings (epoxy, urethanes, etc.) over this material.
- Do not install concrete overlays, other toppings or surface treatments over this material.
- Do not install in enclosed structures without adequate ventilation.
- Test area for sealer acceptance and desired results.
- Clean tools and equipment with Xylene.

BRICKFORM® Division Headquarters • 360 South Lilac, Rialto, CA 92376 • Toll Free: 800-483-9628 • Phone: 909-484-3399 • Fax: 217-744-2605

BRICKFORM strongly recommends the use of a Moisture Vapor Evaporation Rate test in accordance with ASTM F1869. Results should not exceed 5 pounds per 1000 square feet per 24 hours based on the recommended test period. Relative humidity tests are strongly recommended as well when used in accordance with ASTM F2170. Results should not exceed 75%. Excessive moisture vapor evaporation rates can soften overlay materials and sealers, cause premature wear, discoloration and/or lead to a complete loss of bond from the concrete slab. Overlays and sealers should always be installed over pH neutral concrete substrates.

TECHNICAL DATA AND SPECIFICATIONS

Coverage Rate	200 to 400 ft² per gallon
Packaging	2 gallon Kit
VOC	0 Gms x liter
Color	Water clear
Water Miscible	No
Solids	65 %
Shelf Life	18 months
Recoat Time	2 to 4 hours
Application Temperature	35°F to 85°F
Flash Point	114 ° F

CHEMICAL RESISTANCE

Reagent:	Rating:
Transmission Fluid	No effect
Gasoline	No Effect
Motor Oil	No effect
5% Sulfuric Acid	No effect
30% Hydrochloric Acid	No effect
Detergent	No effect

MAINTENANCE

Wax floor (minimum 3 to 5 coats for commercial floors).
Clean waxed floors with neutral cleaner (high or low pH cleaners will damage the wax), follow dilution ratios from manufacturer, rinse well after cleaning.
Reapply wax/buff as needed.
Clean spills quickly, do not allow aggressive chemicals to stay on the surface for long.

WARNING

COMBUSTIBLE: Contains solvents. Vapor and spray mist may be harmful. Overexposure may cause lung damage and allergic skin and respiratory reactions. Repeated and prolonged exposure to solvents may lead to permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness, and loss of coordination are signs that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Do not breathe vapor or spray mist. A POSITIVE-PRESSURE, SUPPLIED-AIR RESPIRATOR IS RECOMMENDED with eye protection, gloves, and protective clothing during application. A vapor particulate respirator may be appropriate where airborne monitoring demonstrates vapor levels below ten times the applicable exposure limits. In all cases, follow respirator manufacturer's directions. Do not permit anyone without protection in the working area.

Keep away from heat, sparks, and flame. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Use only with adequate ventilation. Do not breathe vapors, spray mist, or sanding dust. Do not get in eyes or on skin. Wash thoroughly after handling.

Read the appropriate Material Safety Data Sheet before use, available at www.brickform.com.

FIRST AID

If affected by inhalation of vapors or spray mist, remove to fresh air. If breathing difficulty persists or occurs later, consult a physician and have label information available. In case of eye contact, flush immediately with plenty of water for at least 15 minutes and call a physician. For skin, wash thoroughly with soap and water. In case of ingestion, DO NOT induce vomiting. Get medical help immediately.

IN CASE OF:
FIRE – Use foam, CO2, dry chemical, or water fog.
SPILL – Absorb with inert material and dispose of in accordance with applicable regulations.
DISPOSAL – Empty container with product residue may still be flammable; follow all hazard statements until it has been disposed of. Consult your sanitation department for more information on disposal of empty containers. Contact your local or state-designated environmental agency for information concerning re-use, recycling, or disposal of solvent-borne paint.

WARRANTY

BRICKFORM warrants this product to be free from manufacturing defect. Since no control is exerted over it's application and use, BRICKFORM makes no warranty, either expressed or implied, concerning this product. Seller and manufacturer's obligation shall be limited to replacing that portion of the product proven to be defective.

MANUFACTURER

BRICKFORM, A Division of Solomon Colors, Inc.

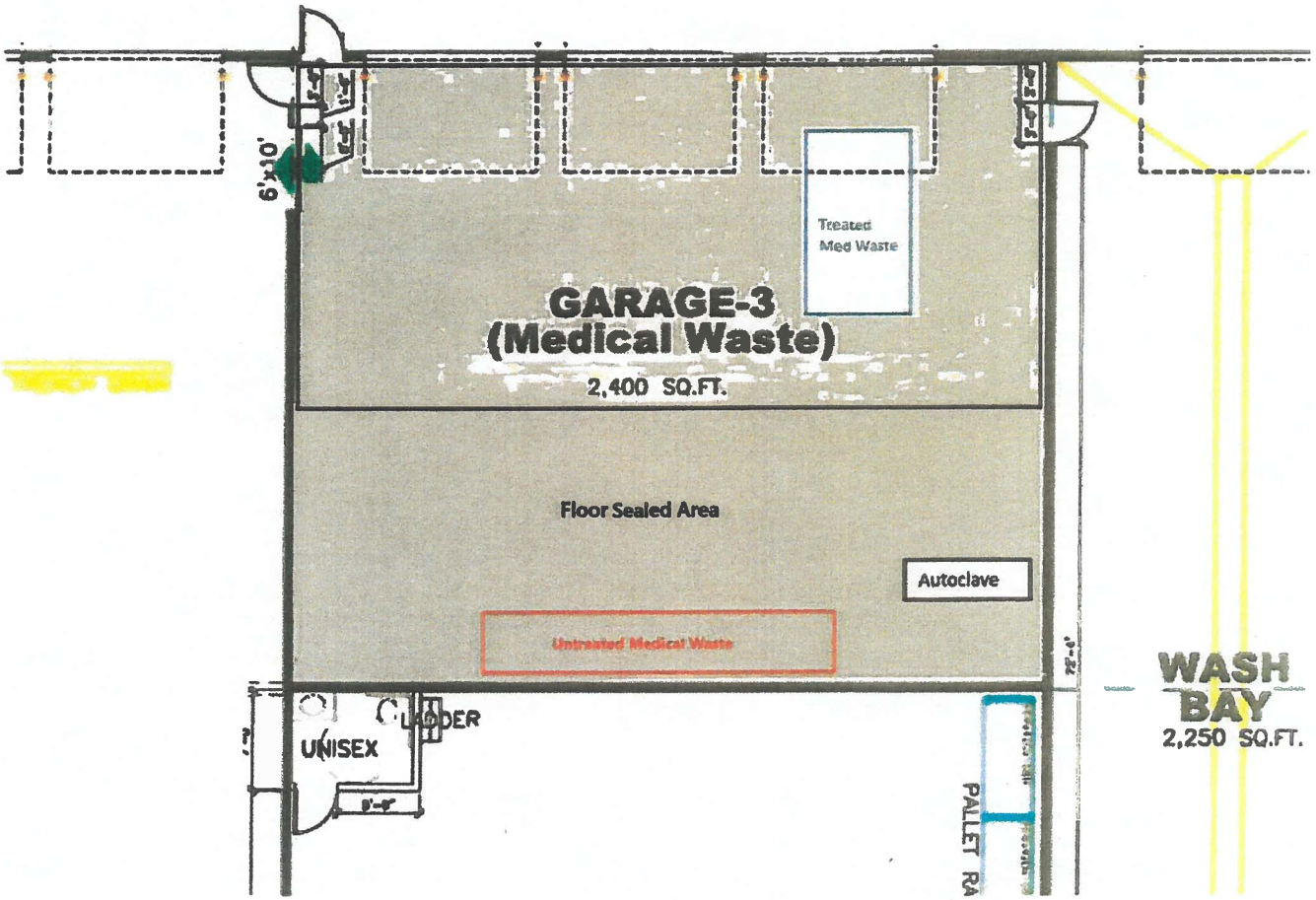
ORDER SPECIFICATIONS

Poly-Astic

Container Size	Item No.
2 gallon kit	PA-1
2 quart kit	PA-25

BRICKFORM® Division Headquarters • 360 South Lilac, Rialto, CA 92376 • Toll Free: 800-483-9628 • Phone: 909-484-3399 • Fax: 217-744-2605

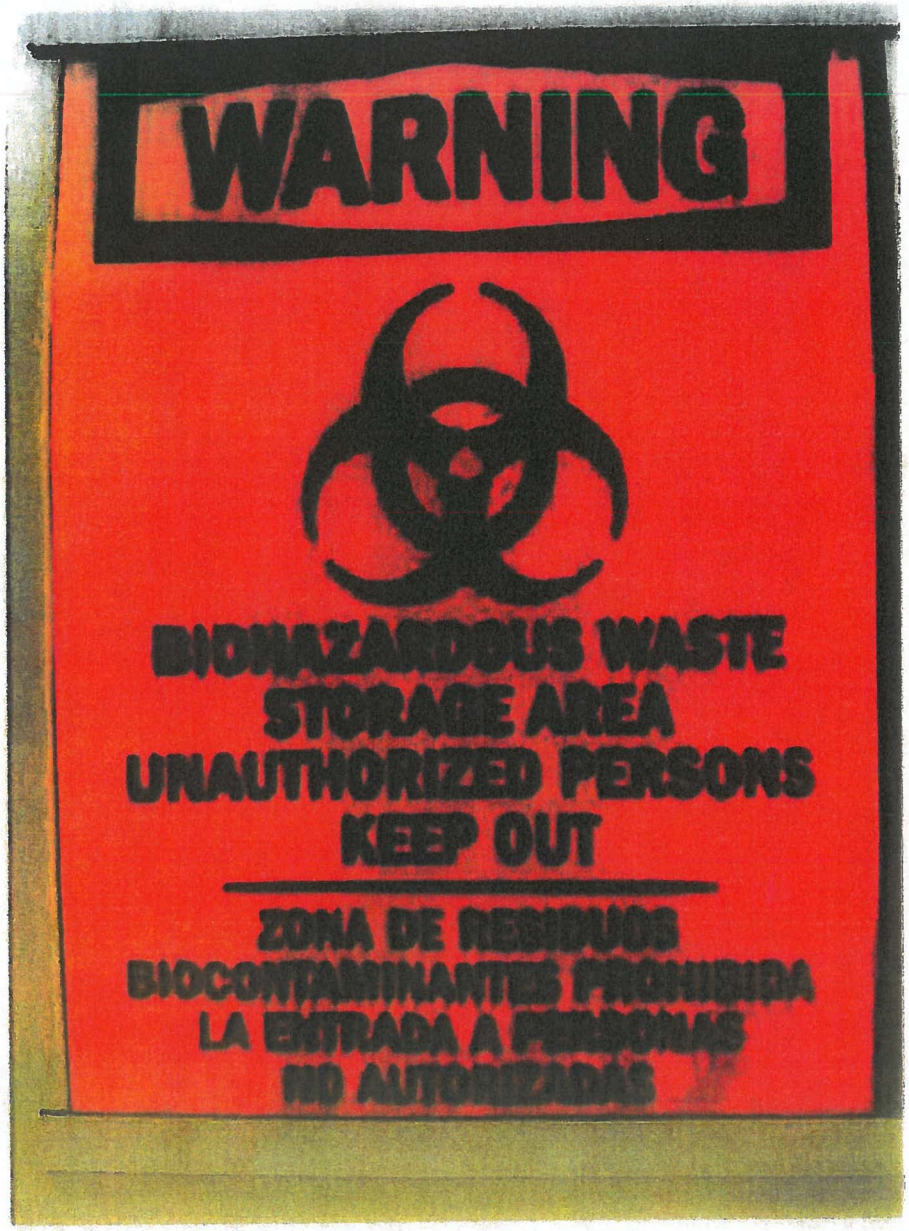
SCALE: 1/8" = 1'-0"



Section 7.2b

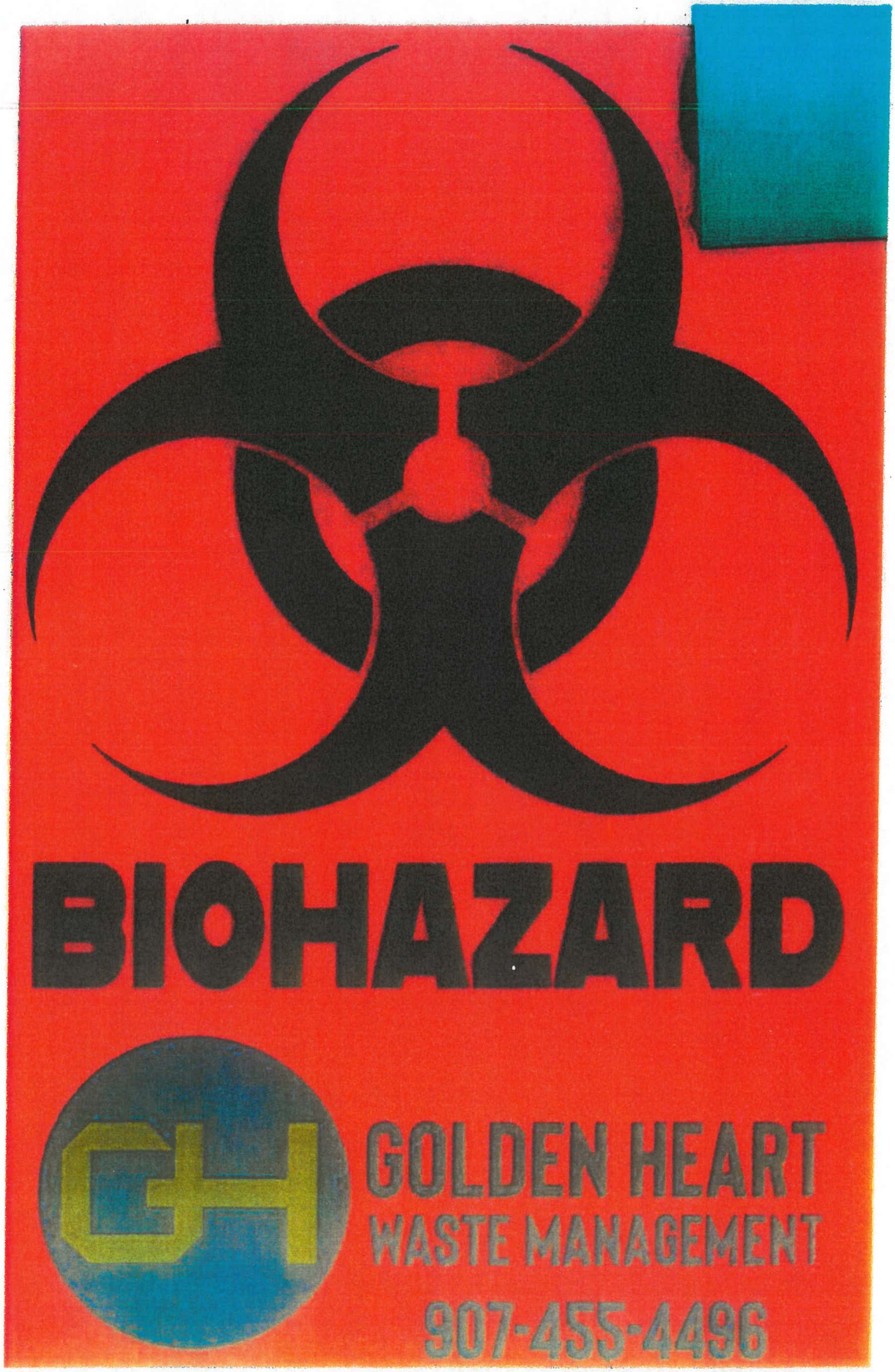
attachment 3

Attachment 4



Section 8.2e

Attachment 4



Attachment 4

Attachment 5

Mark-Costello Waste Sterilizers

GRAVITY WASTE STERILIZER OPERATION AND MAINTENANCE INSTRUCTION

15351 TEXACO AVENUE
PARAMOUNT, CALIFORNIA 90723
PHONE: 562-630-7950
619-582-9083
FAX: 562-630-7960
www.mark-costello.com

12 Pages

section 7.4 c

Attachment 5

WARNINGS AND CAUTIONS!

This unit uses steam, water, and hydraulic oil under pressure and can create vacuum.

Use caution when near the unit as steam pipes, cabinet surfaces, doors, and items just processed are very HOT!
Use gloves and protective clothing for safety and be careful when near any surface of the unit.
NEVER disconnect a utility line under pressure or a mechanism under stress to prevent damage and injury.
NEVER open a door under pressure or vacuum!

Make sure when closing the door mechanism(s) that they are properly engaged and tightened.
The door switch mechanisms are designed to stop operation and empty the chamber if either one opens during a cycle.
Always be sure that no one is inside the unit before starting a cycle.
If a door switch malfunctions, never bypass it or attempt to hold it in the closed position to prevent it from correctly sensing the door being opened or closed.
If a door leaks when under pressure or vacuum, turn off the unit and have it correctly repaired before attempting to operate a cycle.

There are motors and moving mechanisms which contain pinch points and can be dangerous. Never touch components of the unit while it is running or in motion. You may turn the unit off from the control panel or press "Clear" or "Stop" to cancel the cycle.

If leaks develop on the unit, the leaks should be repaired before continuing to run the unit. Damage can result from running a unit while leaking.
NEVER allow water or steam leaks to reach the control box or other electrical components or their wiring. Have the unit serviced to prevent electrical shock.
Do not stand in a puddle of water when operating the controls or servicing electrical components. Use properly insulated protection items when working around electricity and water.

Manufactured parts of this unit contain small tight areas in which parts of the body can become stuck.
Be sure not to jam any part of your body into an area where it may become lodged or hit by a moving component.
There are parts of the unit which can be sharp. Use caution and gloves when touching sharp parts to prevent cuts.
The door(s) of this unit are large and heavy. Do not slam or quickly swing them open or closed to prevent damage and injury.

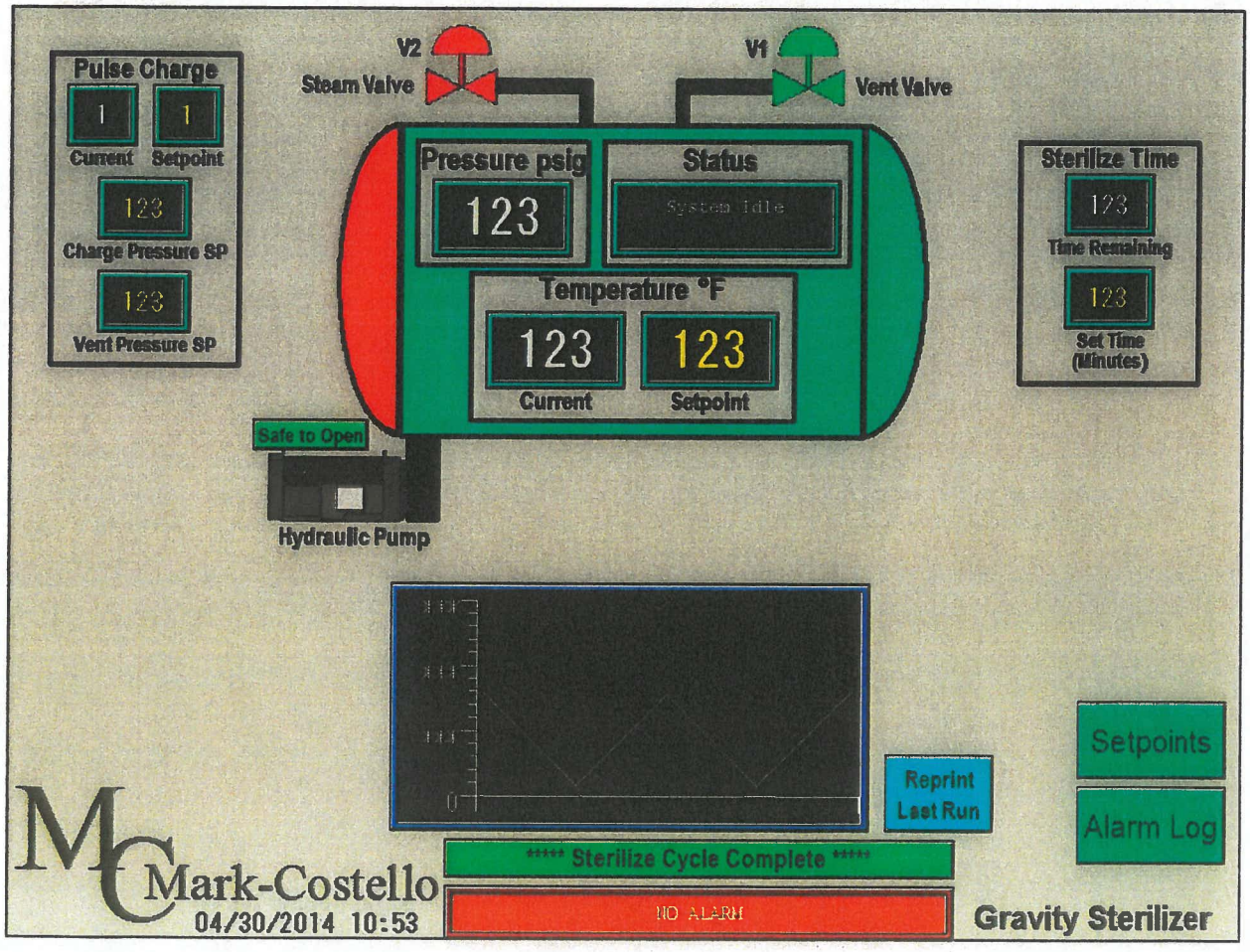
If the unit malfunctions, have it serviced by authorized personnel. Do not attempt repairs if you are not qualified or familiar with the unit.

Borosilicate glass should be used with vented closures to sterilize liquids in glass.
At the end of a cycle, crack open the door and allow the contents to cool.
To prevent injury, do not open the door if bubbling is noticed.

OPERATING INSTRUCTIONS

IF YOU ARE NOT TRAINED OR DO NOT UNDERSTAND THE PROPER AND SAFE OPERATION OF THIS UNIT - DO NOT USE IT!

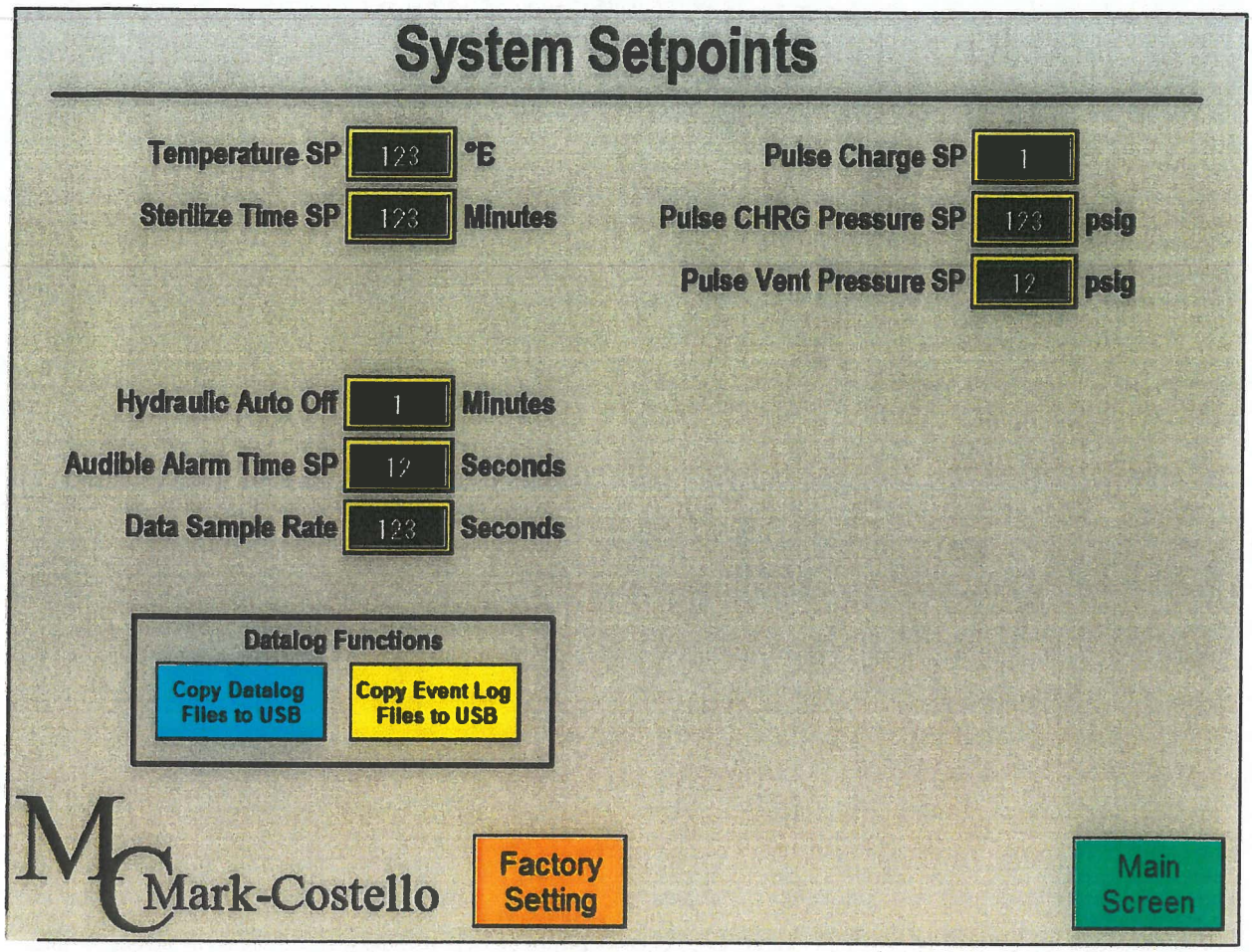
1) Turn on power to unit.
2) Load items in chamber. Close door and engage door lock bar. Press "Hydraulic ON" as needed.
3) Make sure steam, water, and air supplies are available for running a cycle.
4) Press "Setpoints" to adjust cycle parameters as needed.
5) Operate "Start" key switch.
6) The buzzer will sound when the unit has completed the cycle. If the sterilize phase was completed,
7) "Safe to Open" & "Sterilize Cycle Complete" are displayed; if not, "Re-Run Load" will be displayed.



Pressing "E-Stop" disables outputs and cancels the cycle; "Abort" is displayed until the "E-Stop" pulled out. A cycle can also be cancelled by turning the "Power" switch off.

During a cycle:
The printer provides run data.
Chamber temperature and pressure will be printed for the interval selected during the sterilize phase.
A trend chart will update real time during the cycle.
When cycle is complete: Press "Reprint Last Run" to re-print last cycle run summary to printer.
CAUTION: Only operate the manual override if you are trained in its proper use!
Press "MAN" to start the Manual Override timer: control valves by pressing their icons on the screen.

Operator – System Setpoints Screen "Setpoints":



Temperature SP: [Up to 320.0 degrees F & 160 degrees C] Sterilize Temperature
Sterilize Time SP: [2 to 999 Minutes] Sterilize phase time
Hydraulic Auto Off: [1 to 9 Minutes] Hydraulic Pump Auto-Shut-Off Time
Audible Alarm Time SP: [1 to 60 Seconds] Audible Alarm Shut-Off Time
Data Sample Rate: [10 to 120 Seconds] Data Sample and Printing Rate
Datalog Functions used to copy Data files to USB Stick not provided with system.

Pulse Charge SP: [0 to 9] # of pulse excursions to pre-condition load
Pulse CHRG Pressure SP: [10 to 35] Pulse Charge pressure setpoint
Pulse Vent Pressure SP: [2 to 20] Pulse Vent pressure setpoint

On the setting screen, press desired parameter to change.
Enter changes on the numeric keypad.
Press "Enter" and the data value entered will be stored for that parameter.

"Main Screen": Exit to main overview screen
"Factory Setting": Sterilizer factory setting (for Supervisor or Mark-Costello use only)

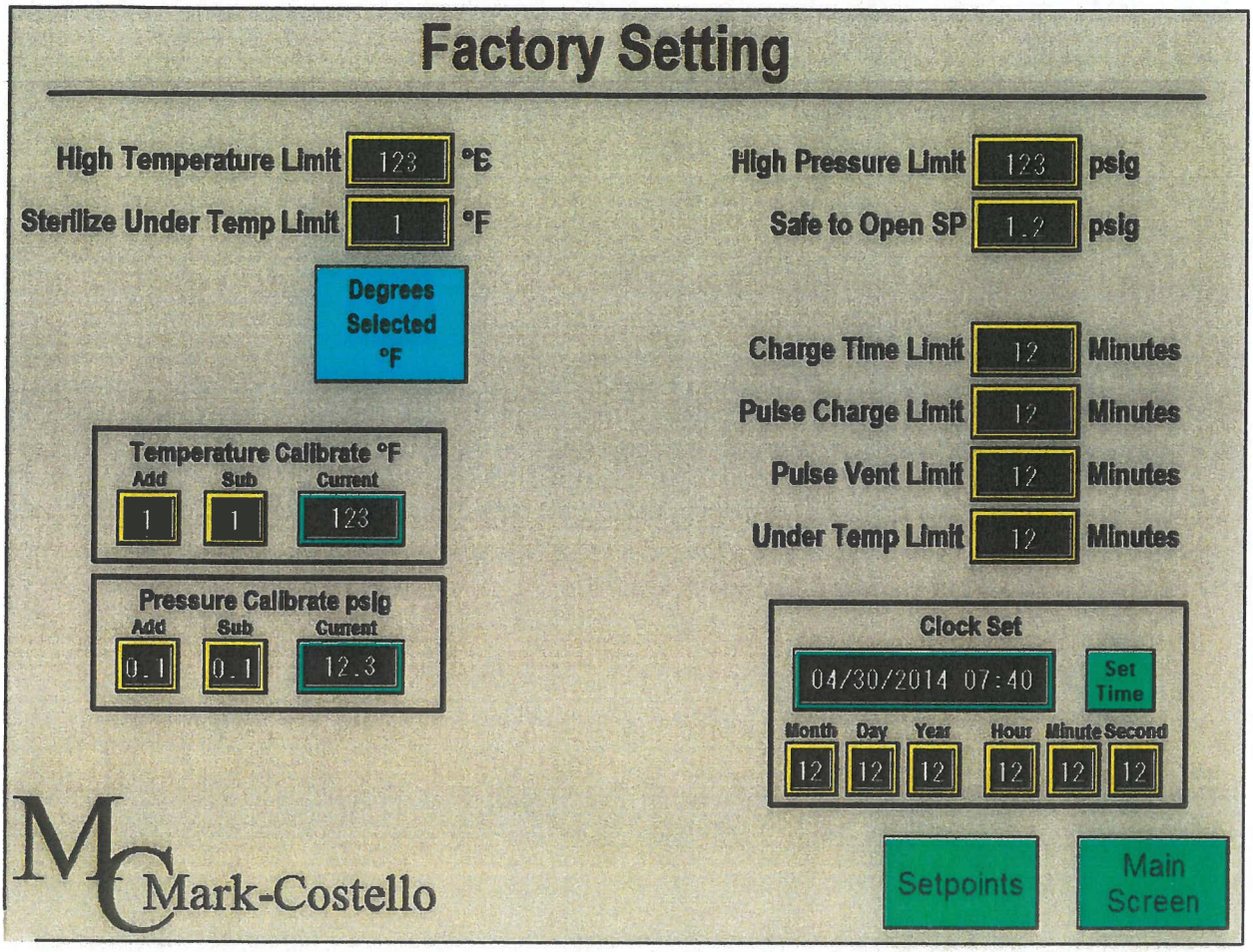
WARNING!

Sterilization of liquids in glass: Only borosilicate glass with vented closures should be used to sterilize liquids in glass. Serious injury and burns are possible from hot liquids. After cycle is completed, unlock and crack open door slightly and let the load cool for several minutes. DO NOT open the door or handle containers if bubbling is noticed in bottles

FACTORY SETTINGS SCREEN INSTRUCTIONS

Page is password protected please consult Mark-Costello for password information.

On the setting screen, press desired parameter to change. Enter changes on the numeric keypad. Press "Enter" and the data value entered will be stored for that parameter.



High Temperature Limit: (320) [0 to 320 Degree F & 160 Degrees C] High Temperature Limit
Sterilize Under Temp Limit: (2) [2 to 9] Under Temperature Limit to Sterilize.
Degrees Selected: (F) [C or F] Select desired temperature scale.
Temperature Calibrate: Add & Sub value to calibrate Current value.
Pressure Calibrate psig: Add & Sub value to calibrate Current value.
High Pressure Limit: (90 psig) [30 to 90] Pressure high limit fault.
Safe to Open SP: (0.5 psig) [0.0 to 1.0] Pressure that it is Safe to open chamber.
Charge Time Limit: (60 Minutes) [1 to 99] Charge time fault.
Pulse Charge Limit: (30 Minutes) [1 to 99] Pulse Charge time fault.
Pulse Vent Limit: (20 Minutes) [1 to 99] Pulse Vent time fault.
Under Temp Limit: (5 Minutes) [1 to 99] Under Temperature time fault.

Clock Set: To change the set time, enter ALL 6 values for Month, Day, Year, Hour, Minutes, Seconds and then press "Set Time".

"Main Screen": Exit to main overview screen
"Setpoints": Go back to Setpoint screen

MAINTENANCE

MECHANICAL:

The control system installed on the sterilizer has virtually no moving parts and requires little maintenance.
Any leaks which develop from the valves or fittings on the machine should be repaired to keep any water from harming the electrical components.
The printer mechanism should be kept clean by using a soft brush to remove debris in the pinch roller area.
Specific maintenance instructions can be found in the printer manual.

The sterilization temperature is totally dependent on putting steam pressure in the chamber and keeping it there.
If the control has turned on the chamber valve and the valve is opening, then the unit may be losing steam through the trap, exhaust valve, or piping leaks.
If the chamber trap gets dirty, it can hang open and blow a greater amount of steam causing the temperature not to reach the set point.
If the trap does not open, then condensed steam will not be drained and the temperature probe will eventually be submerged in condensate and show low readings.
Door gaskets can also allow steam leakage.
They should be checked regularly for nicks or breaks and replaced if necessary.

CALIBRATION:

The control has been supplied with a temperature transmitter and pressure transducer which have been calibrated by their manufacturers.
With regular use, the settings may drift making re-calibration necessary.
The Supervisors setting screen values allow some resetting, however, the accepted method of calibration is comparison to a reference temperature or pressure.

PRESSURE:

In general, the pressure transducer drift will be noticed first when the unit never seems to reach 0 psig indicating the end of the cycle, or on power up.
Small pressure variations can be adjusted with the parameters on the Supervisor Setting Screen.
Significant variations require re-calibration of the pressure transducer.
A whole system calibration is preferred by subjecting the transducer to pressure and vacuum while comparing it to a calibrated reference.

TEMPERATURE:

The temperature can be compared visually to the displayed or printed pressure and manual pressure gauges.
Small temperature variations can be adjusted with the Setup variables.
Significant variations require re-calibration of the temperature transmitter.
A whole system calibration is preferred by placing the probe in a controlled bath while comparing it to a calibrated reference.

ELECTRICAL:

In trying to locate problems with control functions on the units, the starting point is to determine that the control is receiving 120 volt AC power from the building.
Then the power supply output voltages should be checked.
The main is protected by a 15 amp fuse (FU01) and devices after the surge protector by a 10 amp circuit breaker. The screen, analog inputs, and printer are each powered by separate 24 volt DC power supplies.
The power to the screen is fused with a 1.6 amp fuse.
The PLC power is protected by a 1 amp fuse.
Each output line is protected by a 1.6 amp fuse.
The printer is supplied 24 volt DC power supply through a 1 amp fuse.

The next step is to determine that the PLC is receiving the correct input signals. These include:

Variable analog 4-20 mA current from transducer and transmitters,
24 volt ground from switches to PLC,
24 volt DC from 24 volt power supply to analog section.

If all power lines, power supplies, and inputs are operating correctly, the output section should be checked.
If the PLC is energizing an output, its indicator light should be on.
If the desired component is still not energized, check the circuit breaker for that output.
Finally, check for a bad wiring connection, faulty solenoid coil, or a failed valve.

The major cause of problems is due to the PLC receiving incorrect information and acting according to its program to handle this information.
The printout can provide good insight as to the nature of the problem.

1) Determine that all services have been turned on.
2) Check for water damage on electrical components.
3) Check steam pressure.
4) Check line and unit strainers.
5) Check door operation and seal.
6) Check for excessive leaks from components.
7) Check for bad wiring connections.
8) Check for loose wiring connections.
9) Compare pressure & temperature with pressure gauges.
10) Check for component failure.

STEAM PRESSURE/TEMPERATURE TABLE

Temp. Deg F	Abs. PSIA	Gauge PSIG	Temp. Deg F	Abs. PSIA	Gauge PSIG	Temp. Deg F	Abs. PSIA	Gauge PSIG
			240	24.969	10.273	260	35.429	20.733
212	14.696	0.0	242	25.884	11.188	262	36.646	21.950
214	15.289	0.593	244	26.827	12.131	264	37.897	23.201
216	15.901	1.205	246	27.798	13.102	266	39.182	24.486
218	16.533	1.837	248	28.797	14.101	268	40.502	25.806
220	17.186	2.490	250	29.825	15.129	270	41.858	27.162
222	17.861	3.165	252	30.884	16.188	272	43.252	28.556
224	18.557	3.861	254	31.973	17.277	274	44.682	29.986
226	19.275	4.579	256	33.093	18.397	276	46.150	31.454
228	20.016	5.320	258	34.245	19.549	278	47.657	32.961
230	20.780	6.084						
232	21.567	6.871						
234	22.379	7.683						
236	23.217	8.521						
238	24.080	9.384						

CIRCUIT DESCRIPTION

The control design is a PLC/Touch screen connected to a printer, chamber pressure transducer, and temperature transmitter.
It receives analog signals for temperature and pressure, on/off digital signals from the inputs and operates output relays to control solenoid valves, plug-in relays, and buzzer.

The main control box contains two 24 volt DC power supplies connected to 120 volt AC power from the power switch after the surge protector.
One 3 amp supply provides 24 volt DC to the screen, PLC, Printer, and remote access router, a 2 amp supply provides 24 volt DC to the pressure transducer and temperature transmitter.
The door lock safety switch, pushbuttons, and utility pressure switches are sensed with 24 volts DC ground.
The control is shipped with the utility inputs wired on.

The incoming 120 volt AC line (wire#L1) is connected to a 15 amp fuse.
This fuse connects line to the panel kill switch common (wire#1) on the inside swinging panel.
The normally open contact of the panel kill switch connects and power switch normally open contact go to the coil of the Main Contactor (MCR) which breaks power to the system when the door is opened.
The neutral side (wire#N) of incoming AC line connects to the input of the surge protector and the field installed deodorizer and hydraulic pump contact.
The surge protector output connects line to the 10 amp circuit breaker (wire#19).
The E-STOP normally closed contact connects 24 volt DC to a PLC input and to CR1. CR1 breaks the 110VAC power supplied to the PLC outputs (wire#24 & 25).

STARTUP:
When the power switch is turned on, the power supplies are energized and AC line voltage is supplied to the PLC and DC power supplies.
If the E-stop is not pressed, the CR1 is energized and the PLC output commons are connected to line and the output devices are connected to neutral.
When the power up and initialization sequence and is completed, the Main System screen is showing.

START:
If the E-stop is not pressed and the Door Safety Lock Switch is on; when the Start Key switch is actuated, the cycle is initiated. "Cycle Start" with time and date is printed.

PULSE/VENT sequence:

PULSE:
The Exhaust Valve is energized to close it and the Chamber Steam valve is energized until the chamber pressure reaches the **PULSE CHRG PRESSURE SP** set.

VENT:
The Exhaust Valve and Chamber Steam valve are de-energized, allowing steam to exit the chamber. When the pressure reaches the set **Pulse Vent Pressure SP,** the cycle advances to the next **PULSE/VENT** or to **CHARGE.**

The **PULSE/VENT** sequence alternates between steam pulse and evac for the set number of **PULSE/VENT.** When this number has been reached, the cycle advances to **CHARGE.**

CHARGE sequence:
The Exhaust valve is energized to close it and the Chamber Steam valve is energized to admit steam to the chamber. When the sump temperature probe reaches the set sterilization temperature, the cycle advances to **STERILIZE.**

STERILIZE sequence:
"Sterilize Start" is printed with the time and date and the sterilizer timer starts counting down from the set time value entered. The temperature is controlled to the set sterilization temperature plus the overdrive setting, which becomes the target. The Steam Valve is energized when the temperature falls below the **Temperature SP** from the Setting and de-energized when the sump temperature goes above the **Temperature SP** by (2) degrees.

The screen shows the time set and the Time Remaining, sump temperature, and chamber pressure. The temperature and pressure are printed when sterilize starts and each interval of the **Data Sample Rate** setting during the cycle. If the sump temperature falls below the sterilization set point minus the **Under Temp SP**, the Sterilizer timer haulted until the temperature is back in range. When the timer reaches 0, the chamber steam valve is de-energized and the cycle advances to **VENTING.** If the temperature stays below the **UNDER Temp SP** for longer than the **Under Temp Limit**, the cycle is aborted.

STEAM VENTING sequence:
The Exhaust Valve is de-energized to allow the steam to exit the chamber. When the Steam Vent Level setting is reached, the cycle advances to **COMPLETE.**

COMPLETE sequence:
The Buzzer is energized for the set number of seconds to indicate that the cycle has completed.
The Buzzer is then de-energized.
"Sterlize Cycle Complete" is printed with the time and date.
The number of minutes for the set sterilization time at the set sterilization temperature is printed.
The screen shows "Sterlize Cycle Complete" then "Safe to Open".
When the door safety switch has been unlocked, the screen shows "Ready". The unit is now ready to be unloaded and then ready for the next run.

If the unit reached the Complete phase and Sterilize was not completed, "Re-Run Load" is displayed and printed.

ERRORS

The control system receives inputs from the temperature probes/transmitter and pressure transducer.
If the temperature probe or transmitter fails, a value or "0" will be displayed.
If the pressure transducer fails, a negative reading will be displayed.
To determine an approximate reasonable sterilize cycle temperature/pressure relationship; consult the pressure/temperature chart in the manual.
The maximum temperature and pressure settings are watched during the cycle.
If either is reached, the steam valve is de-energized to stop providing steam to the unit.
The Pulse phases are also limited to the set sterilization temperature and, if reached, the chamber steam valve is de-energized.
If power is lost during a cycle, the emergency stop button is pressed, or the door safety switch is unlocked; the valves will de-energize.
Check the indicator lights on the PLC to see if it is running a program or if there is a fault.

Attachment 6

Installation, Operating and Maintenance Instructions

For

The Mark-Costello Company Biomedical Waste Steam Sterilizer AS – Series Gravity Displacement Units

MANUFACTURER:
The Mark-Costello Company
15351 Texaco Ave.
Paramount, CA, USA 90723
Phone 562-630-7950 Fax 562-63(

30 Pages

section 7.4 c

Attachment 6

I. TABLE OF CONTENTS

Section & Title **Page**

I. TABLE OF CONTENTS (continued)

1. INTRODUCTION

THANK YOU FOR PURCHASING A MARK-COSTELLO STERILIZER.

This product is designed and constructed to give you many years of reliable service and superior performance. To guarantee top performance and the safest operation of the Sterilizer, the employer(s) and each person involved in the installation, setup, operation, and maintenance of the Sterilizer should read and thoroughly understand the instructions in this manual and follow all warnings.

IF YOU SHOULD NEED FURTHER ASSISTANCE, HAVE ANY SAFETY CONCERNS WITH THE EQUIPMENT, OR NEED FURTHER INFORMATION, PLEASE CONTACT US AT THE PHONE NUMBER LISTED ON THE COVER PAGE OF THIS INSTRUCTIONAL MANUAL. YOU WILL NEED TO PROVIDE THE STERILIZER "LAAT" SERIAL NUMBER LISTED ON THE EQUIPMENT NAMEPLATE.

2. GENERAL

Please read this operating instruction carefully in order to guarantee a safe operation of this pressure equipment. Follow all warnings and instructions described in this manual, and marked on the equipment. Save this operating instruction for later use.

2.1 Description of the symbols and signs used in these operating instructions

Special attention shall be paid at this section of the Instruction

2.2 Description of the signs / warnings attached to the pressure equipment / assembly

DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING: Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury. Hazards identified by the signal word WARNING present a lesser degree of risk of injury or death than those identified by the signal word DANGER.

CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

3. USE OF THE EQUIPMENT

3.1 Intended Use

This pressure equipment must be used for the intended use only.
Operating apart from the intended use is not permitted.

The Sterilizer's intended use is for the sterilization of Regulated Medical / Clinical Wastes (RMW), originating from hospitals, clinics, or other medical or veterinary healthcare facilities, or similar regulated waste materials from other sources such as international flight kitchens or carriers.

RMW is not considered to be hazardous, or lethal, for PED classification.

Though the Sterilizer is used to sterilize RMW, it is not considered to be medical equipment.

The sterilized RMW removed from the Sterilizer chamber is considered safe for transport, and disposal, in the same manner used for ordinary municipal solid waste (trash).

3.2 Use Restrictions

NEVER put the following materials into the Sterilizer:
- Solvents, or volatile or corrosive chemicals (e.g., phenol, ethanol, methanol, ether, chloroform, trichloroacetic or other acids, bases, etc.).
- Radioactive materials
- Hazardous wastes
- Cytotoxic wastes
- Liquids in sealed containers. Large bottles with narrow necks can simulate sealed containers if filled with too much liquid.

Treatment of anatomical body parts and animal carcasses are not appropriate uses, because of their density, which prevents adequate steam penetration unless processed for an extended period of time.

Make sure seals on containers of liquids are loose so vapor expanding during heating will not cause an explosion.

Never autoclave any flammable or volatile liquids because the resultant vapor formed when heated could explode when mixed with fresh air entering the Sterilizer when venting, or opening the Sterilizer door(s).

4. STERILIZER DESCRIPTION AND SPECIFICATIONS

4.1 General Equipment Description

The equipment is as shown on the furnished factory assembly drawings.

These equipment pressure components are built in conformity with the Manufacturing Licensing System. This furnished over-pressure safety relief valve (SRV) is also built in compliance.

The Sterilizer is a registered pressure vessel, equipped with the requisite piping, valves, safety and pressure accessories, instrumentation, controls, hydraulic systems, and external thermal insulation, required for the safe operation, control, and protection of the equipment and operating personnel.

Also supplied with the Sterilizer are:
- Aluminium material handling carts (or aluminium pull out drawer).
- A hydraulically activated door lock/unlock (OPTIONAL EQUIPMENT).
- Electronic Controller

RMW is placed into the furnished carts, which are then loaded into the Sterilizer chamber where the RMW is heated to an elevated temperature by direct contact with saturated steam. The RMW is rendered sterile by maintaining it at a prescribed elevated temperature for a prescribed period of time. The Sterilizer's electronic Controller automatically controls all operating parameters.

4.2 Equipment Life

The operating life of the Sterilizer vessel is limited only by the specified corrosion allowance. The vessel may be operated up until the time that the corrosion on any pressure boundary surface equals the corrosion allowance listed on the nameplate.

Corroded components can be repaired, or replaced, to allow continued operation of the pressure equipment. Such repairs, or replacement, shall conform with the original design Code, and all legal jurisdictional requirements.

The Sterilizer vessel is not subject to cyclic fatigue when used within normal operating parameters.

The furnished pressure accessories, instrumentation, gauges, and optional hydraulic components, must be routinely inspected, tested, recalibrated, and serviced when needed. Failed component(s) shall be replaced with identical, or equal, component(s) obtained from The Mark-Costello Co.

The furnished safety accessories must be routinely inspected, tested, and recalibrated when needed. Failed component(s) shall be replaced with identical, or equal, component(s) obtained from The Mark-Costello Co.

4.3 Authorized Replacement Parts

All replacement parts shall be obtained from The Mark-Costello Company. The installation and use of replacement parts obtained from suppliers other than The Mark-Costello Company is prohibited, and will void the equipment warranty, unless such use is approved in writing by The Mark-Costello Company. The user/operator of the equipment will assume all legal and financial liability for equipment failures resulting from the use of unauthorized components.

5. SPECIAL STERILIZER FEATURES (Applies only to Vacuum Units)

5.1 Sterilizer Operating Controller (vacuum units only)

The Sterilizer is equipped with an electronic PLC Controller that automatically controls all Sterilizer operating functions. See the separate Sterilizer Controller Manual for the complete details of the Controller, and instructions on its operation and use.

5.2 Special Operating Modes (vacuum units only)

This Sterilizer is configured to operate in the "Full Condensing Mode."
All condensable gases and vapors discharged from the Sterilizer during the cycles are externally condensed and cooled in the separate Condenser/Vacuum Pump Skid, prior to final discharge. The Condenser/Vacuum Pump Skid also cools all liquids, prior to their discharge to the sanitary sewer.

5.3 Condenser/Vacuum Pump Skid (vacuum units only)

The Condenser is a water-cooled heat exchanger located upstream of the Vacuum Pump inlet. It condenses and cools all condensable vapors, and cools all non-condensable gases, discharged from the Sterilizer during the process cycle.

The Vacuum Pump is a liquid-ring type, and is used to evacuate the Sterilizer chamber during the Pre-Vac, Post-Vac, and Drying phases of the operating cycle. The liquid-ring pump service water provides supplemental condensing and cooling capacity.

See the Condenser/Vacuum Pump Skid Manual for the complete detailed instructions for the installation, operation, and maintenance of this equipment.

6. TRANSPORTATION, UNLOADING, AND STORAGE

6.1 Equipment Transport

The Sterilizer assembly is as shown on furnished factory assembly drawing.

After assembly and testing at Mark-Costello's manufacturing facility, the Sterilizer is prepared for shipping by removing those external components required for shipping clearance, or protection during shipping.

Referring to the furnished Assembly drawing, the components removed for shipping will generally include the following:

- The main control panel (at the front elevation of the vessel).
- All external valves, gauges, and piping (excluding hydraulics) at the first pipe union, or threaded joint, nearest the vessel.
- Other components, which may include hydraulic pumps and valves, that may be required for shipping clearance or protection.

All disassembled Sterilizer components are tagged for easy identification, and are packaged for shipment, usually inside the Sterilizer.

The Sterilizer will be secured to, and shipped on, an open intermodal shipping container. Shipped inside the Sterilizer vessel are, one set of material handling carts, the disassembled Sterilizer components discussed above, and possibly other components or accessories. All parts shipped inside the vessel will be secured for shipping.

All other furnished equipment, accessories, and components will be packed (as required for protection), and be shipped inside the Sterilizer, on the Sterilizer shipping container, or in a separate enclosed intermodal shipping container.

During transport, unloading and installation excessive shocks must be avoided.

6.2 Offloading The Sterilizer at The Installation Site

6.2.1 Offloading Personnel Qualifications

All personnel involved with the offloading, movement, and placement of the Sterilizer and other components shall be trained and experienced riggers.

6.2.2 Offloading The Sterilizer From The Shipping Container and or Flatbed Truck

Mobile, or overhead crane(s), shall be used to lift the Sterilizer off of its shipping container, and for subsequent handling and placement.

All crane(s), lifting equipment and rigging used for the lift, including slings and shackles, shall be of sufficient certified capacity to safely lift and place the load.

Typically two (2) lifting lugs are provided on the top of the Sterilizer vessel: one near each end.

All lifting lugs shall be employed when lifting the Sterilizer vessel.
All lifting slings shall remain in a veritical plane during the lift.

If a single cranes is used to lift the Sterilizer, a certified spreader beam of sufficient length shall be employed. The distance between spreader beam attachment points for the load slings shall be approximately equal to the longitudinal distance between Sterillizer lifting lugs.

If two cranes are used to lift the Sterilizer vessel, the movement of the cranes shall be coordinated to insure that the Steriizer load slings remain in a veritical plane throughout the lift.

Lifting Procedure (miniumum requirements):
- Secure the crane rigging to the Sterilizer lifting lugs
- With the Sterilizer vessel still secured on its transporter, test and inspect the crane(s), all rigging, and the ground supporting the crane(s), by assuming (hoisting) a portion of the full Sterilizer vessel load on the crane(s).
- When safe to proceed, reduce the load on the crane(s) sufficiently to keep the rigging taunt, but allow the shipping restraints to be removed.
- Release and remove the shipping restraints that secure the Sterilizer vessel to its shipping container.
- Hoist the the load up until it is lifted just clear of its transport container, and stop.
- Inspect the crane(s), all rigging, and the ground supporting the crane(s).
- When safe to proceed, continue wiith lifting and placing the vessel.
- The lifting and handling shall proceed in a slow and safe manner with minimum dynamic load impact.
- The load shall be kept level at all times.

Alternate lifting and rigging plans shall be approved by The Mark-Costello Company.

Once offloaded, subsequent movement of of the Sterilizer vessel may be by use of crane(s). Alternatively, the vessel may be rolled by using dollies (or machinery rollers) placed under the two Sterilizer support saddles.

6.2.3 Offloading The Other Equipment and Components

Use a crane, fork lift, pallet jack, or man power, as appropriate, to offload the other equipment and components from the shipping container/flatbed).

6.2.4 Unloading Components Shipped Within The Sterilizer Vessel

The components shipped inside the Sterilizer may be unloaded prior to, or after, the Sterilizer has been secured to its supporting operating foundation.
The Sterilizer Quick-Opening Door (QOD), or Door(s), must be opened to gain access to these components.

During normal operation, the (each) Sterilizer QOD is hydraulically actuated: for both door unlocking, and door swing. However, the QOD can be manually unlocked and opened. To manually open a QOD:

- Set the Sterilizer on a stable and level hard surface.
- Rotate the handle of the Sterilizer door safety devices 90 degrees to its open position.
- Use the steel manual lever bar (furnished with the equipment), or a long tapered pinch bar, to incrementally rotate the Sterilizer door lock-ring until it is in the fully unlocked position. Block, or otherwise restrict, the door from swinging open during this step.
- Slowly swing the door open to access the interior of the Sterilizer. Use precaution when opening the door, as internal contents may have become loose during shipping, and could fall out as the door is opened.

- Remove the shipping restraints that secure the contents in the vessel. Before removing the restraints, install wedges or wheel stops to block the wheels of the carts inside the Sterilizer, to keep them from accidentally rolling out of the vessel.
- The contents are heavy. Use a forklift or other mechanical lifting device(s) to remove the contents shipped inside the Sterilizer vessel.
- After emptying the contents from the Sterilizer, swing the door(s) shut, lock the door(s) by manually rotating the lock-ring(s), and rotate the handle on the door safety device(s) 90 degrees to the locked position.

The Sterilizer door(s) must be locked in the closed position when lifting, or moving, the Sterilizer.

6.3 Equipment Storage Prior To Installation

Once offloaded from their intermodel tranport container, all components shall be placed in in a safe and secure storage area until installed.

The Sterilizer can be stored outside for a short duration. If stored in an unsecured area, the Sterilizer Quick-Opening Door(s) shall be secured against opening by installing a cable or pad lock on the manual door opener bracket.

All other furnished components and equipment shall be stored indoors.

7. EQUIPMENT INSTALLATION

7.1 Placing and Setting The Sterilizer Vessel On Its Foundation

The Sterilizer vessel shall be installed on its foundation piers, as shown and specified on the furnished installation drawings.

All personnel involved with the movement, and placement of the Sterilizer and other components shall be trained and experienced riggers.
If using a crane (or cranes) to set the Sterilizer vessel, follow the requirements and applicable precedures previously specified for offloading the vessel.

Alternatively, the Sterilizer vessel may be rolled into its installed position, using dollies or machinery rollers placed under the two Sterilizer support saddles. The procedure for their use shall be as follows:

- Roll the vessel into position over its foundation pedestals located in the Sterilizer pit. Use blocked and leveled steel beams in the pit, located under the roller path of each set of dollies.
- Use hydraulic jacks to lift each end of the vessel up, and remove the rollers and beams. Jack one end of the vessel at a time, with the other support saddle founded on its roller beam, or cribbing blocks.
- With the roller beams removed, use jacks to incrementally lower the vessel onto its support pedestals. Always keep cribbing under the vessel support saddles on the end(s) being jacked, to support the vessel in the event of jack failure.
- Use multiple jacks under each vessel support saddle when jacking.
- Lower the vessel as close to its support pedestals as the jacks will allow. We strongly recommend the use of toe type jacks for this operation.
- Jacks may be placed under the inboard end of the door lock-rings for the final increments of jacking.

Anchor the Sterilizer to its supporting foundations in accordance with the installation drawings. Pay special attention to the requirements specified for the expansion saddle, including lubrication of the slide plate, and tighting of the anchor bolts.

7.2 Equipment Installation

All installation personnel shall be qualified pipe fitters, electricians, and technicians.

Place the Sterilizer and all ancillary equipment in their operating positions, and secure them to their foundations.

Install all Sterilizer components that were removed for shipping in accordance with the furnished assembly and PID drawings. The Sterilizer connections, and all loose shipped components, are tagged for easy indentification.

Install and connect all user furnished piping, components, thermal insulation, and electric conduit and devices, needed to complete the systems.

The installed Sterilizer piping shall be in accordance with the furnished assembly and PID drawings.

7.3 User Furnished Pipe & Conduit Supports

The user shall furnish and install adequate supports for all external piping and conduits.

The pipe and conduit supports shall allow for thermal expansion and contraction of the Sterilizer, and the supported piping and conduit, while minimizing piping loads on the Sterilizer, piping and conduit, and operating equipment connections.

7.4 User Furnished Thermal Insulation

The Sterilized vessel is factory insulated.

The user shall furnish and install all required thermal insulation for the installed piping, for both process requirements and personnel protection.

All user installed steam lines shall be insulated unless otherwise noted.

The following factory furnished Sterilizer piping shall be field Insulated:
- Steam supply lines to the Sterilizer control valve, & pipe between control valve & Sterilizer.

Do not insulate
1. The valve bodies, or valve acutators, of the actuated valves furnished with the Sterilizer.

7.5 Safety Distances

The vessel shall be installed in a way that it can be safely operated and maintained

7.6 Warning of Freeze Protection

The purchaser/user of the Sterilizer is responsible for providing freeze protection for the equipment if the installation is subject to freezing.

Contact The Mark-Costello Company for recommended freeze protection requirements and practices for the Sterilizer, and other auxiliary equipment and components supplied by The Mark-Costello Company, and for advice on the protection of the user furnished/installed piping and components.

8. PRE-OPERATION SETUP AND STARTUP

A factory technician will be on site to perform the pre-operation set-up and start-up of the Sterilizer and Condenser/Vacuum Pump Skid, after the user has completed the equipment installation. The technician will also train the users responsible personnel on the proper operation, use, and maintenance of the furnished equipment.

9. PRE-OPERATION INSTRUCTIONS AND CAUTIONS

THE EMPLOYER SHOULD ALLOW ONLY AUTHORIZED AND TRAINED PERSONNEL TO OPERATE THIS STERILIZER.
The Sterilizer is equipped with a key operated locking system.
The key(s) should be in the possession of only authorized personnel.

ONLY AUTHORIZED PERSONNEL SHOULD BE ALLOWED INSIDE THE FRONT PANEL OF THE STERILIZER CONTROLLER ENCLOSURE, OR INSIDE THE ENCLOSURE THAT CONTAINS THE VALVE ACTUATOR ELECTRO-PNEUMATIC SOLENOID VALVES. These enclosures contain high voltage components.
See Lock-Out & Tag-Out Instructions in the Maintenance section of this Manual.

ONLY AUTHORIZED PERSONNEL SHOULD BE ALLOWED INSIDE THE STERILIZER CHAMBER.
Minimum safe practice for entering the Sterilizer chamber

1. Do not enter the Sterilizer chamber unless it is safe to do so.
2. Lock-Out and Tag-Out all attached energy sources before entering the Sterilizer chamber. This includes electric power, steam pipes, compressed air, pipes and hydraulic line pressure.
3. When entering the Sterilizer chamber, always have a second person acting as a safety watch.
4. The safety watch must be positioned to have a clear view of the personnel entering and within the Sterilizer/ Sterilizer operating controls and other activity in the area.
5. Avoid entering the Sterilizer when it is hot.
6. Before entering the Sterilizer, visually inspect the Sterilizer chamber temperature gauge(s) to assure that the Sterilizer is cool enough to enter.
7. When entering the Sterilizer proceed slowly, and withdraw immediately if the ambient temperature inside the Sterilizer is deemed uncomfortable, or too hot for safe entry.

NEVER CLOSE THE STERILIZER DOOR(S) WHEN PERSONNEL ARE INSIDE THE STERILIZER.

Safe practice for opening the Sterilizer door(s)

Never attempt to open the Sterilizer door(s) until:

The display on the Control Panel instructs that it is safe to open the door(s).

1. The pressure gauges indicate that there is no pressure or vacuum in the chamber.
2. The door safety device is opened, and there are no visible or audible signs of gas or vapor flowing out of (discharging) the door safety device ball valve.
3. Do not attempt to force the door safety device open.

Stand away from, and to the side of, the Sterilizer door(s) when unlocking, opening, and closing the door(s).

Safe practice for unlocking the Sterilizer door(s)

1. Proceed cautiously when rotating the door lock-ring.
2. Slowly rotate the door lock-ring when unlocking.
3. As the door lock-ring rotates, beware of any steam exiting the door, which indicates that there is still pressure in the chamber. Immediately stop rotating the door lock-ring if steam or vapor is seen, or heard, exiting the door.
4. Do not continue to rotate the door lock-ring until the steam (or vapor) flow has ceased, and you are sure it is safe to proceed.

DO NOT ALTER, OR OTHERWISE ATTEMPT TO DEFEAT, THE STERILIZER DOOR SAFETY DEVICES.
DO NOT OPERATE THE STERILIZER UNLESS THE DOOR SAFETY DEVICES ARE IN PROPER WORKING ORDER.

The hydraulics power unit(s) and valves that unlock and lock the Sterilizer door(s), and swing the door(s) open and close have been factory set to perform these functions in a safe manner. **NEVER ALTER THIS EQUIPMENT IN ANY WAY, OR CHANGE THE FACTORY SET PRESSURE AND RATE OF FLOW SETTINGS, WITHOUT FIRST CONSULTING THE FACTORY**

Electric power to the Sterilizer door hydraulic power unit(s) is interlocked with the door safety device(s) and the Sterilizer control panel, and prevents the power unit(s) from being energized to unlock the door(s) until it is safe to do so. **NEVER ALTER THIS EQUIPMENT IN ANY WAY, OR DEFEAT THE FACTORY INTERLOCKS.**

ALL OPERATING PERSONNEL SHALL WEAR PROPER PERSONAL PROTECTIVE EQUIPMENT WHEN OPERATING THE STERILIZER, OPENING AND CLOSING THE STERILIZER DOOR(S), LOADING AND UNLOADING THE STERILIZER, AND HANDLING THE STERILIZER CARTS.
Proper personal protective equipment includes heat insulating and cut resistant gloves, eye protection, safety toe shoes, and heat protective clothing with long pants and long sleeves.

10. IMPORTANT SAFETY PRACTICES

In addition to the cautions listed in the previous section, there are other important safe practices that will minimize the chance of an accident, or injury, occurring, and also increase the functionality of the autoclave. These important safe practices are listed below.

1. Read and follow all instructions, precautions, and recommendations contained in this Manual, and the Controller.
2. Never exceed the Manufacturer's recommended operating pressures and temperatures.
3. Ensure that regular maintenance inspections of the Sterilizer and ancillary equipment are performed in accordance with this Manual and Manuals for the ancillary equipment.
4. Report all malfunctions to the supervisor. Lock-Out and Tag-Out the equipment electrical disconnects, and conspicuously tag the equipment as "Out-of-Service." Do not operate the equipment until the malfunctions are addressed, and it is safe to resume operation.
5. Do not place or store combustible, flammable, or volatile, materials or liquids on or adjacent to the Sterilizer.
6. Do not operate the Sterilizer unless you have received specific operation instructions or are working under the direct supervision of an experienced autoclave worker.
7. Do not enter the Sterilizer chamber unless authorized to do so. See the "Safe practice for entering the Sterilizer chamber" Manual section before attempting to enter the Sterilizer.
8. Before using the Sterilizer, check to make sure no items were left inside by the previous user that could pose a hazard.
9. Clean the chamber internal sump drain strainer(s) each day before running the first cycle.
10. Make sure the Sterilizer door(s) is (are) fully closed and locked, the door safety device(s) is (are) latched closed, and the correct cycle is selected, before starting the cycle.
11. All operating personnel shall wear proper personal protective equipment, including protective gloves, eye protection, safety toe shoes, and heat protective clothing.
12. Stand clear when lowering and raising the cart bridge(s).
13. The Sterilizer is steam heated, and operates at high temperature. Burns can result from unprotected physical contact with the Sterilizer, external appurtenances & piping, & carts.
14. When operating the Sterilizer door(s), always follow the instructions in the "Safe practice for opening the Sterilizer door(s)" section in this manual.
15. When unlocking and opening the Sterilizer door(s), stand away from and to the side of the door(s). Beware of a rush of steam exiting the door(s).
16. Take extra precaution when unloading hot Sterilizer carts at the completion of a cycle. Keep faces and body clear of the carts. Liquids in containers within the carts can potentially flash to vapor when the carts are moved, or jostled. Explosive breakage of glass vessels during opening and unloading as a result of temperature stresses can lead to mechanical injury, cuts, and burns.
17. Always wear heat-insulating gloves when handling the Sterilizer carts/pull out drawer, even when empty. The best practice is to ALWAYS assume that all carts are hot.
18. Do not attempt to open the Sterilizer door(s) until the display on the pressure gauge above the sterilizer door reads/displays "0" depicting the vessel is no longer pressurized.
19. Do not open the Sterilizer door(s) if a cycle is terminated prematurely by operator action, or electric power failure. Restart the Sterilizer cycle and allow it to run to its completion, or wait until the Sterilizer has cooled before opening the door(s).

11. DESCRIPTION OF THE STERILIZER OPERATING CYCLE

The Sterilizer operating cycle is automatic and fully controlled by its Electronic Controller.

The Sterilizer operating cycle consists of five sequential phases, which are:

- **1.** Saturated steam flows into the Sterilizer chamber, heating the vessel & the RMW within the chamber, while raising the chamber internal pressure and temperature.
- **2.** Steam continues to flow into the Sterilizer chamber to continue heating the vessel and RMW to the programmed sterilizing temperature. Normal programmed sterilizing temperature is 135 ºC. (275ºF).
- **3.** Steam flow to the chamber is regulated to maintain the Sterilizer chamber at sterilizing temperature for a programmed period time to achieve sterilization of the RMW. Typical sterilization time is 45-60 minutes, or as validated by testing, or as otherwise prescribed by regulatory authorities.
- **4.** Cycle time is complete-steam flow to the Sterilizer chamber is shut off, and the chamber is depressurized by venting steam to atmosphere until the pressure within the chamber drops to near atmospheric pressure conditions.
- **5.** The Sterilizer door is opened (after visual check of pressure gauge above sterilizer door displays "0"). Treated RMW is moved to trash compactor for disposal.

12. STERILIZER OPERATION

12.1 Loading the Sterilizer

All materials to be processed in the Sterilizer shall be loaded into the carts or pull out drawer furnished with the Sterilizer. Never place materials directly on the Sterilizer bottom.

Disposable cart liners should be used to contain loose materials within the carts, and prevent melted plastics and materials from building up on the cart walls. The liners must be perforated to prevent steam condensate from collecting in the carts during the process cycles.

The typical red plastic trash bags used by hospitals for RMW, and other non-autoclavable bags, will disintegrate during sterilization, spilling their contents within the cart, or autoclavable container into which they are packaged.

Materials in autoclave bags, and corrugated cardboard boxes, can be loaded directly into the lined Sterilizer carts. It is recommended that all autoclavable bags be loosely closed, and all boxes be open or partially open, to allow for steam penetration. If this practice is not followed, the normal programmed processing time may not be adequate to insure sterilization, and it becomes the user's responsibility to establish, and validate, the appropriate programed time required to attain & assure sterilization.

NEVER put the following materials into the Sterilizer:

- Solvents, or volatile or corrosive chemicals (e.g., phenol, ethanol, methanol, ether, chloroform, trichloroacetic or other acids, bases, etc.).
- Radioactive materials
- Hazardous wastes
- Cytotoxic wastes
- Liquids in sealed containers.

If loaded into the Sterilizer, liquids may boil and turn to gases when heated. If flammable, or combustible, these gases could ingnite, or explode, when the Sterilizer door is opened. Other gases may pose potential health hazards for the operators if directly exposed. The post-evacuation phase of the normal operating cycle should mitagate, or reduce, these potential hazards, but the operators should always be aware of their possiblity and treat every load with the same caution.

Before loading containers of liquids into the Sterilizer carts or drawer, the caps must be loosened to vent the containers, to avoid having the container shatter during pressurization. Large bottles with narrow necks can simulate sealed containers if filled with too much liquid.

12.2 Unloading the Sterilizer

The following procedures and precautions should be followed when unloading carts/drawer from the Sterilizer:

- When opening the Sterilizer door(s) to unload the carts, follow all the procedures in the "Safe practice for opening the Sterilizer door(s)" section of this manual.
- Take extra precaution when unloading hot Sterilizer carts at the completion of a cycle. We recommend that you wait several minutes after opening the door(s) before removing the carts.
- Follow all applicable procedures in the "Important Safety Practices" section of this Manual..
- Keep face and body clear of the carts. Liquids in containers within the carts can be superheated, and can flash to vapor when the carts are moved, or jostled.
- Always wear heat insulating gloves, and other required personnel safety equipment when handling the Sterilizer carts, even when empty.
- The best practice is to always assume that the carts are hot.
- Do not enter the Sterilizer to pull carts out, The Sterilizer will still be very hot, and unsafe to enter. Use a reach rod, hooked pole, winch line, or other non-entry means to retrieve the carts from within the Sterilizer.
- For Sterilizers equipped with two QODs, the best way of discharging carts from the Sterilizer is by sequentially pushing carts loaded for the next cycle into one end of the
- Sterilizer, while pulling carts from the just completed cycle out of the opposite end of the Sterilizer.

After autoclaving, the sterilized waste can be disposed of as other non-hazardous solid wastes.

12.3 Running A Cycle

See the Partlow Sterilizer Controller Manual for cycle operating instructions.

13. STERILIZATION VALIDATION

13.1 Successful Components of Sterilization

Successful sterilization should include validation of sterilization effectiveness. Validation of effectiveness includes monitoring temperature, pressure, and cycle duration time, for each cycle and providing periodic decontamination challenges (quality assurance), i.e. use of biological indicators.

The frequency and methods used for validation shall be in accord with the relevant legal regulatory entities.

A logbook should be maintained to record autoclave use and be available for inspection.

13.2 Validation Indicators

These are tools used to validate the sterilization process.

Chemical indicators change color after being exposed to their prescribed temperature, but they have no time factor.

Tape indicators can only be used to verify that the Sterilizer has reached normal operating temperatures for sterilization.

Biological indicators are designed to demonstrate that the Sterilizer is capable of killing microorganisms. A load test using Bacillus stearothermophilus should be performed at least monthly, or as prescribed by local or national ordinances or regulatory entities.

14. RECORD KEEPING

Records of maintenance logs, cycle print strips, calibration results, operator training, and validation load tests should be maintained, and kept for a minimum of three years, or as prescribed by local or national ordinances or regulatory entities.

15. TRAINING OF STERILIZER OPERATORS

Principal supervisors must train and qualify their staff for operation of the steam Sterilizer and associated equipment, the safe handling of materials to be processed in the Sterilizer, and safe handling and disposal of the sterilized materials.

Qualified personnel should understand the time, temperature, pressure relationships required for proper materials sterilization.

Supervisors should maintain a permanent record of training provided to their staff.

16. EQUIPMENT MAINTENANCE

16.1 Routine Maintenance

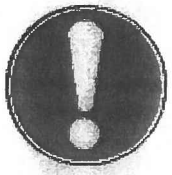
Regularly inspect the Sterilizer, its components, and all auxiliary equipment for proper operation. Follow the required and recommended inspections and service specified in the manuals.

16.2 Maintenance of Measurement and Control Devices

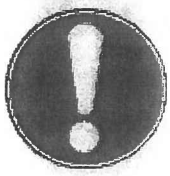
The pressure and temperature gauges, and instrumentation provided as part of the Sterilizer and its Controller should rarely require maintenance, or recalibration.

Digital instruments are provided, as part of the Sterilizer Controller, for monitoring and controlling the temperature and pressure within the Sterilizer chamber. Sensing elements include Thermocouples (TC) for temperature, and Pressure Transducers/Transmitters for pressure.

Analog (dial) temperature and pressure gauges are also provided for the Operators to visually monitor temperature and pressure within the Sterilizer chamber. Operators shall routinely compare the digital pressure and temperature readings on the Sterilizer Controller with the analog pressure and temperature gauges. If a discrepancy is noted between digital and analog readings, the Operators shall promptly notify their area supervisor, who will call for maintenance.



Do not operate the Sterilizer until the problem has been corrected, which may involve component calibration, repair, or replacement.



If a discrepancy is noted between digital and analog readings, always verify the accuracy and calibration of the analog device first, and then the digital measuring sensors (TC or PT), before attempting any adjustments to the Sterilizer Controller.

Analog gauges and digital sensors must be removed to test for accuracy, or to recalibrate.

1. Test and calibrate the TC's and analog bimetal temperature gauges using both water ice bath and boiling water and comparing the gauge reading to the freezing and boiling point temperatures for water, adjusted for site altitude.
2. PT's and analog pressure gauges shall be tested and calibrated using of a calibrated dead weight tester, or by comparison to a calibrated master gauge.

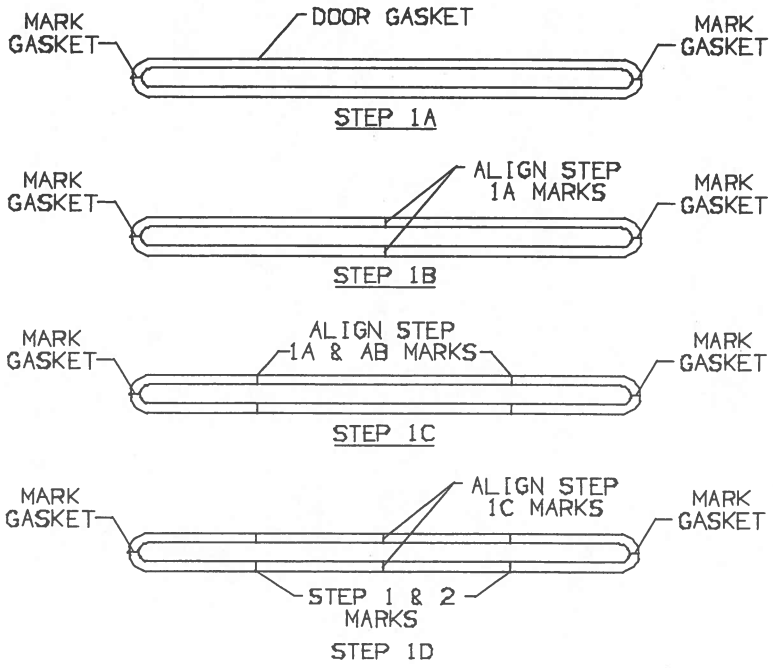
16.3 Sterilizer Door Gasket Replacement

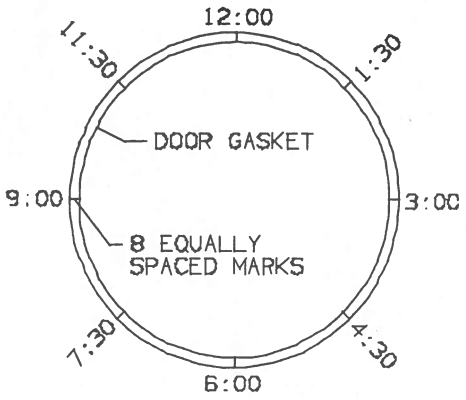
The Sterilizer door pressure seal is a proprietary self-energizing silicon elastomer lip-seal gasket. The lip-seal gasket only needs replacement when they can no longer seal the door. Gasket life depends upon frequency of use, and quality of care and maintenance of the gasket and gasket mating surfaces on the Sterilizer door, and protection of the surfaces of the Door at, and adjacent to, the gasket groove.

Try to replace the gasket when the vessel is cold, if possible. If it is not convenient to immediately replace the gasket, you can try smearing grease on the door gasket-mating surface to seal it: this may enable you to finish a cycle or two.

Follow the procedures listed in this section when installing a gasket. Initially, gasket replacement may seem difficult, but becomes routine with practice, and adherence to the listed instructions. Remove the gasket to be replaced before proceeding with the steps listed below.

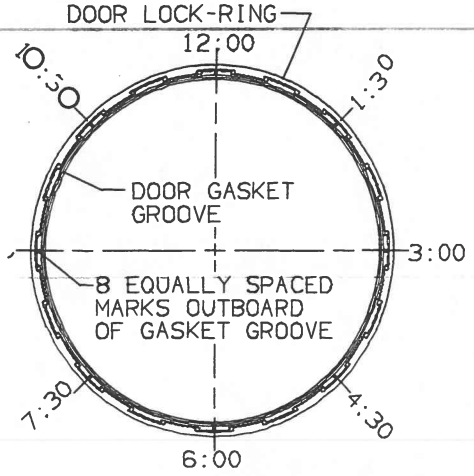
Step 1: Place eight (8) equally spaced marks on the gasket following the procedures shown in the graphics below.





STEP 1 MARKED DOOR GASKET

Step 2: Place eight (8) equally spaced marks adjacent to, & outboard of, the gasket groove, which is located in the steel flange at the end of the vessel shell. Like the numbers on a clock face, these marks shall be made at 12:00, 1:30, 3:00, 4:30, 6:00, 7:30, 9:00, and 10:30, as shown in the graphic on the right.

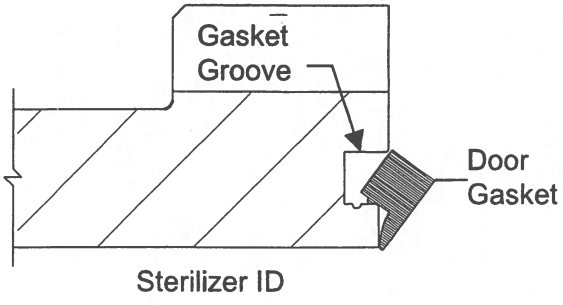


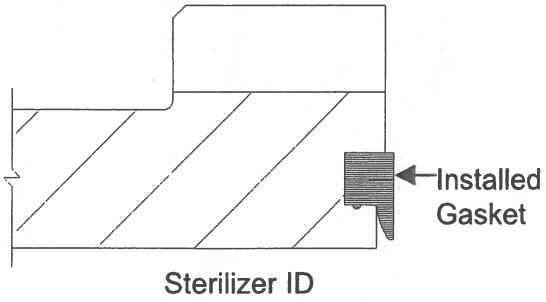
STEP 2 MARKED DOOR GASKET GROOVE

Step 3: Lightly lubricate the gasket and gasket groove with a gentle variety of hand or dish soap, or a gasket assembly fluid compatible with silicon elastomers. Do not use petroleum-based compounds, or other compounds that are not recommended for use with, or are incompatible with, silicon elastomers.

Step 4: Line up a mark on the gasket with the mark adjacent to the gasket groove at 12:00. Press a short segment of the gasket into the gasket groove on each side of the mark.

The lip of the gasket must face inward, towards the center of the vessel, as shown in the graphic below right. The best technique is to roll the gasket into the groove, by twisting the gasket slightly so that the bottom inside corner of the gasket enters the groove first, as shown in the graphic below left.





Step 5: Sequentially repeat the Step 4 procedure at the 6:00, 3:00, 9:00, 1:30, 7:30, 4:30 and 10:30 marks at the gasket groove, making sure to align the appropriate marks on the gasket with the corresponding marks at the gasket groove.

Step 6: Take one of the eight loops of uninstalled gasket remaining after Step 5 and repeat the Step 4 procedure, aligning the mid point of the gasket loop up with the mid point of the empty gasket groove. Sequentially repeat this step for the each of the loops of uninstalled gasket remaining after Step 5.

Step 7: Repeat the process of dividing each uninstalled gasket loop in half, and pressing a short length into the groove, until the entire gasket length is installed.

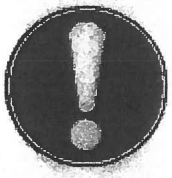
Step 8: Knead the surface of the gasket to work out any lumps that may exist.

Step 9: Clean and lubricate the machined gasket mating face on the hinged door. This is the surface that presses against the gasket when the door is swung closed. If using an aerosol lubricant, allow any lubricant propellant to evaporate before proceeding. Never spray an aerosol directly on the door gasket.

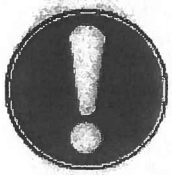
Step 10: Swing the door closed and rotate the door locking-ring to lock the door. Unlock and open the door. Repeat the close/lock, unlock/open, process several times more, as needed, to flatten out any remaining gasket lumps, or high spots.

Though the written gasket replacement procedure may seem long & complicated, the actual gasket installation process is simple and straightforward.

If you attempt to install the gasket in the groove by pressing in the gasket at one position and continuing around the gasket groove until you end up back at the starting position, you will end up with a groove filled with gasket, but also a excess loop of gasket that can not be installed.



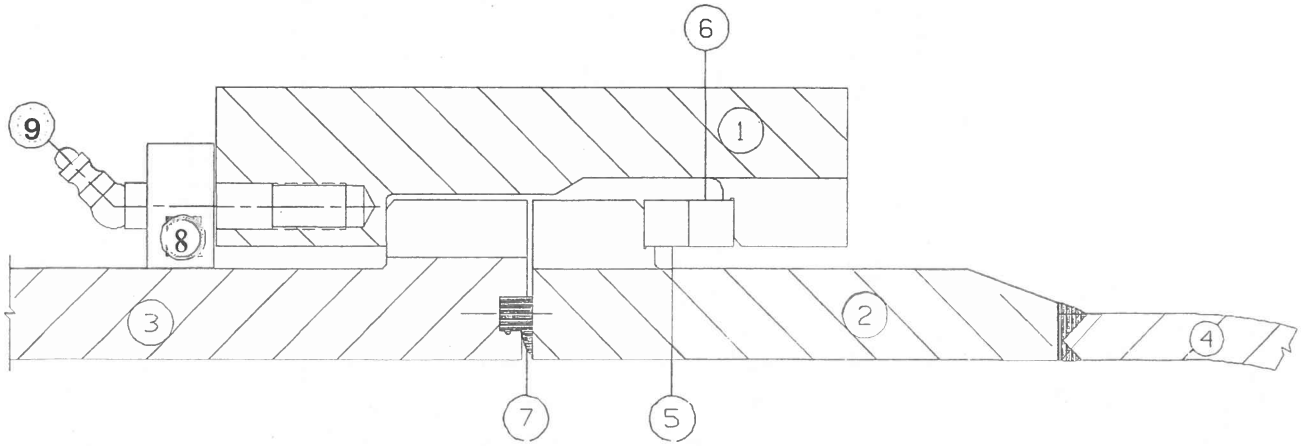
Be gentle when handling the uninstalled gasket, or pulling on the gasket when performing the Step 1 gasket marking procedure. Excessive tension will cause the gasket splice to rupture, rendering the gasket unfit for service.



You should not need to hammer or pound the gasket to install it. Light taps with a soft-faced mallet against a softwood block is acceptable, but use precaution to avoid damaging the gasket, or gasket lip. Do not use any type of sharp edged tools or implements that could cut or sever the gasket.

16.4 Sterilizer Door Lubrication

A cross section of the closed, and locked, Sterilizer Door is shown in the figure below, to show the geometric relationship of the Door components. When the Door Lock-Ring is rotated to lock and unlock the Door, there is sliding friction between: the rear bearing surfaces of the Door Lock-Ring and the slotted lugs on the Door Shell Flange; and the Tapered Wedges on the Door Lock-Ring and the slotted lugs on the Door Head Flange. The Lock-Ring Camrols roll on the OD of the Door Shell flange to keep the Lock-Ring centered.



(See next page for table)

The numbered Door components in the above figure are listed in the Table, below:

Item No.	Component
1	Door Locking Ring, or Lock-Ring
2	Door Head Flange
3	Door Shell Flange
4	Door Head
5	Shell Flange Tapered Locking Wedges
6	Lock-Ring Tapered Locking Wedges
7	Door Gasket, in Shell Flange Gasket Groove
8	Lock-Ring Camrol
9	Camrol Lubrication Fitting

It is important to maintain adequate lubrication of the Sterilizer Door. Failure to do so will result in abnormal Door wear, and the shortening of the life of the Door.

To avoid the collection of deleterious debris during the fabrication and shipping of the Sterilizer the Door sliding friction surfaces are factory coated with a dry solid lubricant. All Door sliding friction surfaces must be lubricated with ***a high-temperature, water-proof, corrosion resistant, high-bearing anti-seize grease*** immediately after installing, and prior to operating, the Sterilizer. We recommend that you use a stiff ***synthetic molybdenum-disulfide grease***. These surfaces shall be regreased every day for the first week of operation, and at least weekly thereafter: wipe off excess old grease before applying new grease. At least once monthly, thoroughly clean friction surfaces, and relubricate with fresh grease.

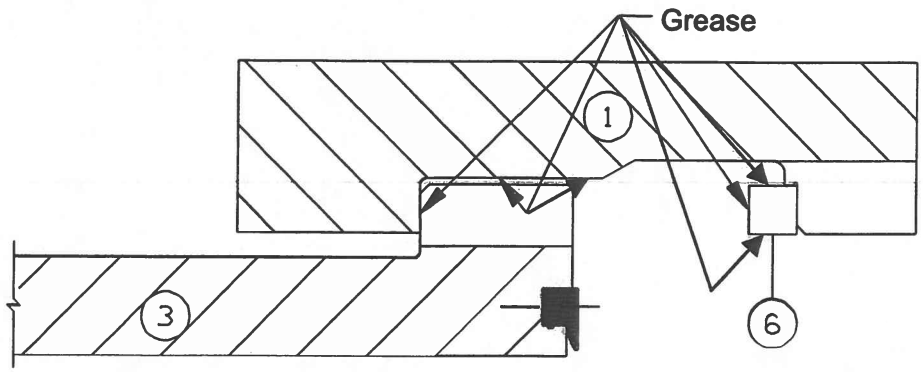
When greasing the Wedges, it is important that you cover all surfaces of the Wedges, including the ends and sides, and the adjacent Door component surfaces at, and beyond, the base of the Wedges. This provides a protective lubricant film to prevent moisture from seeping in between the base of the Wedges and the Door Lock-Ring and Door Flange mating surfaces. Failure to do so will allow moisture to seep in under the base of the Wedges, which will lead to rusting. The resultant expansive forces due to rusting could eventually lead to the loss of the Wedges.

To help prevent rusting under the Door Wedges we recommend that you apply an aerosol, or liquid, ***high-temperature silicon penetrant*** at the base of the Door Wedges:

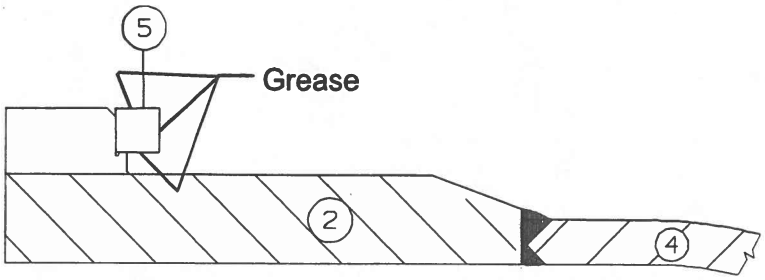
- Prior to greasing the Door Wedges for the first time,.
- After the monthly cleaning of the Wedges, before greasing the Wedges. Apply the penetrant liberally. Allow a few minutes for the penetrant to work, and the aerosol propellant to evaporate. Wipe off the excess penetrant before greasing the Wedges.

Grease the Door Lock-Ring (Item 1) and Lock-Ring Wedges (Items 6) surfaces as shown in the following figure, using the recommended Moly-Disulfide lubricant. The Lock-Ring ID and rear bearing surfaces are only accessible through the gaps in the Door Shell Flange (Item 3). First, grease the Lock-Ring ID & rear bearing surfaces with the Lock-Ring in the unlocked position. Then use the hydraulic system to rotate the Lock-Ring to the locked position, and

grease the newly exposed Lock-Ring surfaces. When completed greasing the Lock-Ring, rotate the Lock-Ring back to its unlocked position. When greasing the Wedges, cover all surfaces, including ends and sides.



Grease the Door flange Wedges (Items 5), as shown in the following figure, using the recommended Moly-Disulfide lubricant.



16.5 Lubricating the Sterilizer Door Lock-Ring Camrols

The multiple Lock-Ring Camrols (Items 8) are sealed needle bearings that require infrequent lubrication. Inspect the Camrols at least weekly to insure that they are turning freely, which is a sign of adequate lubrication. If lubrication is required, use a manual grease gun to lubricate the Camrols (through the Item 9 grease fittings) with high-***temperature, non-channeling, grease suitable for needle bearings***.

The grease volume within the Camrols is very small, so only a small amount of grease is needed. Take care to avoid blowing out the Camrol grease seals when lubricating. Stop greasing when you feel resistance on the manual grease gun lever: just a fraction on one stroke of the grease gun is typically required.

16.6 Lubricating the Sterilizer Door Hinge Bearings

The Sterilizer Door Hinge Bearings are sealed ball bearings that will rarely, if ever, require lubrication. If lubrication is required, use a manual grease gun with a ***standard lithium based, non-channeling, ball bearing grease***. Inspect the bearing at least once a week to insure that they are turning freely, and are not "squeaking", which are signs of adequate lubrication.

When lubricating these bearings take care to avoid blowing out the bearing grease seals. Stop when you feel resistance on the manual grease gun lever. Just a partial stroke of the grease gun is normally required.

16.7 Lubricating the Sterilizer Door Hydraulic Cylinder Pins (optional equipment)

There are four hydraulic cylinders on each door: two for rotating the Door Lock-Ring, and two for swinging the Door Head open and closed. The base and rod end pins of these hydraulic cylinders should be lubricated after Sterilizer installation, and once a month thereafter. We recommend a ***PTFE Lubricating/Penetrating Gel*** aerosol, which dispenses as an oil, and then thickens to a grease-like gel. Whichever lubricant is used, it shall have the requisite properties to protect the steel surfaces against rust and corrosion, and reduce friction and wear when subjected to severe pressure and abrasion.

16.8 Sterilizer Door Alignment and Adjustment

The Sterilizer Door Hinge allows for the realignment of the Door, should that ever become necessary. However, ***the User is cautioned to consult with the factory before attempting to adjust, or realign, the Sterilizer Door.***

16.9 Sterilizer Door Hydraulic System Maintenance (optional equipment)

Initial Service

Before operating the Sterilizer Door hydraulic system (optional equipment):

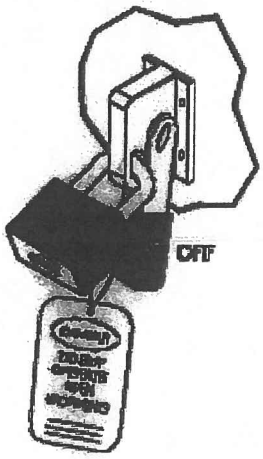
1. Fill the hydraulic power unit (HPU) fluid reservoirs The hydraulic fluid used shall be in accordance with the HPU manual.
2. Use the manual hydraulic valve to cycle (extend and contract) each set of hydraulic cylinders to fill the cylinders and lines with fluid. Continue cycling the cylinders until they move smoothly, and instantly, when the manual valve is actuated to extend and retract the cylinders.
3. Monitor the fluid level in the HPU reservoir during Step 2, adding fluid as needed.

Routine Maintenance

The Sterilizer Door hydraulic system is relatively maintenance free. The recommended hydraulic maintenance is as follows:

1. Inspect the HPU weekly, and top off with hydraulic fluid as needed.
2. Visually inspect hydraulic hoses, fitting, valves, and cylinders, daily for signs of leakage, hose fraying, or component wear.
3. Lubricate hydraulic cylinder pins as addressed in a prior section of the Manual.
4. Empty & clean the HPU fluid reservoirs, and refill with fresh hydraulic fluid, at least once annually, or as advised in the HPU manufacturer's Manual.
5. Operators shall immediately report any leaks, or malfunction, to their Supervisors.
6. Maintenance shall address and correct any deficit condition.
7. Replace frayed hoses immediately.

16.10 Equipment Lock-Out Tag-Out Instructions



ONLY AUTHORIZED PERSONNEL SHOULD BE ALLOWED INSIDE THE FRONT INTERIOR PANEL OF THE STERILIZER CONTROLLER ENCLOSURE, OR INSIDE THE ENCLOSURE AT THE REAR OF THE STERILIZER THAT CONTAINS THE VALVE ACTUATOR ELECTRO-PNEUMATIC SOLENOID VALVES. These enclosures contain high voltage components. Before entering, or servicing, these enclosures, be sure that all sources of energy have been shut off, all potential hazards have been eliminated, and the equipment is locked-out and tagged-out in accordance with OSHA and ANSI requirements (in the USA), or applicable regulatory requirements. The specific lockout and tag-out instructions may vary from company to company (i.e. multiple locks may be required, or other machinery may need to be locked-out and tagged-out). The following instructions are provided as minimum guidelines.

ELECTICAL LOCK-OUT AND TAG-OUT INSTRUCTIONS

1. Move the main disconnect lever to the OFF position.
2. Padlock the disconnect lever with a keyed padlock and take the key with you.
3. Along with the padlock, place an appropriate, highly visible, warning tag on the disconnect lever. The tag should provide a warning such as: "Danger: Do not operate equipment. Person working on equipment." Or "Warning: Do not energize without the permission of _____."
4. After locking and tagging the Sterilizer panel, try to start and operate the Sterilizer (as outlined in the Operating Instructions) to make sure the lock-out and tag-out is effective..

HYDRAULIC: Before attempting to service a Hydraulic Power Unit (HPU), be sure that all sources of energy have been shut off, all potential hazards have been eliminated, and the equipment is locked-out and tagged-out in accordance with the preceding instructions. With the HPU de-energized, cycle the manual valve handles to release stored hydraulic energy in the hydraulic circuits.

17. TROUBLESHOOTING

The following troubleshooting sections provides guidance on recognizing, and correcting, common malfunctions that could occur when operating the equipment. Consult with the factory should symptoms, or malfunctions, occur that are not covered in these sections.

17.1 Sterilizer Door(s)

Symptom	Cause(s)	Corrective Action(s)
1. Steam or water leaking from door gasket	1. Damaged or brittle door gasket 2. Debris on gasket or door sealing face 3. Debris accumulation under gasket lip 4. Pitted, grooved, or damaged door sealing face 5. Missing steel sealing wedge(s)	1. Inspect door gasket. Replace if split, damaged, or cracked. 2. Clean gasket & door sealing face, & lubricate door sealing face 3. Same as 2 4. Clean & lubricate door sealing face to see if problem is solved: if not, consult factory. See Materials troubleshooting section for cause & corrective actions 5. Consult factory
2. Door gasket pulls out of groove	1. Gasket sticking to door sealing face. 2. Improper gasket installation 3. Gasket shrinkage 4. Undersized gasket	1. Clean gasket & door sealing face, & lubricate door sealing face 2. See gasket installation instructions 3. Replace gasket. Shrinkage can occur with age, or exposure to incompatible fluids, lubricants, or propellants 4. Replace gasket & notify factory
3. Difficulty in rotating door locking-ring far enough to allow door safety device handle to be closed when locking the door	1. Inadequate door lubrication 2. Gasket protruding due to improper gasket installation 3. Inadequate hydraulic pressureMisaligned door 4. Misaligned door	1. See door lubrication section 2. See gasket installation instructions 3. Check for proper door locking pressure setting. Inspect & service hydraulic system. 4. Consult factory
4. Difficulty in rotating door locking-ring when unlocking door	1. Inadequate door lubrication 2. Inadequate hydraulic pressure 3. Excessive door locking pressure 4. Misaligned door	1. See door lubrication section 2. Check for proper door unlocking pressure setting. Inspect & service hydraulic system. 3. Check for proper door locking pressure setting. 4. Consult factory

5. Difficulty in swinging door open &/or close	1. Inadequate hydraulic pressure 2. Obstruction 3. Mechanical malfunction or interference 4. Inadequate hinge bearing, or hydraulic cylinder pins lubrication	1. Check hydraulic pressure setting(s). Inspect & service hydraulic system. 2. Remove obstruction 3. Inspect hinge & hydraulic cylinder components, & correct/repair as needed 4. Inspect & lubricate hinge bearings & hydraulic cylinder pins
6. Water flows out of door when door is opened	1. Clogged sump debris basket 2. Clogged drain line strainers 3. Clogged drain lines 4. Drain valve V5 malfunction 5. Vacuum leaks	1. Empty & clean sump debris basket. Clean sump if needed 2. Blow out strainers. Clean/service line strainer screens. 3. Clean drain lines 4. Check that valve V5 is open at end of cycle. V5 should only be closed during the operating cycle 5. Check for vacuum leaks in drain lines, & lines to Consenser/Vacuum Pump Skid

17.2 Materials Issues

Symptom	Cause(s)	Corrective Action(s)
1. Pitting of chamber interior steel surfaces	Inadequate, or improper boiler feed water (BFW) treatment	Analyze BFW & water in boiler and correct chemical imbalance or deficiency. Failure to correct the problem can shorten Sterilizer life, or result in expensive repairs.
2. Steel erosion at door gasket lip	1. Water flowing out of door when opening door 2. Inadequate surface lubrication	1. See Sterilizer Door trouble shooting section for cause & corrective actions 2. Keep the steel surfaces under, & adjacent to, the gasket lip lubricated. See Manual lubrication & gasket installation sections
3. Pitted, grooved, or damaged, door gasket sealing face surface	1. Inadequate sealing face lubrication, &/or failure to maintain or replace door gasket 2. Misaligned door	1. See lubrication & gasket installation Manual sections 2. Consult factory

17.3 Operating Cycle

Symptom	Cause(s)	Corrective Action(s)
1. Inadequate vacuum during cycle Pre-vac & Post-vac	1. Improper vacuum setting(s) 2. Clogged drain sump, sump debris basket, &/or drain system piping 3. Vacuum leaks 4. Poor vacuum pump performance. 5. Clogged Condenser, or poor Condenser performance	1. Check Controller vacuum settings 2. Clean drain sump & debris basket. Check for plugged or obstructed piping. 3. Inspect Sterilizer, door gasket, valves, piping, & Condenser-Vacuum Pump skid for vacuum leaks. Seal all leaks & replace door gasket if needed 4. Inspect & service/repair vacuum pump per pump manual. Check for proper vacuum pump service water flow, clogged separator-silencer tank drain or vent line 5. Inspect condenser, condenser cooling water supply, & self-actuating condenser cooling water valve (including valve capillary & bulb).
2. Slow cycle Pre-vac & Post-vac evacuation	See symptom 1, causes 2 to 5, above	Same as for symptom 1, above
3. High peak Condenser &/or Vacuum Pump discharge water temperature(s)	1. Temperature setting of self-actuating condenser cooling water valve set too high 2. Sterilizer vacuum exhaust valve V3 opening too quickly at end of cycle Sterilize phase	1. Adjust stem on valve to lower temperature setting, so valve opens at a lower Condenser discharge water temperature 2. Adjust needle valve NV3 to reduce flow through needle valve which slows the opening of V3.
4. Low peak Condenser discharge water temperature	1. Temperature setting of self-actuating condenser cooling water valve set too low 2. Sterilizer vacuum exhaust valve V3 opening too slowly at end of cycle Sterilize phase	1. Adjust stem on valve to raise temperature setting, so valve opens at a higher Condenser discharge water temperature. 2. Adjust needle valve NV3 to increase flow through needle valve which speeds the opening of V3.

18. Fire Protection

The Sterilizer and other Mark-Costello furnished equipment poses no special threats in the event of a fire within the facility. The Sterilizer pressure relief devices and external insulation should provide adequate initial protection for plant personnel, and fire fighters. It is recommended that when possible, in the event of a fire, Operating personnel press the Sterilizer emergency stop button, which will immediately de-energize the Sterilizer electrical circuits, and safely vent pressure from the Sterilizer.

Other User furnished equipment, including the steam boiler, may pose a significant threat in the event of a fire within the facility.

19. INSPECTIONS & TESTS REQUIRED BY REGULATORY AGENCIES

The Mark-Costello Company has completed all tests prescribed for PED certification of the PED pressure equipment.

The User is responsible for all additional installation and operational tests that may be required by the relevant jurisdictional authorities.

20. EQUIPMENT WARRANTY

See the separate Mark-Costello warranty documents for details of the Equipment warranty.

Attachment 7

Auto Clave Activity Log

GOLDEN HEART WASTE MANAGEMENT

Date	Operator Name	Load Description	Cycle Type	Time In	Time Out	Temp. (F)	Pressure (psi)	Duration	Indicator AC Tape Pass/ Fail	Indicator Biological pass/fail	Comments

1. **Load Description:** Specify what is being sterilized (e.g., medical waste, lab equipment, surgical tools).
2. **Cycle Type:** Identify the autoclave setting (e.g., Sterilization, Flash, Standard).
3. **Indicator Check:** Include results from autoclave tape or biological indicators (Pass/Fail).
4. **Comments:** Record observations, issues, or actions taken (e.g., "Cycle re-run due to failure," "Door gasket replaced").

Section 8.3d8 Section 8.8a b Section 9a

Attachment 7

GOLDEN HEART WASTE MANAGEMENT

MANIFEST #

CODE AREA

GENERATOR

COMPANY NAME | TELEPHONE NUMBER

ADDRESS

I certify that the information provided is true and correct, and that the generated materials are properly classified, described, packaged, labeled/placarded; and are in proper condition for transportation according to the applicable regulations of the U.S. Department of Transportation.

NAME OF COMPANY REPRESENTATIVE (Print) | SIGNATURE OF REPRESENTATIVE | DATE

PRIMARY TRANSPORTER

NAME(S) OF PERSONS COLLECTING, TRANSPORTING OR UNLOADING WASTE | INITIALS | REGISTRATION NUMBER

COMPANY NAME | TELEPHONE NUMBER

ADDRESS | DATE MEDICAL WASTE COLLECTED

cont. | wt. # | # cont. | wt. # | # cont. | wt. # | # cont. | wt. # | # cont. | wt.

I certify that the information provided above is true and correct and that only untreated medical wastes are contained in this load. I am aware that falsification of this manifest may result in forfeiture of my transporter's registration and/or the privilege of utilizing State-authorized facilities.

NAME OF COMPANY REPRESENTATIVE (Print) | SIGNATURE OF REPRESENTATIVE | DATE

TRANSFER STATION: NAME | REGISTRATION NUMBER

TRANSFER STATION / TRANSPORTER 2

NAME(S) OF PERSONS COLLECTING, TRANSPORTING OR UNLOADING WASTE | INITIALS | REGISTRATION NUMBER

COMPANY NAME | TELEPHONE NUMBER

ADDRESS | DATE MEDICAL WASTE COLLECTED

cont. | wt. # | # cont. | wt. # | # cont. | wt. # | # cont. | wt. # | # cont. | wt.

I certify that the information provided above is true and correct and that only untreated medical wastes are contained in this load. I am aware that falsification of this manifest may result in forfeiture of my transporter's registration and/or the privilege of utilizing State-authorized facilities.

NAME OF COMPANY REPRESENTATIVE (Print) | SIGNATURE OF REPRESENTATIVE | DATE

TREATMENT FACILITY

COMPANY NAME | TELEPHONE NUMBER

ADDRESS

PERMIT NUMBER | DATE WASTE WAS DEPOSITED/UNLOADED | TOTAL WEIGHT DEPOSITED/UNLOADED

DISCREPANCY INDICATION SPACE

I certify that I have been authorized to accept untreated medical wastes and that I have received the above indicated wastes in accordance with the requirements outlined in that authorization.

NAME OF COMPANY REPRESENTATIVE (Print) | SIGNATURE OF REPRESENTATIVE | DATE

In case of emergency, call (_____) _____ (24-hr company or other emergency response group telephone)

Section 8.8a b

Attachment 7

GOLDEN HEART
WASTE MANAGEMENT

Medical Waste Rejection Log

Date	Time	Operator	Location	Address	Reason for Rejection	Comments

Section 8.8a b

Attachment 7

Autoclave Calibration Log

Golden Heart Waste Management

3859 Peger Road

Calibration Interval: Monthly Quarterly

Autoclave Serial Number: _____

Date of Calibration: _____

Calibration Performed by: _____

Parameter	Set Value	Measured Value	Pass/Fail	Comments
Temperature (C)				
Pressure (psi/kpa)				
Time (minutes)				
Steam Penetration Test				

Tool Used	Model/Serial #	Last Calibration Date	Next Calibration Due
Thermometer			
Pressure Gauge			
Timer			

Customer Complaint Form

Golden Heart Waste Management
Dedicated to Service Excellence

Date: _____

Customer Information:
Name: _____
Account Number (if applicable): _____
Address: _____
Phone Number: _____
Email Address: _____

Complaint Details:

1. **Type of Service Involved (Check all that apply):**
2. **Date of Incident:** _____
3. **Time of Incident (if known):** _____
4. **Description of Issue (Please provide as much detail as possible):**
   _____
   _____
   _____
5. **Was any equipment or property damaged?**

   _____
6. **Have you previously reported this issue?**

   _____

Resolution Preferences:
How would you like this issue to be resolved?
_____
_____
_____

For Office Use Only:

- **Received By:** _____
- **Date Received:** _____
- **Complaint ID:** _____
- **Action Taken:** _____

  _____

- **Resolved By:** _____
- **Date Resolved:** _____

Attachment 8

Golden Heart Waste Management

Medical Waste Weekly Inspection List

Date: _____

Person Conducting Inspection: _____

Weekly inspections of storage areas and equipment are conducted using a standardized checklist. Check list will include visual inspection of;

- ☐ Of all flooring to insure no spillage or leakage has occurred.
  Comments; _____
- ☐ All stored containers are correctly place in proper location.
  Comments: _____
- ☐ All autoclave carts are cleaned and sanitized.
  Comments: _____
- ☐ Treated medical waste dumpsters are clean.
  No lose trash is found in the treatment area or other areas of the building or outside on the grounds.
  Comments: _____
- ☐ Visual inspection of auto clave for potential issues.
  Comments: _____
- ☐ PPE is available
  Comments: _____
- ☐ All fire extinguishers are in place.
  Comments: _____

This is a living document and is subject to change as needed.
Form shall be turned into the Medical Waste Manager. And kept on file in the Medical Managers office.

Attachment 9

GOLDEN HEART
WASTE MANAGEMENT

2131 Sheldon Ave
Fairbanks, Alaska 99709
(907) 455-4496
www.ghwmfairbanks.com

Alaska Department of Environmental Conservation
Attn: Luci Farrell
610 University Ave.
Fairbanks, AK 99709

March 7, 2025

Subject: Letter of Assurance Regarding Financial Capability

To Whom It May Concern,

I, Lindsay McClintock, in my capacity as Accountant at Golden Heart Waste Management, hereby provide this letter of assurance regarding the company's financial position.

Golden Heart Waste Management maintains sufficient funds on hand, along with immediate access to additional financial resources if necessary, to cover the cost of at least two weeks' worth of biohazardous waste disposal and transportation should the need arise.

The estimated expenses for two weeks of waste disposal are as follows:

- 96 totes (43-gallon containers) = 4,128 gallons of waste
- 4,128 gallons x $0.86/gal for disposal at an alternate facility = $3,550
- Shipping to Anchorage (12 pallets @ $100 each) = $1,200
- **Total cost for two weeks' waste disposal = $4,750**

The company's financial position is regularly reviewed, and adequate contingency planning is in place to ensure uninterrupted operations in compliance with all regulatory requirements.

Should you require any further information or verification, please do not hesitate to contact me at accounting@ghwmfairbanks.com or on my cell at (907) 750-0712.

Sincerely,

Lindsay McClintock
Accountant
Golden Heart Waste Management

Section 10.2 a b

Attachment 9